Distinguishing Between Altruistic Behaviours: The Desirability of Considerate and Heroic Altruism and Their Relationship to Empathic Concern

By

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Abstract

Debate exists within the fields of evolutionary and social psychology around the concept of Altruism. From an evolutionary perspective, this relates to how a behaviour that is costly to the fitness of the altruist but beneficial to the recipient has evolved, particularly when the recipient is a stranger. From a psychological perspective the debate surrounds whether the motivations for altruism are instrumental to helping the altruist achieve a selfish goal (egoism) or whether motivations can be ultimate goals, with the purpose of improving the wellbeing of the recipient (altruism). Altruism within both of these perspectives has been operationalised in numerous ways but without consideration that different behaviours that fit the respective definitions of altruism could impact upon the ultimate evolutionary function of altruism or the psychological mechanisms that motivate altruism. Study 1, a qualitative content analysis of altruistic behaviour within newspaper articles examined the extent to which different altruistic behaviours are presented distinctly. The findings demonstrated that there are three broad categories of altruism; considerate, heroic and philanthropic. Study 2 examines whether participants display intra-individual variation in their altruistic intentions as determined by the operationalisation of altruism. A principal components analysis of participant responses to an altruistic intentions questionnaire demonstrated that there were two stable altruistic components that reflected considerate altruism and heroic altruism. The altruistic intentions questionnaire was validated in studies 3 and 4, to show that intentions do correlate with behaviours for each component. Within study 2, predictor models were also created through regression analyses, which demonstrated that whilst communal orientation and prior altruistic behaviour were predictive of both considerate and heroic altruistic intentions, disinhibition, social dominance and emotional reactivity were uniquely predictive of considerate altruistic intentions and agreeableness and openness were uniquely predictive of heroic altruistic intentions. The finding that emotional reactivity, a factor of the Empathy Quotient, was predictive of considerate but not heroic altruistic intentions was examined further in study 5, using a laboratory experiment. It was found that empathic concern was predictive of considerate altruistic behaviour but not heroic altruistic behaviour. Study 5 also found that agreeableness was not predictive of heroic altruistic behaviour, unlike study 2; this suggests that considerate helping behaviours may be more likely to be motivated by altruistic ultimate goals. Studies 6 through 10 explore the desirability of considerate and heroic altruists, as costly signalling theory suggests that altruism acts as a costly signal of a

desirable underlying quality which increases opportunities to form cooperative and reproductive relationships, which offset the cost to the altruist. The findings were mixed, providing no clear evidence that considerate or heroic altruists are more desirable. However, study 10 demonstrated that whilst considerate and heroic altruists had similar desirability ratings, participants associated different underlying qualities to each type of altruist. Considerate altruists were perceived to be more intelligent, easy going, creative, cooperative, sympathetic, wealthy and thought to be better parents. Heroic altruists were perceived to be kinder, healthier, more understanding, more competitive, more physically attractive and have more exciting personalities. Overall, the evidence suggests that critical consideration of how altruism is operationalised is required to facilitate cross study comparisons so that researchers can construct a better understanding of what altruism signals and what the underlying motivations of altruism are.

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Chapter 1: Introduction and Aims

Evolutionary altruism is a behaviour that incurs a cost (in terms of fitness) to the actor whilst increasing the fitness of another individual or group (Clamp, 2001; Clavien & Chapuisat, 2013; Dugatkin, 2011; Ramsey, 2016; Stich, 2016; Trivers, 1985). From this perspective, fitness refers to the calculated number of offspring an individual will probably produce and rear to adulthood (Ramsey, 2016; Trivers, 1985), with higher numbers demonstrating increased fitness. Ramsey (2016) further stipulates that an individual's fitness is stable over time and based on hereditary material, the environment they are born into, possible changes to the environment and their interactions with it. Behaviours that increase fitness should be favoured by natural selection. However, in practice, evolutionary theorists view organisms as adaptive executors, composed of computational mechanisms designed by past adaptive demands. Thus, organisms are selected to seek goals such as "drink when thirsty," "protect your offspring," and "avoid foods that made you sick" rather than "maximize your fitness" or "raise a maximum number of offspring to reproductive age" (Kenrick, Li, & Butner, 2003).

The evolutionary perspective investigates altruism, because behaviour that benefits another at the expense of the actor, is puzzling considering the pressures of natural selection (Barrett, Dunbar, & Lycett, 2002). The puzzling nature of altruism has therefore led to debate about what the ultimate function of altruism is and how such a behaviour has become evolutionarily stable. This has prompted the development of numerous theories, which will be discussed in more detail in chapter two. Hamilton's (1964) inclusive fitness model explains how altruism has evolved between blood relatives. Trivers's (1971) theory of reciprocal altruism demonstrates how altruism can evolve between individuals who have repeated interactions with one another, and this has been modelled by Axelrod and Hamilton (1981). In recent years, the puzzle of altruism, has become the puzzle of altruism towards strangers; how have humans evolved to carry out self-sacrificial behaviours that benefit complete strangers? Zahavi's (1975, 1977) Costly Signalling Theory (CST) has provided one explanation. CST posits that altruism acts as a costly signal of a desirable underlying quality, which when witnessed by observers increases the reputational gains of the individual conducting the behaviour (Zahavi, 1975, 1977). Altruism is a demonstration that the individual can bear the cost of behaving altruistically, the cost of altruism is then repaid to the altruist as they attract more cooperative partners (that do not need to be related) or through attracting more (or higher quality) mates, who upon witnessing the

altruistic display know the individual has the desirable underlying quality (Zahavi, 1975, 1977). Therefore, what looks like costly altruism, is a calculated (although not necessarily a conscious) risk which leads to increased fitness for the altruist. Debate continues about what underlying quality is signalled by altruism, with "good genes" vs "good character" being the broad categories suggested (Barclay, 2010). This debate will be discussed in more detail in chapter 2, with research evidence demonstrating support for "good character" (Barclay, 2010; Bhogal, Galbraith, & Manktelow, 2018; Ehlebracht, Stavrova, Fetchenhauer, & Farrelly, 2018; Farrelly, 2011, 2013; Farrelly, Clemson, & Guthrie, 2016; Farrelly & King, 2019; Margana, Bhogal, Bartlett, & Farrelly, 2019). The research conducted in chapters 4 and 5 explores whether different altruistic behaviours are differentiated between, and chapter 5 also examines whether altruistic intentions for a range of behaviours are uniquely predicted by personality variables. Chapter 7 then explores how being a considerate altruist (a volunteer, donating money or items to charity) or a heroic altruist (rescuing people from dangerous situations) impacts upon desirability in romantic and non-romantic contexts and what characteristics are attributed to such individuals, to further our understanding of what the underlying quality (or qualities) signalled by altruistic behaviour is.

Psychological altruism is defined as a behaviour that is carried out with the ultimate desire of improving the wellbeing of others (Clavien & Chapuisat, 2013; Sober & Wilson, 1999; Stich, 2007, 2016) and is not concerned with costs/benefits like evolutionary altruism. A desire is considered ultimate, when it is an end itself (Stich, 2007). The psychological perspective examines helping behaviours in order to determine whether such behaviours are motivated by self-interest and are therefore egoistic (Baumann, Cialdini, & Kendrick, 1981; Wilson, 1992) or if people are helping with the ultimate goal of benefitting another, which would reflect true altruism (Batson, 1992; Batson, Ahmad, & Lishner, 2011; Batson et al., 1988; Piliavin & Charng, 1990). Altruism from a psychological perspective is primarily concerned with motives (Wilson, 1992), and therefore, observing a behaviour will not be sufficient in identifying whether it is altruistic. It is the underlying motive behind a behaviour that determines whether it is altruism, not whether or not beneficial outcomes for another are actually achieved (Clavien & Chapuisat, 2013). This distinguishes psychological altruism from evolutionary altruism, which is not concerned with what the individual carrying out the behaviour thinks, feels or is motivated by when carrying out the behaviour (Wilson, 1992). As stated by Sober (1988) in order to have motives, one must have a mind, whereas evolutionary altruism can

be applied to lower species, and understanding the mind of a honeybee, is not particularly helpful to altruism researchers using an evolutionary definition (Schroeder, Penner, Dovidio, & Piliavin, 1995). Evolutionary perspectives can therefore never incorporate motives within their conceptualisation of altruism. It has been argued that psychological altruism is, conceptually distinct from evolutionary altruism (Clavien & Chapuisat, 2013; Ramsey, 2016; Stich, 2016). Because of this, there is little unification of the two approaches within the literature. However, as demonstrated by Sober and Wilson (1999), the differing definitions do not conflict with one another because of the cycle of altruism (see figure 1).

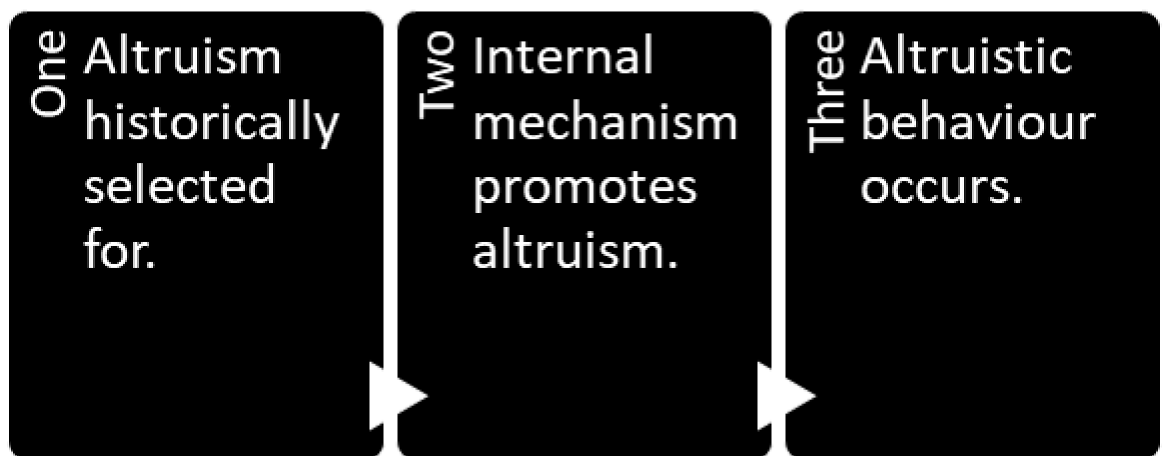

Figure 1. Display of the cycle of altruism, adapted from Sober and Wilson (1999).

Evolutionary altruism is concerned with stage 1; what in our species' ancestral history has led to the evolution of altruism, what is the adaptive value of altruism and what are the fitness consequences of altruism? (Clavien & Chapuisat, 2013; Van Vugt & Van Lange, 2006). Whereas psychological altruism is concerned with stage 2; what is the mechanism that motivates helping behaviours to be carried out within the lifetime of an organism, can that motivation be said to be other-orientated and what factors increase or decrease the likelihood of altruism towards others? (Clavien & Chapuisat, 2013; Sober & Wilson, 1999; Van Vugt & Van Lange, 2006; Wilson, 1992). Clavien and Chapuisat (2013) point out that the partition between the conceptualisations of the two perspectives, largely fits with the classical biological distinction between ultimate functions and proximate causes of altruism discussed by Mayr (1961). Therefore, these 2 perspectives

differ in their reasons for examining altruism, but by answering the questions of one perspective, the answers put forth from the other are not invalidated, meaning unification of the two approaches via empirical research is possible.

For every behaviour that evolves, including altruism, there must be a proximate (psychological) mechanism that causes the behaviour to actually be displayed (Sober & Wilson, 1999; Wilson, 1992). Research that examines both the ultimate functions and proximate causes of altruism can therefore be complimentary and expand the breadth of knowledge of both perspectives. Two considerations will need to be kept in mind when empirically unifying psychological and evolutionary altruism; 1) it must be acknowledged that two different conceptualisations of altruism are being examined and 2) the two perspectives have different criteria for classifying behaviour as altruistic. When unifying research, an ultimate function may produce behaviour that can be defined as evolutionary altruism (i.e. sacrificing one's self for their kin), however, depending on whether the psychological mechanism which produces this behaviour motivates an individual based on self-interest (i.e. to avoid feelings of guilt or self-loathing) or is other-orientated (i.e. wanting to improve the welfare of others), will determine whether or not the behaviour is classified as psychological altruism. This therefore means that there are two distinct definitions that relate to the word altruism. However, these definitions may only differ in relation to the level of causality they explain – ultimate vs proximate (Bateson & Laland, 2013; Mayr, 1961; Tinbergen, 1963). Where evolutionary altruism is concerned with the ultimate causes and psychological altruism is concerned with the proximate causes. This means that research from an evolutionary perspective is concerned with why altruism evolved whereas research from a psychological perspective is concerned with the mechanism through which altruism is expressed. Throughout this thesis, when the word "altruism" is used, I will be referring to evolutionary altruism, and when the phrase "true altruism" is used, I will be referring to psychological altruism, in order to acknowledge the distinction between evolutionary and psychological altruism.

Psychological altruism is one form of motivation within the theory of motivation labelled psychological pluralism, which states that individuals can be motivated by ultimate desires which are other-orientated, but at other times, their behaviour may be motivated by ultimate desires that are self-orientated (Sober & Wilson, 1999). When the ultimate desire is other-orientated, the behaviour is altruism – if it is improving the need of another, rather than malicious. When it is self-orientated, it is egoism. However, psychological egoism is a theory of motivation in itself, which posits that all behaviours

are motivated by ultimate desires that are self-orientated and therefore, no one is ever altruistic (Sober & Wilson, 1999). Therefore, behaviours that appear to help others and improve the well-being of others, may be egoistic, if the individual performing the behaviour was motivated by selfish ultimate desires or goals. Therefore, the debate from a psychological perspective continues, to try and definitively answer whether true altruism exists. Theories of motivation and experimental evidence will be discussed in more detail in chapter 3, but there is growing support for the existence of true altruism, mostly due to the work of Batson and colleagues, who suggest that empathy is the proximate mechanism that motivates other-orientated helping and that such helping is truly altruistic as the ultimate desire is to improve the welfare of the individual one feels empathy for (Batson & Shaw, 1991). Chapter 5 conducts a principal component analysis (PCA) on participant responses to an altruistic intentions measure. The PCA demonstrates that considerate and heroic behaviours are responded to differently. Furthermore, the relationship of each of these altruistic components to empathy is explored, and it is found that emotional reactivity, a dimension of the Empathy quotient (Baron-Cohen & Wheelwright, 2004) is predictive of considerate but not heroic altruistic intentions. Chapter 6 reports the results of an experiment which examines the relationship between empathic concern and considerate and heroic behaviour, rather than intentions. The results of this experiment demonstrate that empathic concern has a stronger positive relationship with considerate helping than heroic helping and that empathic concern is only predictive of considerate helping.

The primary aim of this thesis is to research different helping behaviours, which fit the evolutionary definition of altruism to examine whether these different operationalisations are distinct from each other in relation to the characteristics, consequences and motivations attributed to them and the individuals carrying them out. By gaining insight into how different operationalisations are perceived, I will be able to determine whether meaningful categories of altruistic behaviour exist. Following this, it will be possible to explore whether the identified categories of altruistic behaviour differ in relation to people's intentions to behave altruistically and alter the way altruists are perceived by possible cooperative partners. This will help to clarify what the underlying desirable quality associated with observed altruistic behaviour is and whether some altruistic behaviours increase the desirability of the altruist compared with other altruistic behaviours. Furthermore, it will be possible to examine whether the identified categories of altruism vary in the extent to which they are related to different motivating mechanisms of altruism, which will help to identify which helping behaviours are more likely to be truly

altruistic. Therefore, the scope of this thesis, as suggested above, will encompass altruism as it is defined by two differing perspectives – the evolutionary perspective and the psychological perspective.

Overview of the Thesis

Aims, Objectives and Research Questions

This section outlines the aims that this thesis hopes to achieve as well as the underlying objectives of those aims. An overview of the programme of research is then provided to demonstrate the methods for achieving the aims and objectives. Finally, the research questions are outlined.

Aims and Objectives.

1. Conduct a qualitative analysis of altruistic behaviour depicted within newspaper articles.
    a. With the objective of developing categories of altruistic behaviour that can then be quantitatively examined.
2. Create and validate a quantitative measure of altruistic intentions.
    a. With the objective of developing a tool which will allow for the examination of intra-individual differences in altruistic intentions and further confirmation of distinct categories of altruistic behaviour.
3. Measure altruistic intentions and numerous personality variables to allow for the relationship between the two to be examined.
    a. With the objective of producing predictor models, for the categories of altruism devised by achieving aims 1 and 2.
4. Examine the relationship between different altruistic behaviours and other-orientated/self-orientated mechanisms of motivation.
    a. This aim will be carried out with the objective of increasing our theoretical understanding of the underlying motives of helping behaviours. It will clarify whether categories of helping are associated with motives that are associated with egoism or true altruism.
5. Examine the desirability of different types of altruist for a range of romantic and non-romantic relationship contexts.

   a. With the objective of seeing whether different altruistic behaviours are more likely to have evolved through sexual selection.

6. Measure which characteristics participants perceive altruists carrying out a variety of helping behaviours to have.
   a. To increase our understanding of what desirable quality is signalled by altruism and whether the quality varies depending on the altruistic act.
7. Examine how important altruism is compared with other determinants of desirability.
   a. This will increase our understanding of how important altruism is in determining one's mate value.

Research Questions

The following five research questions relate to the main strands of inquiry being presented throughout this thesis; 1) What are the differences and similarities between altruistic behaviours depicted in newspaper articles? 2) Do participants distinguish between altruistic behaviours by showing intra-individual variation in their intentions to carry out said behaviours? 3) Are different altruistic behaviours more associated with other-orientated motivations? 4) Does carrying out different altruistic behaviours lead to different desirability ratings in romantic and non-romantic contexts? And 5) Do observers associate different qualities with different acts of altruism?

Chapter 2 and 3 provide a more detailed examination of the literature surrounding evolutionary altruism and psychological altruism respectively. Chapter 2 presents a brief history of altruism from Darwin to the present day, highlighting the problem that altruism raised for the theory of natural selection and the explanations put forth to help reconcile the behaviour and the theory – these explanations include group selection, kin selection and reciprocal altruism. Finally, the costly signalling and sexual selection theories will be discussed, which will provide the theoretical framework for the research examining evolutionary altruism within this thesis. Chapter 3 will present an overview of the egoism-altruism debate, which explores the motivations underlying altruistic behaviour. Empirical research testing the empathy-altruism hypothesis against egoistic alternatives will be discussed and evaluated.

Study 1: A Comparison of Qualitative Content Analyses, is presented in chapter 4. The purpose of the comparison of these five qualitative content analyses is to examine a

wide variety of altruistic behaviours to see which are depicted as similar to one another, and which are distinct in order to determine whether there are categories of altruism (behaviours that are similarly depicted) and how behaviours within a category are related to each other. For example, are the characteristics associated with someone that donates money to charity different from the characteristics used to describe someone that rescues someone in a dangerous situation? If motivations/consequences of different altruistic behaviours are alluded to, are they similar for all forms of altruism? This qualitative analysis suggests there are three broad categories of altruism depicted within newspapers; considerate altruism, heroic altruism and philanthropic altruism.

Chapter 5 is a quantitative continuation of the qualitative work in chapter 4 – seeking to confirm whether there are distinct categories of altruistic behaviour. Study 2: A Principal Component Analysis of Altruistic Intentions presents the results of two principal components analyses (PCA) of a newly devised altruistic intentions measure. This measure asks participants to indicate the extent to which they would behave altruistically in a variety of different contexts. Furthermore, a range of personality variables were measured, in order to allow for predictor models to be produced, to provide insight into potential motivating factors that may influence helping, in some, all or none of the contexts examined. These personality variables may help us to understand whether different helping behaviours are motivated by traits associated with selfishness or selflessness and will give insight into the types of people who behave in certain altruistic ways. Chapter 5 also includes Study 3: Validation of the Considerate Altruistic Intentions Component and Study 4: Validation of the Heroic Altruistic Intentions Component which provide evidence, respectively, that the altruistic intentions are reflective of considerate and heroic altruistic behaviour. These studies achieve this by showing that individuals who intend to behave altruistically have a history of behaving in a way consistent with those intentions.

Chapter 6, presents the findings of study 5: Considerate Altruism, Heroic Altruism and Empathic Concern. This study is a continuation of Study 2, where predictor models were created for considerate and heroic altruistic intentions. In study 5, considerate and heroic altruistic behaviour is operationalised within a laboratory experiment. Personality variables are measured using psychometric tests and predictor models for the behaviours are created. Of particular interest is the predictive power of empathic concern for considerate and heroic altruistic behaviour. Empathic concern was of particular interest given the research conducted by Batson et al. (Batson, 1987, 1992; Batson et al., 1989; Batson et al., 1991; Batson & Coke, 1981; Batson, Duncan, Ackerman, Buckley, & Birch,

1981; Batson et al., 1988; Batson, Fultz, & Schoenrade, 1987; Batson et al., 1997). The relationship between empathic concern and different categories of altruism is therefore explored, alongside other potential motivating factors.

Chapter 7, examines whether the desirability of an altruist varies depending on the altruistic behaviour being depicted. CST suggests that altruism can act as a costly signal of an underlying desirable quality (Zahavi, 1975, 1977; Zahavi & Zahavi, 1999), so this thesis seeks to clarify whether different altruistic behaviours (or categories of behaviour) are more desirable and whether they signal different qualities. This is explored initially in Study 6: The Desirability of Considerate Altruists, Heroic Altruists and Neutral Individuals in Different Relationship Contexts, by using a dating advert paradigm. After viewing the different dating adverts participants rated the desirability of the individual depicted as a partner in a range of romantic and non-romantic relationship contexts. Desirability in long-term romantic and short-term sexual relationship contexts is examined further in Study 7: Considerate, Heroic and Neutral Dating Adverts in Romantic Contexts. Then, Study 8: Considerate Altruism vs Heroic Altruism: The Impact of Altruistic Behaviour and Commitment Level on Desirability in Romantic Contexts, uses the dating advertisement paradigm to directly compare the desirability of considerate and heroic altruists, by having participants choose which altruist is most desirable as a short-term sexual and long-term romantic relationship partner. Study 9: Constructing an Ideal Altruist, asked participants to rank order characteristics associated to considerate and heroic helping, to see which was more desirable in a long-term romantic partner. Furthermore, in study 9, participants also ranked how important altruism was compared to other aspects of a long-term romantic partner, such as personality, physical attractiveness and life skills. This demonstrates how important altruism is to people when selecting a long-term partner. Finally, Study 10: Quality Signalling of Considerate and Heroic Altruism, asks participants to imagine they observe individuals doing different considerate and heroic altruistic acts and then rank order which characteristics/attributes they would most associate to the individual. This provides insight into what qualities are being signalled by considerate and heroic altruism and whether they differ from each other. Results showed that different qualities are associated with considerate altruists compared to heroic altruists.

Chapter 8 is the final chapter of the thesis and provides an overall discussion. The major findings in relation to the distinct categories of altruism produced will be discussed. Then considering the egoism-altruism debate surrounding psychological altruism, the findings relating to predictors of different altruistic behaviours will be discussed. Then

using a costly signalling and sexual selection framework, the findings from the studies examining the desirability of different altruists and the potential qualities that are signalled, will be discussed. Suggestions for how to better research altruism from both a psychological and evolutionary perspective will be put forth, to insure comparable research findings in the future. Lastly, the limitations and directions for future research will be reflected on.

Chapter 2: Evolutionary Altruism

Chapter 2: Overview

This chapter will provide a brief history of evolutionary altruism and how it has been explained in relation to the theory of natural selection. These explanations will come from Darwin himself, those inspired by his work, socio-biology and ecology. Then I will move on to discussing the modern theories that have emerged from the historical considerations on altruism, to provide theories for how altruism is evolutionarily stable. These theories will include kin selection, reciprocal altruism and CST. The predictions of CST and sexual selection theory form the basis for the central aim of this thesis – examining the extent to which altruistic behaviours are distinct from one another.

Altruism from an evolutionary perspective is defined as a behaviour that incurs a cost (in terms of fitness) to the actor whilst increasing the fitness of another individual or group (Clamp, 2001; Clavien & Chapuisat, 2013; Dugatkin, 2011; Ramsey, 2016; Stich, 2016; Trivers, 1985). With the term *fitness* meaning reproductive success, which is measured by the number of surviving offspring an individual contributes to the next generation (West Eberhard, 1975). Such a behaviour is problematic when considering Darwin's theory of natural selection, which posits that variation within a species will determine which individuals survive, as some variations will allow individuals to adapt to their environment and to compete against others more successfully (Darwin, 1871). Therefore, characteristics should evolve when they help the individual who has them to survive and reproduce (Sober & Wilson, 1999). As altruism is costly to the self and beneficial to others, it is counter-intuitive to the theory of natural selection, making it initially unclear how such a behaviour could have become evolutionarily stable.

A Brief History of Evolutionary Altruism

Darwin's theory was shaped by the writings of the political economist, Thomas Robert Malthus, who claimed that over time, the rate of population growth will exceed society's ability to produce food for such a population, leading to disease and famine and therefore a reduction in the size of the population (Broten, 2017; Hale, 2014; Nekola et al., 2013). Upon reading Malthus' essay, Darwin recognised that under such circumstances, "favourable variations would tend to be preserved, and unfavourable ones… destroyed. The result of which would be the formation of new species. Here then, I at last got a theory

by which to work" (p.120; Darwin & Barlow, 1958). However, Darwin (1871) was aware that altruism challenged his theory of natural selection, because of his knowledge of sterile castes amongst some species of insects. In *On the Origin of Species*, Darwin (1871) discusses sterile female ants, which vary widely from one another, with some being adapted to defend with specialised jaws and others being small workers that care for larvae (Herbers, 2009), and so the problem of altruism was born – as these ants were designed to defend and care for others, despite no clear benefit for themselves in terms of individual fitness, as they could not reproduce. Darwin states that the difficulty in explaining how such traits can persist "disappears when it is remembered that selection may be applied to the family, as well as the individual, and may thus gain the desired end" (p.227; Darwin, 1871). This has been interpreted by some as evidence that Darwin had an awareness that blood relatives could successfully pass on altruistic traits (Dugatkin, 2011), whilst others dispute this, interpreting the use of the word *family*, as synonymous with group or community (Domondon, 2013).

In *The Descent of Man,* Darwin (1874) discusses cooperation amongst social groupings, with sympathy as a mechanism for how cooperation could have evolved. Darwin states:

> sympathy is directed solely to the members of the same community, and therefore toward known and more or less beloved members, but not to all the individuals of the same species…Species which are not social, such as lions and tigers, no doubt feel sympathy for the suffering of their own young, but not for that of any other individual" (p.121; Darwin, 1874).

Sympathy, for Darwin, strengthens the bonds individual members of a species feel towards others, allowing the formation of social groups, and from this, mutual benefits occur. For example, within the herd, male bison will surround the females and young when there is danger, protecting them whilst the males defend the perimeter. Such behaviour increases the group's chances of survival and each individual's fitness. Whilst Darwin acknowledges the family unit as a community, it is not the only community within which such benefits can occur, therefore suggesting that altruism, a form of cooperation, is not only restricted to blood relatives. Darwin (1871), says all animals have social instincts which lead them to develop a moral sense, this could only evolve if it acted at the group level of selection, because otherwise the offspring of socially conscious individuals would be taken advantage of by the offspring of selfish individuals. For this to evolve, a group with a

higher number of individuals willing to sacrifice themselves for the common good would need to out compete a group with fewer such individuals (Darwin, 1871).

These two explanations laid the groundwork for two dominant approaches to explaining altruistic behaviour for the next 100 years. Kin selection, which explains how altruism can evolve if it bestows enough benefits on one's blood relatives (West Eberhard, 1975) and group selection, which argues that altruism can persist even at the cost to an individual, if the altruism provides benefits to the group that the altruist is a member of (Scott & Seglow, 2007).

Whilst Darwin did tackle the challenging issue of altruism in relation to his theory of natural selection, he offered no experimental evidence to support his perspective and provided no mathematical equation for how costly the behaviour could be, or how beneficial it needed to be, in order for it to be sustained amongst blood relatives or group members (Dugatkin, 2011). Debate ensued as to whether or not altruism was only something to occur within the family unit or if it had nothing to do with blood relations at all. Petr Kropotkin took the latter view, as his expedition through Siberia had highlighted to him that members of a species can be seen to assist one another in harsh climates to each other's mutual benefit, and such assistance had nothing to do with blood relatives (Dugatkin, 2011). Kropotkin's experiences led to him publishing the book – *Mutual Aid* – which put forth an alternative to Darwin's (1871) stark struggle for survival by emphasising competition between a species and its environment, rather than competition between members of a species (Kropotkin, 1987). From this perspective, altruism could be explained as being selected for by group selection, because of mutual gains, however Kropotkin (2012) provided no experimental evidence to support his perspective, and the types of behaviour he discussed, such as animals forming herds to find food and keep warm, would nowadays not be considered altruistic, as the mutual benefit of behaving in such a way is clear, and the cost to the altruist is absent.

However, for a time, Kropotkin's perspective prevailed, most likely because during the war years, the public were sceptical of science (Depew, 2010; Gerard, 1942; Mitman, 1988), so there was a movement towards extending the boundaries of biology into human matters so that solutions for social problems could be offered (Mitman, 1988). This helped to combat assertions that German leaders used Darwinian thought to justify their use of aggression during the first world war (Domondon, 2013). Such a movement required a reinterpretation of Darwinian theory, so that the struggle between members of a species were de-emphasised and cooperation between said members was emphasised – making

Kropotkin's ideology an ideal candidate. Warder Clyde Allee was an ecologist who prescribed to Kropotkin's perspective, his research focus was the social behaviour of animals in response to environmental changes (Domondon, 2013; Dugatkin, 2011). Allee provided some of the first experimental evidence to support cooperative behaviours being selected for at the group level. One such experiment was carried out in the laboratory using brittle starfish, which in their natural environment are solitary beings, hiding from predators amongst eel grass (Dugatkin, 2011). Allee found that when placed in a clean laboratory dish, the starfish would group closely together within 10 minutes, despite usually being solitary, because they were using one another to hide from potential predators in the absence of eel grass – once artificial eel grass was placed into the dish, the starfish dispersed (Allee, 1939). For Allee, this and several other experiments demonstrated that species worked together to combat modifications to their environment, rather than against one another. However, whilst Allee's experimental evidence may demonstrate cooperative behaviours amongst members of a species, it doesn't demonstrate altruism, the difference being that the sterile insects Darwin discusses take on a much heavier workload for the benefit of the group and at a cost to themselves (altruism), whilst starfish, or other species that cooperate, do so with nearly all members of the group participating so that they mutually benefit (Domondon, 2013).

In spite of this modern day criticism of Allee's work, group selection theories flourished for several decades until the mid-1960's, with the central idea that evolution favours traits that benefit a whole group (Price, 2011). Traditional models of group selection posit that a species has many randomly mating local populations, which are genetically related because of a small number of migrating individuals. Gene frequencies are altered by group selection in these models by the differential extinction and subsequent recolonization of the partially isolated local populations (Wade, 1978). Meaning that if one group is genetically advantaged to survive, they will be less likely to become extinct and more likely to migrate to recolonize areas where groups have failed to survive. Such models of group selection have been proposed by Wright (1945) and Smith (1964). Wynne-Edwards (1962) published "Animal Dispersion", in which he argued that group selection and not individual selection, was the only way to account for altruistic behaviours that were not beneficial to the individual but were beneficial to the group. Altruism, could have been selected for at the group level, if a group of altruists is better equipped to survive than a group of non-altruists (Van Vugt & Van Lange, 2006). For example, altruism would need to reduce the possibility of a group's extinction and increase the number of migrants

produced by a group who could go on to colonise previously vacant areas (Grafen, 1984). This would allow for the evolution of altruism/cooperation. This idea creates a conflict between individual level and group level selection (Price, 2011), as the individual altruist would be worse off than non-altruistic group members, but a group with many altruists would be better off than a group with few. Therefore, altruism could be selected for at the group level, because whilst some individual altruists would have perished, those who survived would have recognised that group cohesion, aided by altruism, assisted their survival. Group selection theories have been criticised as the conditions necessary would be unlikely to naturally occur as they are too restrictive, meaning that whilst group selection is possible, it is unlikely to significantly contribute to our evolution (Wade, 1978; Williams, 1966) . For example, migrants would not have been able to join existing groups as a group of altruists would have been exploited by non-altruistic migrants, who would flourish at their expense, with the likely result being extinction of the altruists (Scott & Seglow, 2007).

Whilst several critics of Wynne-Edwards's theory contributed to the decline in group selection theories of evolution, Williams's publication of "Adaptation and Natural Selection" in 1966 demonstrated that group selection was not strong enough to support the evolution of a mechanism that would place the success of a population above an individual's own interests. Group selection was unlikely to occur because the lifetime of a group is longer than that of an individual, and therefore individual selection is stronger in nature (Okasha, 2001). This view was supported by several mathematical models which demonstrated the power of individual level selection was indeed stronger than group selection which only had a significant evolutionarily impact within very restrictive conditions (Boorman & Levitt, 1973; Levin & Kilmer, 1974). Furthermore, group selection originated as a solution to the evolution of altruism, but was no longer required as an explanation for this, with the rise of kin selection (see below) (Maynard Smith, 1964; Williams, 1966). Therefore, the conversation around the evolution of altruism refocussed on the genic level of selection, where natural selection is selection for or against single genes (Borrello, 2005), which had already been developing throughout the last decade. This leads us back to altruism being explained by the relatedness of the individuals involved in the altruistic transaction.

Kin Selection

Kin selection theory was developed by Hamilton (1964) and suggests that altruism can continue to exist if altruistic acts are carried out towards close relatives. This is because close relatives have a higher chance of also having the altruistic gene, so whilst the individual altruist experiences a cost to their reproductive fitness because of their altruism, the recipient, receives a benefit, which increases their reproductive fitness and therefore the likelihood that they will produce offspring who will also carry the altruistic gene (Hamilton, 1964). Therefore, selection for altruism is not occurring at the level of the individual or the group, but at the level of the gene (Dugatkin, 2011) – where the gene ultimately wants to get as many copies of itself in to the next generation as possible, even if it means sacrificing the individual.

It is hypothesised that altruism will occur when the benefit to the recipient multiplied by the relatedness of the altruist and recipient is greater than the cost to the altruist (Hamilton, 1964), and if this is the case then altruism could effectively become adaptive. Hamilton's rule is displayed below as an equation, where r = relatedness, b = benefit and c = cost.

$$rb > c$$

In other words, when altruism is considered in terms of inclusive fitness – the reproductive fitness of all relatives with the altruistic gene – instead of individual fitness, altruism can be beneficial (Allison, 1992).

This theory would appear to struggle to explain altruism towards non-related individuals, however it has been proposed that because throughout ancestral history humans lived in relatively small, static groups of mostly related individuals, there was no need for a mechanism to develop which enabled people to identify kin explicitly (Van Vugt & Van Lange, 2006). Instead people would have relied on kin-ship cues. These would have related to things like physical similarity, similarity in beliefs, and similarity in geographical location (Alexander, 1974). In today's society, people could still use these cues, leading to altruistic behaviour being carried out towards people that are similar to the altruist, but not in fact related to them (Van Vugt & Van Lange, 2006). However, this explanation has been criticised by Boyd and Richerson (2005) because non-human primates in modern times are able to distinguish between related and unrelated group members, and they act altruistically towards kin to a greater extent than non-kin group members – which makes it difficult to believe that humans would not have the same

ability. Furthermore, Westermarck (2007) suggested there is an innate avoidance of inbreeding amongst humans, which means individuals must have an inbuilt kin recognition mechanism and uses the work of Wolf (1970) on Taiwanese child marriages, as support. Taiwanese child marriages involved potential husbands and wives being raised in close relationships as children, as if they were brother and sister, and it was found that marriages in later life were unsuccessful because being cohabitating age-mates led to them avoiding reproducing with one another (Wolf, 1970). Boyd and Richerson (2005) suggest that these marriages failed because the kin recognition mechanism was activated by the cohabitation of non-kin from an early age, suggesting individuals have a mechanism for distinguishing between kin and non-kin (Boyd & Richerson, 2005). However, if this is the case, then the kin-recognition system is being activated by a non-kin member, so the mechanism cannot be said to be infallible, which somewhat weakens the argument.

Furthermore, kin selection theory can struggle to explain all examples of altruism towards kin. For example, why would offspring invest resources caring for their biological parents in their old age, when said parents are going to be past the age in which they would successfully be able to produce more offspring? These resources would be better invested in the next generation. Allison (1992) suggests that this can be explained by considering how altruism is passed on culturally and outlines a theory to explain this process. The cultural route is similar to kin selection, accept it does not depend on genetics. Instead, altruistic norms are passed on via imitation and teaching to people who are likely to adopt and pass on the same norms in the same way, to others (Allison, 1992). Behaving altruistically towards parents can therefore be beneficial if the parents behave altruistically and are still able to produce cultural descendants who adopt an altruistic norm.

Altruism towards elderly parents and towards non-kin can also be explained by considering proximal causes. Emlen (1995) argues that whilst human behaviour is somewhat determined by a set of biological predispositions, it is also strongly shaped by the cultural environment in which an individual lives. Therefore, if an individual is part of a culture where altruism towards non-kin or elderly relatives is a social norm, then altruism towards these groups will ensue, in spite of the biological predisposition to reserve such behaviours to blood related descendants.

It is widely accepted that kin-selection can account for the evolution of altruism towards related individuals. However, it is less certain that altruism towards non-kin can be explained by mistaken identity, because kinship cues falsely identify someone as a blood relative. Therefore, an evolutionary explanation for altruism between unrelated individuals

is still required. The next few sections will focus on the dominant explanations for how such altruism could have become evolutionarily stable.

Reciprocal Altruism

Reciprocal altruism is one answer to how altruism towards non-kin could evolve. The theory of reciprocal altruism was first proposed by Trivers (1971) and it postulates that altruistic acts towards unrelated individuals can evolve provided that the altruistic acts are reliably and consistently repaid. In other words, altruism towards strangers is a cooperative act that occurs, with the expectation that the recipient will act cooperatively with the initial altruist in the future. This type of altruism would occur when the cost to the altruist is low but the benefit to the recipient is high, so that when the "investment" is repaid, both parties receive greater benefits than costs (Hampton, 2009). Here then, what looks like altruism, is actually a series of beneficial pay offs to the actors involved, and is better described as cooperation or simply reciprocity (Becker, 1976; Cronin, 1991; Khalil, 2004). Trivers (1971) also said that individuals would need to be able to recognise each other, in order to reciprocate and to detect when someone is defecting from the cooperative alliance and that there would need to be repeated opportunities for cooperation to occur over a relatively long period. "Cheats" or defectors would have to be detected and punished for not cooperating, because otherwise the selfless altruists would be taken advantage of by selfish group members (Van Vugt & Van Lange, 2006). The opportunity for co-operators to be exploited appears to be an obvious flaw in this explanation for how cooperation evolved, because each individual would appear to do better if they received aid from a member of their community, but then never returned the favour (Cronin, 1991). However, game theory has demonstrated that a strategy of Tit for Tat in a repeated prisoner's dilemma game, could be an evolutionary stable strategy that accounts for cooperation. When Tit for Tat is employed, the individual will always cooperate on the first move and from then on they will repeat the behaviour of the other player. So if the other player does not cooperate, they are punished by Tit for Tat as cooperation will stop. If the other player cooperates, they will be rewarded. Tit for Tat also allows for forgiveness, so if a player does not cooperate once, but then returns and starts to cooperate again, the cooperative alliance will be restored (Axelrod & Hamilton, 1981).

Whilst reciprocity demonstrates that cooperation amongst unrelated individuals can evolve, it does not explain altruistic behaviour, instead it is explaining behaviour that

appears altruistic when an isolated incident is looked at – i.e. sharing food with a down on their luck neighbour to help them survive. But such isolated incidents could only become evolutionarily stable if the act is repaid. Furthermore, because of the requirement for repeated interactions, reciprocity does not explain altruistic behaviour towards strangers, of which there are numerous examples. Indirect reciprocity could combat this, as this is where an individual acts cooperatively with someone but does not expect to be repaid by the recipient but instead expects their cooperative behaviour to lead to cooperative relationships with third parties (Price, 2011). This could mean that behaving cooperatively with a stranger in the presence of group members, could lead to the formation of cooperative alliances. However, both reciprocal altruism and indirect reciprocity suggest the "altruist" anticipates repayment for their behaviour, leading researchers to conclude these cooperative behaviours are not altruistic (Workman & Reader, 2014). Furthermore, both appear to move away from explaining altruism and instead relate to cooperation within groups. For example, how do either of these theories explain why someone would go to a war-torn country to assist with refugees in a humanitarian crisis? Such a behaviour would have a high cost for altruist's fitness, (i.e. resources, time, energy, risk) which would be unlikely to be repaid by the recipient or indirectly through cooperative alliances.

Multilevel Selection Theory

Group selection saw somewhat of a resurgence after Hamilton's rule was created. Sober and Wilson (1999) claim that theories such as kin selection and gene level selection are not theories disproving group selection, but are merely a different form of looking at how natural selection occurs within grouped populations. Whilst it has been argued that the traditional formulation of group selection that was harshly critiqued in the 60's should rightfully be discarded (Grafen, 1984), there are still ways in which the group can impact upon natural selection and the evolution of altruism.

Broadly speaking, this may be referred to as multilevel selection theory or pluralistic selection, whereby different theorists acknowledge that there are multiple levels of selection. Primarily, the individual level of selection is used to explain natural selection, with traits being favoured when they increase the fitness of the organism (West, Griffin, & Gardner, 2008). However, gene level and group level selection can be used to explain the evolution of traits/behaviours that seemingly cannot be explained by individual level selection, as they are seemingly maladaptive. Altruism is one of these behaviours, as it

disadvantages the organism which carries it out. Kin selection is a gene level explanation for how altruism could have evolved and whilst Hamilton (1964) may have seen this as a theory that discredits group selection, Grafen (1984) demonstrates how an expansion of Hamilton's rule can demonstrate the group level natural selection can impact upon the evolution of altruism:

$$r\mathrm{b} - \mathrm{c} - r_e\mathrm{d} > 0$$

r still refers to the relatedness of the individuals involved in the altruistic behaviour, b refers to the benefit to the recipient of altruism, and c refers to the cost in fitness to the altruist. However, Grafen (1984) specifies that when we consider the benefit and cost, it is unlikely to mean that there are "b – c extra offspring in the population as a whole, surviving to maturity and breeding" (p.80) because there is likely to be some other factor unrelated to altruism that is stopping the population from increasing exponentially. Instead, the donor loses c, the recipient gains b and as a result of the total population number remaining stable, the population as a whole loses b – c. If relatedness within a group is equal to 0, then Hamilton's (1964) original rule still stands. However, Grafen (1984) argues that in relatively closed groups where there is little migration, genetic relatedness within that grouped population builds up. This results in varying levels of relatedness amongst group members, with close and distant relatives living side by side. In such circumstances, multiplicity in relatedness can be more important than closeness. This is when the expanded rule becomes important. If d relates to the general decrement to the whole population (i.e. the population losing b – c) and r_e refers to the average relatedness of a donor to the whole group, then basically, altruism will be selected for at the group level when the average relatedness of the group multiplied by the general decrement to the group subtracted from Hamilton's (1964) original rule, does not result in a deficit for the group as a whole. The expansion of Hamilton's rule resolves two parallel factors that are at work when considering this new formulation of group selection, these are; the pattern of relatedness between groups and the pattern of joint dependence of group members offspring on the same resources (Grafen, 1984). However, the driving force within this model is still genetic relatedness (Grafen, 1984), with group level selection being a secondary component. Furthermore, Frank (1986) argues that genetic differentiation between groups and genetic relatedness within groups are "related descriptions of the same phenomena" (p.338) and that proponents of group selection place emphasis on the between group element whilst ignoring the genetic relatedness element to demonstrate the

plausibility of group level selection (Frank, 1986).

Debate still ensues around group selection and its importance. This appears to stem from theorists still trying to demonstrate the value of traditional group selection (see Wilson, 2008). Whilst others argue that the original rejection of traditional group selection was valid and that attempts to demonstrate its value draws on examples of natural selection that can be explained solely by kin selection (West et al., 2008). Finally, it can be said that the original rejection of group selection occurred because it was inappropriately used to explain certain social behaviours, but the basic aspects of group selection – that within a group altruists may be disadvantaged but between groups, a group with more altruists will flourish – is a valid mode of natural selection (Wilson & Wilson, 2008). For the purposes of this thesis, it is acknowledged that group level selection within a pluralistic selection framework can lead to the group selecting for altruism in some circumstances (see Grafen, 1984; Frank, 1986). However, this still does not provide a cohesive explanation for altruism towards strangers, for which we must turn to costly signalling theory and sexual selection for an answer.

Costly Signalling Theory

Finally, we turn to Costly Signalling Theory (CST), to explain how altruism towards strangers could evolve. CST suggests that altruistic behaviour acts as a costly signal which indicates to others an underlying quality, which is desirable but not visually observable (Grafen, 1990; Zahavi, 1975, 1977). This makes the altruist an attractive ally or mate to others who witness the altruistic behaviour (Buss, 2014; Price, 2011). Only individuals in excellent condition or with lots of resources can incur the costs of altruism which ensures that altruism is an honest indication of the quality of the altruist (Buss, 2014). The cost of altruism is offset by increased social opportunities which arise because the altruist is seen as a desirable social partner (Price, 2011). There are two schools of thought on what the desirable qualities indicated by altruism are, with some saying altruism is simply a display of the altruists ability or willingness to help/cooperate (Clamp, 2005; Price, 2011), whilst others suggest that altruism advertises different qualities, that are expressed through the cooperative act of altruism (Price, 2011). Price (2011) says the idea that altruistic cooperation signals cooperativeness is too similar to reciprocity and indirect reciprocity to be a distinct theory, as essentially the altruism would occur to attract a cooperative partner with whom they could have a reciprocal relationship. Alternatively, if

altruism is a costly signal for a quality unrelated to cooperation then costly signalling can be seen as a distinct and alternative explanation for altruism (Price, 2011).

CST is often paired with sexual selection theory, which suggests that certain traits evolve because they help an individual compete for access to desirable mates against members of their own sex or because the traits are desirable to the opposite sex and therefore increase an individual's chances of being selected as a mate (Darwin, 1874). Altruism, and/or the quality it signals, is thought to be desirable to romantic interests (Barclay, 2010). Farrelly, Lazarus and Roberts (2007) therefore argue that altruism can indicate cooperative qualities because the cost of altruism would be offset by increased mating opportunities which are beneficial to the altruist's fitness. This means that CST would be distinct from reciprocal explanations of altruism, which require there to be two altruists, one who initiates a cooperative relationship and another who reciprocates, because reproducing with someone who is altruistic is not an altruistic act because reproduction increases the fitness of both parties involved (Farrelly et al., 2007). Furthermore, Boone (1998) says that altruism from a costly signalling perspective can be thought of as a form of delayed benefit altruism that does not rely on reciprocation, because signalling that one can bear the cost of altruism will always result in observers viewing the altruist as having social power. Therefore, whether altruism signals cooperativeness or something else, both can be thought of as different from reciprocity. Furthermore, because CST can be paired with sexual selection theory rather than natural selection it can better explain altruism towards strangers as the recipients of altruism do not have to play a role in offsetting the cost to the altruist – instead this is offset by third parties who want to associate with someone that is altruistic.

CST and sexual selection therefore provides us with a theory which can account for altruism towards strangers. Research evidence supports the predictions of CST as men and women are more willing to have friendships with altruists (Barclay, 2010; Bereczkei, Birkas, & Kerekes, 2010), lend money to altruists (Barclay, 2010) and women prefer colleagues who are altruistic (Barclay, 2010) compared with neutral individuals. Bereczkei et al. (2010) also found that individuals who publicly displayed intentions to help strangers, were perceived as more popular, were more likely to be called upon in a crisis and people preferred to spend time with them, compared to those who did not publicly display altruistic intentions. Altruists are more desirable as romantic partners, as expected by CST and sexual selection theory (Barclay, 2010; Farrelly et al., 2016; Farrelly et al., 2007; Margana et al., 2019). This is particularly the case for long-term romantic

relationships, as opposed to short-term sexual relationships (Barclay, 2010; Bhogal et al., 2018; Ehlebracht et al., 2018; Farrelly, 2011, 2013; Farrelly et al., 2016; Farrelly & King, 2019; Margana et al., 2019). Within long-term romantic relationships, both men and women, mutually desire altruistic mates (Farrelly & King, 2019), likely because in long-term relationships, parental care between the sexes is more balanced (Johnstone, Reynolds, & Deutsch, 1996). Research also shows that men (Farrelly et al., 2007; Griskevicius et al., 2007; Iredale, Van Vugt, & Dunbar, 2008; Van Vugt & Iredale, 2013) and women (Farrelly et al., 2007; Griskevicius et al., 2007), will act altruistically to attract mates in romantic contexts and that members of the same sex recognise that altruistic rivals are viewed as more desirable than non-altruists by potential romantic partners (Barclay, 2010; Kelly & Dunbar, 2001). Furthermore, research shows altruism predicts mating success (Arnocky, Piché, Albert, Ouellette, & Barclay, 2017).

What does altruism signal?

One question that has not yet been addressed here is, if altruism is a costly signal of a desirable underlying quality, what is this quality? Within the literature, this debate has focussed on what is being broadly signalled, with likely candidates being good genes or good character (Barclay, 2010). Where good genes would mean that altruism is desirable, because it signals that the actor has genes that would benefit subsequent offspring if passed on and increase said offspring's fitness. Conversely, good character would mean that altruism signals that the actor has desirable characteristics, likely linked to prosociality, which means cooperating with them will be beneficial to their potential mate and subsequent offspring indirectly. The finding that altruism is more desirable in long-term romantic contexts rather than short-term romantic contexts (such as one-night stands) indicates that good character is being signalled (Barclay, 2010; Bhogal et al., 2018; Ehlebracht et al., 2018; Farrelly, 2011, 2013; Farrelly et al., 2016; Farrelly & King, 2019; Margana et al., 2019). This is because good genes could be benefitted from in both romantic contexts, whereas good character requires the opportunity for multiple interactions with the altruistic individual (Barclay, 2010).

The problem with stating that altruism signals good genes or good character is that these concepts are vague and broad. Researchers have speculated on more specific qualities, stating that altruism may signal willingness and ability to be a good parent (Tessman, 1995), cooperativeness (Barclay & Willer, 2007; Bereczkei et al., 2010), caring, nurturing, kind, helpful and sympathetic personality traits (Farrelly, 2011; Griskevicius et

al., 2007; Miller, 2007), which indicate a willingness to invest in offspring (Griskevicius et al., 2007), a psychological predisposition to benefit others (Fehrler & Przepiorka, 2013; Zahavi & Zahavi, 1999) which also signals trustworthiness (Barclay, 2004; Farrelly, 2011; Fehrler & Przepiorka, 2013), general intelligence (Millet & Dewitte, 2007; Zahavi & Zahavi, 1999), wealth or income (Glazer & Konrad, 1996), competitive ability (Smith & Bird, 2000), health (Smith & Bird, 2000; Zahavi & Zahavi, 1999), genetic quality (Smith & Bird, 2000; Van Vugt & Iredale, 2013), possession of and a willingness to share resources (Van Vugt & Iredale, 2013), the ability to bear the cost of altruism (Boone, 1998; Griskevicius et al., 2007; Smith & Bird, 2000) and finally altruism may be a signal of courage (Zahavi & Zahavi, 1999). All of these can justifiably be seen as qualities that are desirable to potential mates or allies, and it is conceivable that altruism could signal any of these qualities. One premise of this thesis is that by looking more carefully at how altruism is operationalised, we can gain more insight into what quality altruism signals.

Researchers rarely acknowledge that the different operationalisations of altruism within research could impact upon participant perceptions, instead altruism is collectively used to encompass many distinct behaviours. This creates a problem, because these distinct behaviours could be signalling different qualities, which could explain the various conclusions drawn by researchers above. For example, if an individual donates a large sum of money to a charity, he is altruistic because he is benefitting the survival of others at a cost to his own survival. His altruism could be said to signal wealth, income, resources and the willingness to share these resources. If a different individual volunteers at the same charity to help them raise funds, he is also altruistic because he is benefitting the survival of others whilst incurring a cost in relation to his time/energy/effort. But would his act of altruism signal the same qualities to observers? It is unlikely that his behaviour would signal wealth, income or resources – instead it is more likely that his good character would be advertised – his willingness to help others, his cooperativeness. Furthermore, if the second altruist raised money for the charity by running a marathon he is likely to signal different qualities than if he went door to door collecting donations – i.e. health, strength, vigour in addition to good character. In other words, altruism can be operationalised in many different ways which results in potentially endless variations in the quality that is signalled. It is therefore important that researchers begin to consider the altruistic behaviours they use within their research and the consequences of using these differing behaviours. If clearly defined and distinct behaviours were used, it would be possible to differentiate between research, making it clearer why a certain quality was identified

making replication and future research into the area easier. Furthermore, by using distinct behaviours and identifying the related qualities, it would be possible to see which altruistic behaviours are more likely to lead to cooperative alliances, which are more likely to increase reproductive opportunities, and which can assist with both. The next two paragraphs will demonstrate this problem with examples from the literature.

Whilst how altruism is operationalised is not given much attention, a review of research into altruism from a costly signalling perspective demonstrates that numerous operationalisations of altruism are used. For example, altruism is operationalised as real world monetary donations (Glazer & Konrad, 1996; Griskevicius et al., 2007), as monetary donations within economic games (Fehrler & Przepiorka, 2013), as donating more than one's fair share towards a public good in an economic game (Barclay, 2004; Millet & Dewitte, 2007; Van Vugt & Iredale, 2013) as playing guitar at a children's hospital (Barclay, 2010), as diving into the ocean to rescue someone that has fallen overboard (Griskevicius et al., 2007) and as providing turtle meat for public feasts (Smith & Bird, 2000). Empirical findings could be impacted by the variation in altruistic operationalisations. For example, Bereczkei et al. (2010) examined whether the costliest acts of altruism within their study led to increased social recognition. The altruistic acts were; taking people's blood pressure, organising a day where people could donate blood, collecting donations, providing care for elderly people, providing care for disabled people, providing health care for the homeless and finally, providing assistance to mentally handicapped children. These acts are presented here in order from low to high cost, as rated by an independent sample. Many of these behaviours are not distinguishable from each other in the abilities and skills required to carry out the act – i.e. apart from collecting donations, all are related to health and welfare. Furthermore, participants were told they would be expected to spend the same amount of time assisting with any of the acts they signed up to help with – whilst the independent individuals who ranked the acts in order of cost were not told this. This, I suggest, lead to social recognition for individuals volunteering for acts to not differ, accept for the costliest act (volunteering to assist mentally handicapped children), where social recognition increased for participants who publicly volunteered for this act. This is because the same skills/abilities could have been signalled by all altruistic acts and the cost – as determined by perceived time and energy associated to the act – was equalised by the time limitation. Furthermore, all of the altruistic behaviours outlined to the participants related to health and welfare, and research shows that women rather than men are more likely to publicly showcase their altruism in

these contexts, whilst men will be more likely to behave altruistically in heroic contexts (Griskevicius et al., 2007). Bereczkei et al. (2010) concluded that men did not use altruism as a costly signalling display and found that women were more likely than men to publicly make offers to help, but this is likely an artefact of the altruistic operationalisation used within their research.

Furthermore, research which investigates altruism using economic games may also be using problematic operationalisations. Economic games are utilised in order to investigate social decision making, such as altruism (Barclay, 2004; Barclay & Willer, 2007; Fehrler & Przepiorka, 2013; Millet & Dewitte, 2007; Van Vugt & Iredale, 2013). But questions have been raised about the external validity of such games (Levitt & List, 2007a, 2007b, 2008; List, 2009). Levitt and List (2007b) raise the following points of issue surrounding external validity; 1) in the laboratory, participants are under the scrutiny of an experimenter, 2) participants decisions are unlikely to remain anonymous, 3) context matters and it can't be completely controlled, 4) the consequences in a laboratory experiment differ from those in real life, 5) participants in experiments differ from the type of people engaging in the real world behaviours and 6) artificial restrictions are created in laboratory experiments which impact on decision making. The fourth issue is particularly important, given the cost/benefit exchange that defines evolutionary altruism – in economic games, there is no real cost, because it would be unethical for participants to lose their own money, instead the cost is superficial, in that the participant is given a sum at the beginning of the experiment and then may lose some of it – but this is not a real cost. Galizzi and Navarro-Martínez (2018) conducted a lab-field experiment, where they sought to determine whether economic games used to assess social preferences in laboratory settings have external validity. They did this by having participants carry out public-good games, dictator games, trust games and ultimatum games and comparing the findings with behaviours elicited in naturalistic field settings and with self-reports of past behaviours. They found that the laboratory games had very little predictive power for explaining past behaviour or comparable behaviours outside of the laboratory (Galizzi & Navarro-Martínez, 2018).

Therefore, altruism can be explained from an evolutionary perspective, despite the behaviour of altruism appearing at odds with the theory of natural selection. Group selection may offer a viable explanation, despite the restrictive nature of the theory, if a group containing more altruists out competes a separate group with fewer altruists. Kin selection on the other hand, explains how altruism may have evolved, but only when the

behaviour is carried out towards blood relatives. However, neither of these theories can account for how altruism towards *strangers* may have evolved. To explain altruism towards strangers, costly signalling theory offers a solution, by showing how altruism can act as a signal for an underlying desirable quality which increases the extent to which the altruist is selected as a cooperative partner or mate – increasing the altruist's fitness through increased opportunities to reproduce and offsetting the cost of altruism. Research evidence supports the predictions of costly signalling theory and sexual selection, but it remains unclear what underlying quality is signalled when people observe altruistic behaviour. To gain insight into this, it is important to examine different altruistic behaviours to see in which ways they are distinct and similar to each other (see study 1) and to see whether people distinguish between altruistic behaviours by varying their intentions to behave altruistically in different contexts (see study 2). Once different categories of altruism have been established, it is important to see which altruistic behaviours are desirable in a range of romantic and non-romantic contexts (see study 6, 7, 8 & 9) and what qualities observers perceive an altruist to have, when the altruistic behaviour is varied (see study 10). The focus of chapter 2 has been to explain the evolution of altruism, chapter 3 will discuss the psychological motivations of altruism.

Chapter 3: Motives and Psychological Altruism

Chapter 3: Overview

For any behaviour to evolve, there must be a proximate mechanism that motivates an organism to carry out the behaviour. Psychological definitions of altruism are based on these proximate mechanisms and research into psychological altruism are not concerned with whether or not a behaviour is altruistic in the evolutionary sense, but whether the proximate mechanisms leading to the behaviour are altruistic in the psychological sense (Wilson, 1992). Psychological altruism is defined as a behaviour that is carried out with the ultimate desire of improving the wellbeing of others (Clavien & Chapuisat, 2013; Sober & Wilson, 1999; Stich, 2007, 2016). It therefore differs from evolutionary altruism as it shifts away from the consequences of behaviour, such as costs and benefits, and towards motivations behind behaviour (Schroeder et al., 1995). There is a debate about altruism as defined from a psychological perspective, because it remains to be seen whether or not human beings are exclusively motivated by self-interest or whether they can be motivated by a desire to improve the well-being of others (Clavien & Chapuisat, 2013). This relates to whether such desires are ultimate desires or instrumental desires. Ultimate desires are where the object of the desire is desired for its own sake, and not because it will satisfy some other desire. Instrumental desires are a means for achieving an ultimate desire (Sober & Wilson, 1999). Theorists from the opposing schools of thought on human motivation that will be discussed in this chapter, all assume behaviour occurs because of beliefs and desires that are present in the mind which motivate us to act to achieve ultimate goals (Sober & Wilson, 1999). This chapter will discuss two theories of motivation; psychological egoism and psychological pluralism. After these theories have been outlined, empirical evidence will be discussed which highlights that there is growing support for the theory of psychological pluralism and the idea that true altruism exists. However, because of problems with the unconscious nature of underlying motivations, as well as methodological issues where research has tended to examine one egoistic alternative against one altruistic motivation at a time, the usefulness of these findings will be discussed.

Theories of Motivation

Psychological egoism and psychological altruism both make use of ultimate and instrumental desires. But for theorists who align themselves with the egoism school of thought, ultimate desires will always be self-orientated (Batson et al., 2011; Batson & Powell, 2003). From this perspective, altruism does not exist. If helping occurs, it is because helping is one step in a process for helping the actor achieve their self-orientated ultimate desire. In other words, the helping is an instrumental desire. For example, John may volunteer to help David move to a new house, doing this is beneficial to David and it makes John feel good – an egoist would say that John's helping is an instrumental goal, which helps him to achieve an ultimate desire of feeling good. Essentially, caring for the welfare of others only occurs because it is a means to achieving the ultimate goal of benefitting the self. A separate theory which can be classified as egoism, is hedonism. Once again, ultimate desires are always thought to be self-orientated, but it has the additional caveat that all ultimate desires are focussed on the individual obtaining pleasure and avoiding pain (Sober & Wilson, 1999).

Psychological pluralism differs from both psychological egoism and hedonism, as it states that there are times, when some individuals, will have ultimate desires that are other-orientated (Sober & Wilson, 1999). Theorists from this perspective do not deny that some ultimate goals are self-orientated, but they believe that altruism does exist, with some instances of helping occurring as an end in itself to achieve the ultimate goal of benefitting another's welfare (Batson et al., 2011; Batson & Powell, 2003; Batson & Shaw, 1991; Sober & Wilson, 1999). In the late 1980's there was a paradigm shift, where it became acceptable to suggest that true altruism can and does exist. Prior to this, it was believed that any behaviour that appeared altruistic on the surface would under close scrutiny be shown to have selfish ulterior motives (Piliavin & Charng, 1990). If we take the previous example of John helping David to move house, this may be interpreted as altruism, if the ultimate desire of John is to benefit David's welfare, and the good feeling he gets is not the motivating force that led him to help, but instead just a side effect of helping.

It is difficult to access any person's ultimate goals. These goals do not necessarily even need to be consciously known to the individual who holds them and asking participants to answer the question "why did you help?" will not determine whether their answers reflect an ultimate or instrumental goal (Sober & Wilson, 1999). The above examples, using John and David, demonstrate how the same situation can be interpreted in different ways by theorists from opposing perspectives. Moss and Page (1972) carried out

a study that highlights how "feeling good" when helping could be an important component of helping. They found that when an individual helped and the help was positively received by the recipient, 93% of subjects helped in a subsequent situation with a second individual. Whereas when the initial help was negatively received, only 40% of participants helped the second individual. The reduction in helping when prior help was negatively received could be interpreted as suggesting that helping has the ultimate goal of making the actor feel good about themselves, when this is achieved, helping will be repeated, but when it is not, helping will cease. This is predicted by egoism – that when an instrumental goal does not assist an individual of achieving their ultimate goal, the instrumental goal will be abandoned (Sober & Wilson, 1999). However, 40% of the subjects in the Moss and Page (1972) study, still helped despite their initial help being negatively received – so these individuals could be helping with no desire to feel good, but simply because they believe helping will benefit another – and said individuals would therefore be altruistic. Here in lies the problem with research into the egoism-altruism debate, it is only possible to make inferences about motives, and results can regularly be explained by both theories of motivation. The next section will discuss empirical evidence in more detail, to show how research has attempted to satisfy the debate.

Psychological Evidence for Egoism/Altruism

The affective states caused by the emotions empathy and personal distress are often associated with the egoism-altruism debate. Empathy is the ability to understand and share the feelings of another individual (Batson & Coke, 1981; Coke, Batson, & McDavis, 1978). To empathise, means you feel an emotion for someone, meaning you understand someone else is happy and you feel happy for them – they are the focus of happiness you feel. You can empathise with the positive and negative emotions of others, but that person has to be experiencing or believed to be experiencing the emotion that is empathised with (Sober & Wilson, 1999). Personal distress is when an individual experiences a negative emotional state because of someone else's hardship, but the negative emotional state is self-directed, resulting in motivations to reduce the aversive state the individual finds themselves in (Batson et al., 1987). For example, you may feel bad, but you do not feel bad for someone else. Therefore, empathy is an emotion that may lead to helping behaviour that is altruistically motivated, whereas helping that occurs as a result of personal distress will be egoistically motivated.

Most of the research into the egoism-altruism debate has focussed on empathy as the emotional mechanism that may lead to helping, with research aiming to test whether empathy-induced helping occurs because of egoistic or altruistic motives. Much of the research carried out has been conducted by Batson and colleagues who developed the empathy-altruism hypothesis (Batson, 1992; Batson et al., 2011; Batson et al., 1988). This hypothesis suggests that an individual who experiences empathy for someone in-need, may be motivated to relieve the need of said individual, and if they are, their motivation is altruistic if it is evoked by empathy and not motivated by the anticipated self-benefits of helping (Batson et al., 2011). This hypothesis makes specific predictions which can be tested against alternative egoistic hypotheses. The following sections will outline the alternative egoistic explanations for empathy-induced helping and discuss the empirical support for egoistic vs altruistic explanations.

Aversive-arousal reduction hypothesis. The first egoistic explanation for empathy-induced helping that will be discussed is the aversive-arousal reduction hypothesis. This hypothesis states that empathy is an unpleasant state, so to reduce empathic arousal and alleviate the unpleasant state, the individual helps the person they empathise with – but the helping is simply a by-product to get them to their self-orientated ultimate goal (Batson et al., 2011; Batson & Powell, 2003; Batson & Shaw, 1991). Several experiments have been conducted which have examined the aversive-arousal reduction hypothesis vs the empathy-altruism hypothesis (Batson et al., 1981; Batson, O'Quin, Fultz, Vanderplas, & Isen, 1983; Toi & Batson, 1982). Such experiments involve varying the ease of escape for participants when they are confronted with a person in-need, as empathic arousal can be reduced by helping or escaping the situation – if escape is chosen, this suggests egoistic motives (Batson & Shaw, 1991). Participants are also placed into either a high or low empathy condition, meaning that four conditions exist; high empathy/easy to escape, high empathy/difficult to escape, low empathy/easy to escape, low empathy/difficult to escape. The important condition here is the high empathy/easy to escape condition, as the empathy-altruism hypothesis predicts that more helping will occur here compared to the low empathy/easy to escape condition, whereas the aversive-arousal reduction hypothesis predicts that empathy condition should not impact upon helping when escape is easy (Batson, 1990; Batson et al., 2011; Batson & Powell, 2003; Sober & Wilson, 1999). Results support the empathy-altruism hypothesis, as there was more helping in the high empathy condition when escape was easy, compared to the low empathy condition when escape was easy, suggesting that helping does not just occur to reduce the unpleasant

state bought about by empathy, as this could be reduced simply by escaping, rather than helping (Batson et al., 1981; Batson et al., 1983; Toi & Batson, 1982).

Empathy-specific punishment. The second egoistic explanation for empathy-induced helping is that when we feel empathy for someone, we also feel an obligation to help, because that is what we have been taught via socialisation (Batson & Shaw, 1991). We therefore help when we feel empathy to avoid specific punishments, such as the disapproval of others or self-censure (Sober & Wilson, 1999). There are two versions of this explanation, one where empathy leads to helping because the empathic individual anticipates negative social evaluations (punishment from others) and one where empathic individuals help to avoid negative self-evaluations or self-administered punishments (Batson & Shaw, 1991). The first version of this explanation predicts that if there is a low chance of social evaluation (no one knows about whether you help or not), then the empathy-helping relationship should disappear, conversely the empathy-altruism hypothesis would predict that even in low social-evaluation contexts, helping will remain, as empathy produces altruistic motives. Fultz, Batson, Fortenbach, McCarthy, and Varney (1986) carried out a study where participants were asked to help and were induced to feel high or low empathy. Social evaluation was manipulated by telling participants that the experimenter and the person they were being asked to help would know their decision (high social evaluation) or that no one would know their decision (low social evaluation). Results of this study supported the empathy-altruism hypothesis as even in the high empathy, low social-evaluation condition, the empathy-helping relationship was present (Fultz et al., 1986).

Testing the second version of this explanation, self-punishment, (i.e. feeling guilty when you empathise but do not help), is more difficult. Batson and Shaw (1991) suggest that people will take into account situational cues which help them determine whether they have behaved in a way deserving of self-punishment. Therefore, if people can justify not helping based on these situational cues, they should be able to avoid self-punishment (Batson & Shaw, 1991). Batson et al. (1988) carried out a series of experiments to examine the impact that justification has on empathy-induced helping. Participants were provided with either a high or low justification for not helping (i.e. by manipulating the number of participants that had previously helped), and they were induced to feel either high or low empathy. The empathy-specific punishment hypothesis predicts that in the high empathy/high justification condition, situational cues should mean that participants choose not to help, whereas the empathy-altruism hypothesis predicts that helping will occur in

this condition, as their motives are altruistic. The results again supported the empathy-altruism hypothesis, as even when participants had a high justification to not help based on situational cues, high empathy resulted in helping (Batson et al., 1988).

Empathy-Specific Reward. Empathy-specific reward is an egoistic explanation for empathy-induced helping, which suggests that helping occurs because through socialisation we learn that rewards in the form of praise/honour/pride occur when we help someone we empathise with (Batson et al., 2011; Batson & Shaw, 1991). Empathy-induced helping is therefore egoistic as the ultimate goal is to obtain such rewards. This explanation has three versions. The first version is that empathy leads to helping so that a mood enhancing reward is received from the self or others (Batson & Shaw, 1991). A variant of this, known as the empathic joy hypothesis, is that empathy-induced helping occurs so that the individual can share in the joy of the relief felt by the person being empathised with (Smith, Keating, & Stotland, 1989). The final version, called the negative-state relief hypothesis, states that empathy causes sadness which we want to alleviate, so we seek a mood enhancing experience such as helping to eliminate the sadness (Cialdini et al., 1987).

To test the first version of this explanation, Batson et al. (1988) examined how the mood of participants was impacted when they were deprived of the opportunity to help. The empathy-specific rewards hypothesis predicts that when deprived the opportunity to help, the mood of the participant deprived will worsen, because the ultimate goal for helping is to enhance one's mood. The empathy-altruism hypothesis predicts that mood will remain stable, as the individual in-need had this need met, and so the ultimate goal of improving the welfare of another is achieved, even though it is not met by the participant that is empathically aroused. Furthermore, the empathy-altruism hypothesis predicts that mood will improve when an in-need individual has their needs met by a means other than direct help from the empathically aroused individual, compared to the need not being met. Conversely, the empathy-specific reward hypothesis predicts no difference in mood when the in-need person is helped by another or not helped at all, because neither lead to the mood enhancing effect of directly helping (Batson & Shaw, 1991). Batson et al. (1988) informed participants that an individual was going to receive electric shocks and that they would be given an opportunity to help, later on, half of the participants were informed they would not have the chance to help, and half of those who could no longer help were told that the individual would still receive electric shocks but get no help, whilst the other half were told that the help was no longer required as the electric shocks would not be taking place. Participants had also been induced to experience either high or low empathy. The

results supported the empathy-altruism hypothesis as participants in the high empathy condition reported more positive mood change when the need of the individual requiring help was relieved, even if the participant did not directly help (Batson et al., 1988).

The second version of empathy-specific reward, the empathic joy hypothesis, predicts the empathy-induced helping should only occur when an individual is going to receive feedback on the effect of the help given, this is because joy can only be experienced with the knowledge that the need of the individual empathised with has been met (Smith et al., 1989). Smith et al. (1989) examined this prediction experimentally and found that when there was no expectation of feedback, there was no relationship between empathy and helping. However, Batson disputes this finding (see Batson & Shaw, 1991), and offers alternative research evidence that he says supports the empathy-altruism hypothesis rather than the empathic joy hypothesis (Batson et al., 1991), although in these experiments, no participants were given an opportunity to help, so the explanatory power of research carried out by Smith et al. (1989) and Batson et al. (1991) is limited.

The third version of the empathy-specific reward explanation for empathy-induced helping is the negative state relief hypothesis, which suggests helping occurs to alleviate the sadness empathic individual's experience. To test this, Cialdini et al. (1987) carried out an experiment where participants were given a drug at the start of the experiment, then empathy was manipulated to create a high or low empathy condition, then half of the participants in each empathy condition were told that the drug they took earlier, fixed their mood for the next 30 minutes (it was in fact a placebo). The negative state relief hypothesis predicts that in the high empathy condition, more helping will occur when participants do not believe their mood is fixed compared to those who do believe their mood is fixed. The empathy-altruism hypothesis would predict that high empathy participants will help more, independent of the mood condition they were in. The results supported the negative state relief hypothesis (Cialdini et al., 1987). However, this could be due to a confounding variable, as the participants who had their mood fixed by a drug, were told this after empathy was induced, which could have distracted them, whilst the non-fixed participants were never given any more information about the drug they took at the beginning, meaning their focus would have still been on the empathy they were experiencing (Sober & Wilson, 1999). Schroeder, Dovidio, Sibicky, Matthews, and Allen (1988) repeated the experiment, but informed participants about the mood fixing properties of the drug when they initially took it, to try and reduce any distracting effect this news had on the induction of empathy. The results did not support the negative state relief hypothesis, as the pattern of results

showed participants in the high empathy condition helped more than low empathy participants, independent of mood condition (Schroeder et al., 1988). However, the amount of helping in the high empathy vs low empathy conditions were not significantly different, suggesting that this experimental technique may not be appropriate for examining the predictions of either hypothesis (Batson & Shaw, 1991; Sober & Wilson, 1999). Batson et al. (1989) carried out a study where instead of telling participants their mood would be fixed, participants were either promised a mood enhancing experience or no such promise was made. In this experiment, the negative state relief hypothesis would anticipate participants in the high empathy condition to not help if they had been promised a mood enhancing experience, whereas the empathy-altruism hypothesis would expect helping to be higher for participants in the high empathy condition, independent of the mood condition they were in. The results supported the empathy-altruism hypothesis (Batson et al., 1989).

Self-Other Merging. One final egoistic explanation for why empathy-induced helping may occur, is that factors that lead to empathic concern such as perspective taking, shared group identity, kinship and relational closeness also leads to the merging of conceptual identities, which blurs the line between self and other, and selfishness and selflessness (Cialdini, Brown, Lewis, Luce, & Neuberg, 1997; Maner et al., 2002). Batson (1987) has previously said that if merging of one's own identity with that of another is possible then "the question of whether the ultimate goal is to increase one's own or the other's welfare cannot meaningfully be asked; these two welfares have become one" (p.77, Batson, 1987), showing how detrimental this explanation is to the empathy-altruism hypothesis. Cialdini et al. (1997) tested the self-other merging hypothesis by asking participants to think about a near stranger, acquaintance, a good friend or a family member and then to imagine that individual was in-need. Participants then indicated how much help they would be willing to give said individual and reported the amount of sadness, personal distress, empathic concern and oneness they felt. When sadness and personal distress were controlled for, empathy-induced helping remained, which is consistent with previous research (Batson et al., 1989; Batson et al., 1981; Batson et al., 1983; Toi & Batson, 1982). However, it was also found that feelings of oneness increased as the imagined relationships became closer and when the effect of oneness was removed from the analysis empathic concern no longer had an effect on helping, suggesting that oneness, which had previously gone unmeasured, could explain empathy-induced helping as being egoistically motivated (Cialdini et al., 1997). Batson et al. (1997) however suggests these results are problematic

due to the need being imaginary, there being no manipulation of empathic concern using perspective taking instructions and empathy was measured after the offer to help was already made, suggesting reports may have reflected socially normative scripts (see Neuberg et al., 1997, for the response to these criticisms). Therefore Batson et al. (1997) conducted their own experiment, where empathy was induced, and found that participants in the high empathy condition helped more than the participants in the low empathy condition independent of oneness and shared group identity.

Evaluating Empirical Evidence

The collective evidence examining the predictions of the empathy-altruism hypothesis and egoistic alternatives discussed here has led Batson to tentatively conclude that none of the egoistical explanations for empathy-induced helping are supported, altruism does exist, and empathy is seen as the most likely source of motivation for altruism (Batson & Powell, 2003). However, the usefulness of the results are unclear, as it is impossible to determine whether or not ultimate goals were correctly inferred.

Accessing ultimate goals in experimental research. Earlier in this chapter, it was highlighted that accessing an individual's ultimate goals is challenging and that inferences can be made from behaviour which interpret motives as being egoistic or altruistic. The program of research carried out by Batson and colleagues attempts to combat this problem, by changing the situation, so that the best route to achieving one goal - i.e. reducing personal distress by helping - is amended – i.e. to escaping personal distress by removing oneself from the situation. This leads Batson and colleagues to conclude that if behaviour does not change, ultimate goals are altruistic rather than egotistic (Batson, 2010, 2014; Batson & Powell, 2003; Batson & Shaw, 1991). Sober and Wilson (1999) in their review of the research conducted by Batson et al. reach a different conclusion, claiming the debate about whether ultimate goals are egoistic or altruistic has not been settled by the studies conducted. This is because of the serial nature of the experiments, where one egoistic explanation is tested against the empathy-altruism hypothesis at a time (Cialdini, 1991; Maner et al., 2002; Neuberg et al., 1997; Sober & Wilson, 1999; Sorrentino, 1991). For example, the research conducted which tested empathy-specific punishment against empathy-altruism, may demonstrate that participants were not motivated to avoid social disapproval, but it does not necessarily follow that the ultimate goal was altruistic, seeing as there are numerous egoistic explanations that were not tested alongside the empathy-specific punishment hypothesis (Sober & Wilson, 1999).

Research carried out by Maner et al. (2002) was conducted to meet conditions outlined by Neuberg et al. (1997) that researchers must meet to rule out egotistic explanations of empathy-induced helping. These conditions are 1) a set of egotistic motives must be examined, 2) these motives must be reliably and validly measured and 3) empathy-induced helping must be assessed whilst controlling for all of these egoistic explanations. Furthermore, the research conducted by Maner et al. (2002) also met the conditions outlined by Batson (1997) in his response to Neuberg et al. (1997). These conditions are as follows; 1) the target requiring help must remain the same throughout the experiment, 2) genuine empathic concern must be elicited, 3) empathic concern must be manipulated directly using perspective taking instructions and 4) a uniform helping measure must be used. Maner et al. (2002) included egoistic motivations consistent with the aversive-arousal hypothesis (personal distress), the negative-state relief hypothesis (sadness) and the self-other merging hypothesis (oneness) as well as empathic concern. They found that when all of the egoistic explanations were controlled for while assessing empathy-induced helping, the effect of empathic concern disappeared (Maner et al., 2002). Batson (2010) however states that when measuring sadness Maner et al. (2002) included only empathic emotions such as sympathy, compassionate and sad, which when controlled for, removed the effect of empathic concern as such a measure of sadness was simply a measure of empathic concern with an alternative name. Finally, Sober and Wilson (1999) raise a similar issue, which is that demonstrating that an egoistic explanation is not the motivating factor of empathy-induced helping, does not necessarily support the empathy-altruism hypothesis, when additional measures that could be altruistic, such as altruistic personality (Oliner & Oliner, 1988), internalised prosocial values (Staub, 1974) or principled moral reasoning (Kohlberg, 1976) are not also being measured and controlled for whilst examining the empathy-altruism hypothesis. The back and forth between Batson et al. and Cialdini et al. make it difficult to draw definitive conclusions, but it does seem clear that research that only tests one egoistic motivation against the empathy-altruism hypothesis is inadequate at demonstrating that the ultimate goal is altruistic, as an unaccounted for egoistic motive could also explain the helping behaviour. Batson (2010) himself states that "if we observe a behaviour that has two potential ultimate goals, the true ultimate goal cannot be discerned" – and whilst Batson's research does examine two possible motives, it ignores numerous others, leaving the question of what the ultimate goal is unanswered. Furthermore, when multiple egoistic motivations are included in an analysis, the relationship between empathic concern and helping does become less clear.

Sober and Wilson (1999) state the only alternative to inferring motivations is to open an organism up to examine the mechanisms within or for neuroscience to provide an answer that helps to distinguish between ultimate and instrumental goals. Whilst psychological neuroscience is making tentative advances in this area of research (see Paulus, 2013), this thesis will aim to examine not only different altruistic behaviours, to see if they are perceived differently from each other, but also numerous characteristics and traits that will help to build a profile of the individuals likely to be motivated towards specific altruistic behaviours. This will hopefully build a clearer picture of whether egoism or pluralism is a more likely theory of motivation, but also highlight which seemingly altruistic behaviours are never associated with other-orientated personality attributes.

In summary, from a psychological perspective, there are two dominant theories of motivation, psychological egoism and psychological pluralism. Psychological pluralism allows for the existence of true altruism, by suggesting that at times people can be motivated by the ultimate goal of improving the welfare of someone else. Psychological egoism does not allow for the existence of true altruism and insists that behaviour that appears to be motivated by other-orientated goals is in fact egoistic, as the helping of others is a consequence of an instrumental goal that is helping the actor to achieve a self-orientated ultimate goal. Batson and colleagues have tried to systematically examine whether egoistic or altruistic motivations underlie a variety of helping contexts and have found that participants who experience high levels of empathy are increasingly more likely to help – which they claim demonstrates the existence of true altruism. However, the research has been criticised for not examining multiple egoistical alternatives alongside the empathy-altruism hypothesis within one study. This thesis will examine the perceived motivations underlying different altruistic behaviours (see study 1) to see whether altruistic behaviours are differentiated by their motivations. This should also indicate whether certain altruistic behaviours are truly altruistic whilst others are not. Study 2 will then seek to create stable categories of altruistic behaviour and examine what characteristics are predictive of the individuals who intend to carry out the behaviours – this will include a number of egoistic alternatives and empathy, combatting one of the criticisms of Batson and colleagues earlier work. Furthermore, once this has been examined looking at altruistic intentions, it will be tested within a laboratory study where altruistic behaviour is operationalised and characteristics that represent altruistic motivators and egoistic motivators will be used again to create predictor models (see study 5).

Chapter 4: A Comparison of Altruistic Content in Newspaper Reports

Chapter 4: Overview

This chapter reports a study that addresses the research question "What are the differences and similarities between altruistic behaviours depicted in newspaper articles" which was outlined in chapter 1. Understanding the differences and similarities between altruistic behaviours depicted in newspaper articles could be beneficial to our understanding of evolutionary and psychological altruism. As discussed in chapter 2, costly signalling theory provides an explanation for how altruism towards strangers could have evolved, but it remains unclear what underlying quality is signalled by altruism. Increasing our understanding of how different altruistic acts are presented and perceived may help to understand what quality is being signalled and whether different altruistic behaviours signal different underlying qualities. In relation to psychological altruism, study 1 will specifically seek to understand what motivations are associated with different altruistic behaviours, which will demonstrate whether certain altruistic behaviours are perceived as being truly altruistic, whilst others are perceived as being self-orientated. This can therefore highlight which behaviours should be focussed on when conducting further research into the empathy-altruism hypothesis.

Study 1: A Comparison of Qualitative Content Analyses

Previous research has expressed and operationalised altruism in various ways, assuming that participants are interpreting terms and behaviours as imagined by the researcher. However, the variety of altruistic operationalisations indicates that there are numerous interpretations of behaviours, so what the researcher intends to portray and what the participant perceives could vary widely. This chapter reports a qualitative study to examine whether different altruistic behaviours are portrayed in distinct ways within newspaper articles. Newspaper reports present everyday terms associated with behaviours that have wide currency within the readership and therefore provide a suitable site for examining the everyday understandings of altruism which may inform research design.

Altruism is puzzling from an evolutionary perspective because in benefiting a recipient whilst being costly to the actor it apparently runs counter to natural selection (Barrett et al., 2002). Because this behaviour is puzzling, evolutionary psychologists are interested in what the ultimate function of altruism is – i.e. what is the adaptive value and the fitness consequences of altruism? (Clavien & Chapuisat, 2013). The evolution of such a behaviour can be explained to a certain extent by inclusive fitness (Hamilton, 1964) and reciprocity (Trivers, 1971). But these theories do not explain how altruism towards strangers could have evolved. Zahavi (1975, 1977) suggested that altruism can act as a costly signal of an underlying desirable quality. This quality makes the actor attractive to observers, as a mate or ally and discourages opponents from engaging in direct competition with the altruist (Buss, 2014; Price, 2011).Therefore, the cost of altruism is recuperated by increased reproductive fitness, as the altruist attracts more (or better quality) co-operators, who in turn benefit from their association with the altruist (Miller, 2007). Costly signals are said to be true, because individuals who falsely signal would not be able to bear the cost of the signal (Zahavi, 1975).

There is corroboration that altruism increases the desirability of the actor as a mate, ally and/or colleague (Barclay, 2010; Farrelly et al., 2007; Smith & Bird, 2000). Furthermore, individuals are more likely to direct altruistic behaviour towards attractive individuals (Farrelly et al., 2007), indicating its potential within mating strategies, by men (Griskevicius et al., 2007; Iredale et al., 2008; Van Vugt & Iredale, 2013) and women (Griskevicius et al., 2007). However, there is research that contradicts the finding that men exercise this strategy (Bereczkei et al., 2010). Whilst support for the theoretical predictions of costly signalling theory (CST) make it a viable explanation for altruism towards strangers, the nature of the underlying quality signalled by altruism is contested.

It has been hypothesised that altruism could signal either ‘good’ genes or good character (Miller, 2007). Barclay (2010) and Farrelly (2011, 2013) found that the desirability of altruists is particularly increased for long-term romantic contexts, supporting the idea that altruism signals good character as opposed to ‘good’ genes. This is because if altruism signalled ‘good’ genes, then the benefits of interacting with an altruist could be achieved in short-term sexual contexts. The finding that altruists are more desirable in long-term contexts suggests that the associated benefits of interacting with an altruist occur over time because of their characteristics (Barclay, 2010). However, this debate is being settled prematurely, because it is occurring without acknowledging that numerous operationalisations of altruism exist within the literature, which could lead to different information being signalled to participants.

In a study involving images and descriptions of individuals, Barclay (2010), operationalised altruism as playing a guitar at a children’s hospital. In a series of vignette studies Farrelly (2011) operationalised altruism in terms of cooperative jobs (care assistant), hobbies (charity work), charity donations and risky heroic actions (saving a child from drowning). Fehrler and Przepiorka (2013) from an investment and dictator game simulation study operationalised altruism as a donation to a charitable organisation. These ‘altruistic’ activities vary in relation to time commitment, resources, ability and risk and therefore could signal different underlying qualities. However, little consideration is given in the literature as to how altruism is operationalised, or whether some altruistic behaviours are distinct from others. Research, which directly compares the similarities and distinctions between altruistic behaviours is required, to examine whether the assumptions that researchers make about altruistic behaviours are also made by participants. Such research may challenge the arbitrary divisions between altruistic behaviours that currently occur in research, despite little empirical evidence to show that the divisions are justified.

Kelly and Dunbar (2001) looked at whether altruistic or heroic men were preferred in different relationship contexts and concluded that heroic AND altruistic individuals were the most desirable, but overall heroism was preferred to altruism. Griskevicius et al. (2007) examined whether romantically primed men and women increased their intentions to behave heroically, volunteer or donate money compared to those who were not romantically primed and found that men increased their heroic intentions, women increased their intentions to volunteer and both sexes increased their intentions to donate money when they were romantically primed. The findings of these studies can help to explain the ultimate function of altruism; if altruism increases the actor’s desirability and is

implemented as a mating strategy, then the altruist can attract higher quality mates to offset the cost of altruism. However, whilst both of these studies compare different altruistic behaviours, they have not comprehensively examined how participants differentiate between altruistic behaviours. This is an inherent problem in altruism research, where the focus upon the function of altruism, overshadows the consideration of whether participants perceive a behaviour as being altruistic or if different altruistic behaviours are regarded differently.

From a psychological perspective, altruism is researched not because of interest in the fitness consequences, but due to concern with the proximate causes of altruism – i.e. the factors that increase or decrease the likelihood that altruism will occur (Van Vugt & Van Lange, 2006). Altruism research from this perspective explores whether true altruism exists (Batson, 1992; Batson et al., 2011; Batson et al., 1988) or if behaviour that appears altruistic is actually motivated by self-interest (Baumann et al., 1981; Wilson, 1992). Therefore, in contrast to the evolutionary approach which explores the ultimate functions of altruism (what the consequences of altruism may be and what underlying quality altruism may signal), the psychological perspective is concerned with the underlying motivations of altruistic behaviour (Wilson, 1992). Evidence suggests that empathy is one proximate cause of altruism (Batson, 1992; Batson et al., 1988; Batson et al., 1997), however research has not specifically examined whether different altruistic behaviours are more or less likely to be motivated by empathy or other selfless motives compared with selfish motives. Study 1 creates an opportunity to examine from an evolutionary perspective what the consequences of different altruistic behaviours are and, from a psychological perspective, what the motivations behind different altruistic behaviours are. Furthermore, study 1 will examine which character traits are associated to different altruists and increase our understanding of what underlying qualities are being signalled by altruism and what psychological mechanisms are motivating true altruism.

The analysis of newspaper reports facilitates the examination of how descriptions of altruistic behaviours may be differentiated within everyday discourse, in relation to the characteristics, consequences and motivations associated with the behaviours. Newspaper articles are a relevant media for this because they influence public opinion in relation to a range of topics, such as gender equality and women’s rights (Terkildsen & Schnell, 1997), poverty and the poor (Gilens, 1996), the sentencing of offenders (Roberts & Doob, 1990), fear of crime (Williams & Dickinson, 1993), military action (Iyengar & Simon, 1993), climate change (Happer & Philo, 2013; Sampei & Aoyagi-Usui, 2009), gun control and the

mentally ill (McGinty, Webster, & Barry, 2013) and disability benefits (Happer & Philo, 2013). Therefore, portrayals of altruism in newspaper articles are likely to influence how the public construct their own understandings of altruism. Furthermore, the interaction between news media and the public is not one directional, traditional newspapers set news agendas alongside citizen led input (Meraz, 2009), through processes such as eyewitness accounts or lived experiences. The rise of social media demonstrates how the public are active participants in the production and dissemination of news (Lee, Ma, & Goh, 2011; Trilling, Tolochko, & Burscher, 2017). Therefore newspapers provide news that readers want to read (De Semir, 1996), and engage with readers in ways which represent socially established concerns. Although the meaning of contemporary experiences and events may be highly contested in some domains the joint institutional and public construction of everyday actions and incidents of cooperation and helping may draw upon widely shared notions of altruism. This indicates that newspaper articles have a heuristic value for examining distinctions between altruistic behaviours.

Study 1, is a comparison of the findings from a series of qualitative content analyses. These analyses examined altruistic behaviours as they are presented in newspaper articles. The choice of newspaper articles provides an opportunity to explore a variety of different altruistic behaviours and how they may be distinguished within contexts that broadly maps onto public interpretations. Within the context of this thesis, the comparison of qualitative content analyses has been selected, as it is likely to generate further avenues of research that can be quantitatively examined, for example, by demonstrating how altruistic behaviours are categorised within newspaper articles, it can be examined whether these categories hold true in relation to participants altruistic intentions (see study 2). To address the research question - “What are the differences and similarities between altruistic behaviours depicted in newspaper articles?” - altruistic behaviours described as philanthropic, chivalrous, humanitarian, magnanimous and public-spirited will be explored. The similarities and differences of these behaviours in relation to the motivations, consequences and characteristics associated with them will be investigated.

Study 1: Method

Design

Five qualitative content analyses were conducted to examine altruistic behaviours. The analysis followed the process outlined by Elo and Kyngas (2008) (see below). An

independent analysis was conducted for depictions of philanthropy, chivalry, humanitarianism, magnanimity and public-spirit within newspaper articles (See Appendix 1). The findings presented within this chapter is a comparison of the findings of the five independent qualitative analyses. Such a qualitative approach provides freedom to examine many different avenues within the data, but establishes conceptual boundaries which help to focus the interpretation of the data.

Data Sources

Data sources came from the online archives of the following 8 newspapers, (including Sunday editions and sister publications); The Sun, The Times, The Telegraph, The Independent, The Daily Mail, The Mirror, The Daily Express and The Daily Star. All of the articles selected for analysis came from the "news" section of each newspapers online archive, apart from some of the articles in The Sun, which were archived in the "features" section. These newspapers were chosen, as they represent a variety of tabloid and broadsheet newspapers. Other papers were excluded (i.e. The Guardian) because their online archive did not allow for articles to be ordered by date of publication. This was problematic for the process of selecting articles for inclusion (outlined below).

The starting point for data generation was 31st December 2013 and sampling progressed backwards towards 2010. The time frame was not selected because it was important in relation to any of the search phrases, but rather for a point from which to generate data through a deductive process until saturation could be achieved (O'reilly & Parker, 2013). This meant that there was no fixed end date. Instead articles were included until no new information was being added to the dataset. The 2013 date also meant that the news could be considered with relative disinterest which could be more problematic with more contemporary material. By including processes based upon criteria for achieving credibility in qualitative research (Tracy, 2010), the outcomes of this research may produce a structure for operationalising altruism which could be tested over other time periods and with different forms of media.

Newspaper articles were included for analysis when the main focus depicted altruism or an altruist. At times the same individual would be discussed in numerous articles, both within or between newspapers. However, whilst the same act was often being described, different reports could contain new information. Therefore, multiple reports on the same individual or incident were included.

Procedure

The method of analysis was a qualitative content analysis which followed the three broad phases outlined by Elo and Kyngas (2008); preparation, organising and reporting.

Preparation. Five datasets were created during the preparation phase, one for each of the following search phrases; philanthropy, chivalry, humanitarian, magnanimity and public-spirit. These phrases were used after an examination of altruistic terminology within the Oxford English Dictionary, where the definitions of the above words all contained a unique element suggesting any associated behaviour may be distinct (see Appendix 2). In practice, it was found that newspapers associated several altruistic behaviours to the search phrases chivalry, humanitarian and public-spirit. Table 1 shows the altruistic behaviours as they will be presented and discussed throughout this chapter and gives examples of each behaviour. Whilst philanthropy and public-spirited monetary donations are presented as distinct, it is likely that public-spirited monetary donations, is a sub-type of philanthropy, which did not occur within the philanthropy dataset as it is referred to within newspaper articles as public-spirited giving, rather than philanthropy and was therefore not returned using the search word “philanthropy”.

When producing the datasets for each altruistic phrase, relevance for inclusion of an article was determined from an initial reading by the researcher. Datasets were complete once saturation had been reached. This was determined by reading each article as it was added to the dataset, making the researcher familiar with the contents of each dataset, so that it was known when the inclusion of an article added new information and when it just replicated information included from elsewhere (i.e. a story on the same topic from a different newspaper). Once no new information was being added to the dataset by including more articles, saturation was determined to have been reached. However, as this is a somewhat subjective process, it was decided that to ensure no interesting data was lost, once saturation was thought to be met, data collection did not stop until the time period from which data was collected from was equal to a whole year (or 2 whole years, or 3 whole years; see table 2). The process of including data until saturation was met, meant that the time period from which articles were selected from varies for different search words, as the saturation point was reached within a shorter sampling period for some phrases compared to others (see table 2), because some search words were used within newspaper articles more frequently than others.

Table 1. *Altruistic behaviours within each dataset and number of occurrences of each in the dataset.*

Dataset:	Altruistic behaviour:	No. of occurrences in dataset.	Example of behaviour from the data:
Chivalry.	Everyday Chivalry.	60	*"Holding the door open for a stranger or giving up a seat on public transport" (Knowles, 2013)*
	Heroic Chivalry.	36	*"men on-board showed immense chivalry by letting women and children climb into the lifeboats first" (Brady, 2012)*
	Romantic Chivalry.	29	*"I once offered to carry the suitcase of a beautiful girl from the platform of a suburban train station to the taxi rank" (Smith, 2011)*
	War-time Chivalry.	19	*"The pilot allows the terrified soldiers to flee before blowing their pick-up trucks to smithereens with Hellfire missiles" (Hughes, 2011)*
Philanthropy.	Philanthropy.	155	*"Lord Ashcroft to pledge half of his £1.2bn fortune to charity" (Brady, 2013)*
Humanitarian.	Hands-on Humanitarian.	140	*"Taking part in an aid convoy bound for Gaza" (Sherlock, 2013).*
	Status Humanitarian.	91	*"Ambassador for a number of charities including Global Angels, WaterAid and the Environmental Justice Foundation" (Drainey, 2013).*
Magnanimity.	Magnanimity.	76	*"[victims] sometimes wanted to embrace people who had committed the most ghastly atrocities" (Taylor, 2010).*
Public-spirited.	Public-Spirited Crime fighters.	45	*"Chasing after and catching a man who had stolen £10 from a woman" (Gye, 2013).*
	Public-spirited fixers.	31	*"Volunteer army…cleans up 60 miles of beaches" (Faulkner, 2012).*
	Public-spirited protectors.	26	*"Neighbours…ran from their houses opposite [and] poured buckets of water over the fire" ("Pictured: the moment", 2013)*
	Public-spirited monetary donations.	12	*"Joan Edwards left her money to 'whichever Government is in office'" (Greenhill & Martin, 2013).*

Table 2. *Time period from which articles were selected and the number of articles per dataset.*

Search word:	Philanthropy	Chivalry	Humanitarian	Magnanimity	Public-spirit
Time period:	01/01/2013 – 31/12/2013.	01/01/2010 – 31/12/2013.	01/01/2013 – 31/12/2013.	01/01/2010 – 31/12/2013	01/01/2012 – 31/12/2013
No. of Articles in dataset:	65	63	104	48	56

Articles were excluded from the dataset when; 1) they contained only video footage and no written content, 2) they only contained the search word but did not depict the altruistic behaviour and/or 3) if the article was identical to an article already included (i.e. when an edit resulted in a duplication). Whilst the exclusion of some of these articles can be seen to impact upon the frequency with which certain words/characteristics/features would occur within the dataset, it did not lead to the exclusion of any novel data.

Organising. The coding process was qualitative in nature with the goal of understanding if newspaper articles distinguish between the altruistic behaviours being investigated. The organising phase commenced with ‘open coding’.

‘Open coding’ was a deductive process because previous theorists have highlighted the importance of the characteristics of altruists (Barclay, 2010; Farrelly, 2011, 2013), the motivations behind altruism (Batson & Powell, 2003; Wilson, 1992), and the consequences of altruism (Clavien & Chapuisat, 2013). These three aspects can help us to understand the ultimate functions and proximate causes of altruism, making the differences and similarities of these aspects of altruistic behaviour particularly important. The analysis therefore sought to construct three categories that were representative of these aspects.

There was also an inductive element to this ‘open coding’, because the novelty of this research meant that all information associated with altruistic behaviour was of interest and therefore coded. The subtleties of language employed in relation to different altruistic behaviours were influential in determining the codes and eventual outcome categories. The process of creating categories therefore did not rely on the frequency with which elements occurred within the data but on a particular elements explanatory power in achieving the analytical aim.

From the outset of coding, relevant content was identified and labelled in a meaningful way. For example, the extract – “*Mr Zuckerberg… pledging $100million to the Newark school system in New Jersey*” (Keneally, 2013) - was coded as wealthy, male

philanthropist and educational philanthropy. Once all sources had been open coded, similar codes were shaped into categories. For instance, the above extract shared the code of 'wealthy' with the following extract "*Reclusive heiress… leaves $20MILLION fortune to New York Public Library and Central Park*" (Daily Mail Reporter, 2013a) because both actors were making multi-million donations.

Reporting. The final reporting phase involved writing up the findings of each content analysis in isolation before comparing the findings across each dataset to identify similarities and distinctions between the altruistic behaviours. However, to be able to compare the personality traits associated to altruistic behaviours in a meaningful way, synonymous trait categories (table 3) were retrospectively created which took into consideration the personality traits used across all five datasets, meaning this aspect of the analysis did not occur in isolation. The source information where data extracts have been taken from can be found in Appendix 3.

Table 3. *Trait categories and the traits within them.*

Trait category name:	Traits within category:
Considerate Traits	Courteous, Polite, Well-mannered, Gentlemanly, Respectful, Gallant, Considerate, Kind, Understanding, Gracious, Thoughtful, Benevolent, Sporting, Careful, Compassionate, Kind-hearted, Friendly and Caring
Moral Traits	Honourable, Noble, Decent, Good, Integrity, Honest, Force for good, Fair and does the right thing.
Charitable Traits	Goodwill, Helpful, Good Samaritan, Philanthropic, Self-sacrificing, Selfless, Magnanimous, Generous, Giving, Humanitarian and Community-minded.
Remarkable Traits	Remarkable, Impressive, Exceptional, Incredible, Amazing, Wonderful and Extraordinary.
Romantic Traits	Charming, Loyal, Romantic, Loving and Sweetheart.
Heroic Traits	Heroic, Courageous, Brave, Adventurous, Fearless, Lionised, Plucky, Fortitude and Strong.
Attention-avoidance Traits	Not attention seeking, Private, Secretive, Low-profile, Quiet, Reclusive and Shy.
Kingly Traits	Dignified, Elegant and Respected.

Table 4. *Number of times each characteristic group was used in relation to a type or sub-type of altruism.*

Dataset	Considerate characteristics		Charitable Characteristics		Heroic Characteristics		Moral Characteristics		Romantic characteristics		Remarkable characteristics		Kingly Characteristics		Attention-avoidance characteristics	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Everyday Chivalry	**44**	**62.86**	8	11.43	1	1.43	13	18.57	3	4.29	n/a	-	1	1.43	n/a	-
Heroic Chivalry	7	28.00	3	12.00	**10**	**40.00**	4	16.00	1	4.00	n/a	-	n/a	-	n/a	-
Romantic Chivalry	7	31.82	2	9.09	3	13.64	1	4.55	**8**	**36.36**	n/a	-	n/a	-	1	4.55
War-time Chivalry	**8**	**38.10**	1	4.76	1	4.76	4	19.05	n/a	-	7	33.33	n/a	-	n/a	-
Philanthropy	4	8.00	15	30.00	2	4.00	5	10.00	n/a	-	1	2.00	n/a	-	**23**	**46.00**
Hands-on Humanitarianism	8	20.00	9	22.50	**12**	**30**	1	2.50	1	2.50	6	15.00	n/a	-	3	7.50
Status Humanitarianism	3	18.75	3	18.75	**7**	**43.75**	2	12.50	n/a	-	1	6.25	n/a	-	n/a	-
Magnanimity	11	23.40	8	17.02	**13**	**27.66**	4	8.51	1	2.13	n/a	-	10	22.28	n/a	-
Public-spirited crime fighters	3	4.05	6	8.11	**45**	**60.81**	12	16.22	n/a	-	8	10.81	n/a	-	n/a	-
Public-spirited fixers	1	4.76	4	19.05	1	4.76	7	33.33	n/a	-	**8**	**38.10**	n/a	-	n/a	-
Public-spirited protectors	n/a	-	6	40.00	**8**	**53.33**	n/a	-	n/a	-	n/a	-	1	6.67	n/a	-
Public-spirited monetary donations	2	25.00	**5**	**62.50**	n/a	-	n/a	-	n/a	-	n/a	-	n/a	-	1	12.50
Totals	98	23.96	70	17.11	**103**	**25.18**	53	12.96	14	3.42	31	7.58	12	2.93	28	6.85

Numbers in bold indicate that the characteristic group (column) is most frequently used in relation to this type of altruism (row).

Study 1: Findings and Interpretation

The findings presented are from the deductive analysis and are organised into three categories:

1. Characteristics: This category brings together all of the traits that newspaper articles associate to altruists. The same trait categories were applied to all of the datasets to ensure consistency and these are illustrated in table 3. The frequency with which these trait categories are associated to the different altruistic behaviours are displayed in table 4. The way in which 'considerate', 'heroic' and 'charitable' traits are used, demonstrates that newspapers are distinguishing between different altruistic behaviours.
2. Motivations: This category presents the different motivations that newspaper articles attribute to altruists. Figure 2 shows how these motivations are organised in relation to the different altruistic behaviours. Magnanimity, romantic chivalry and philanthropy are the only behaviours associated with self-interest motivations, but romantic chivalry is the only behaviour that is never depicted as other-orientated.
3. Consequences: This category presents the positive and negative consequences associated to the altruists who carry out different altruistic behaviours. Figure 3 provides a visual summary of this category. Newspapers differentiate between altruistic behaviours within this category, by demonstrating how certain behaviours have more risk/higher costs associated to them compared to others.

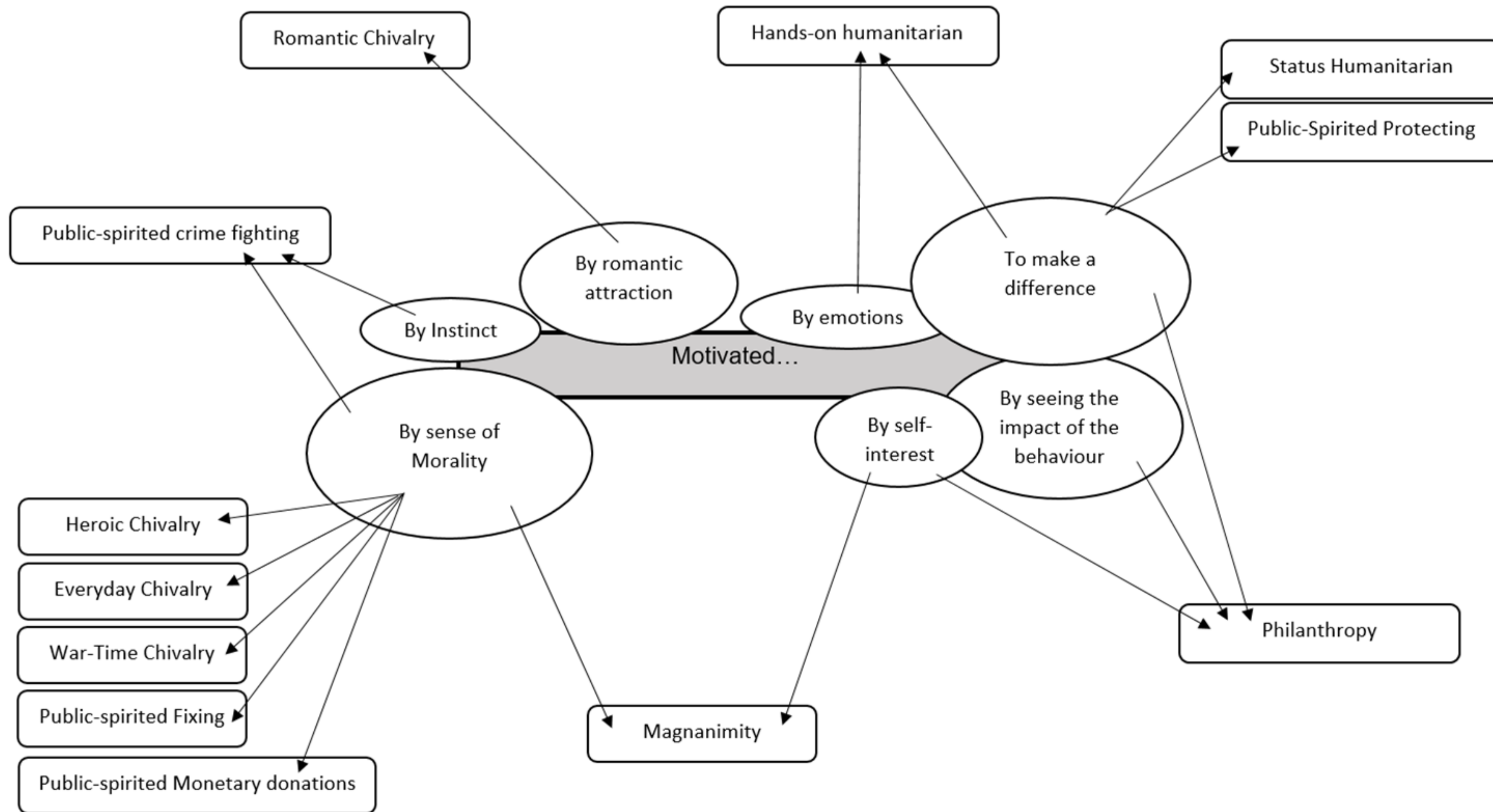

Figure 2. Diagram demonstrating how the data within the motivation category is organised.

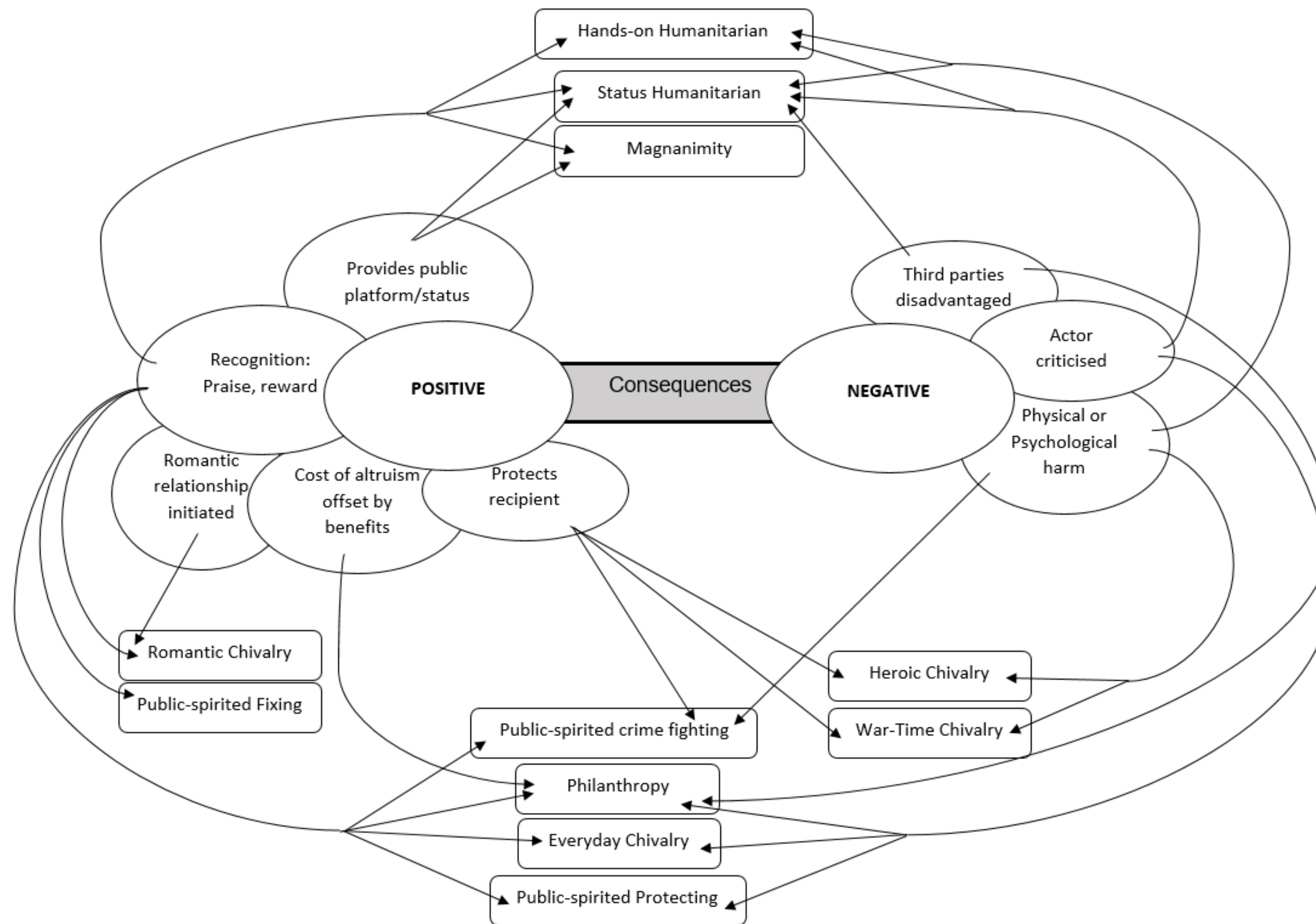

Figure 3. Diagram demonstrating how the data within the consequences category is organised.

Characteristics

Table 4 shows the extent to which the trait categories (as outlined in Table 3) are used in relation to the different altruistic behaviours. Heroic traits are used the most across the altruistic behaviours and account for 25% of all traits used, followed by considerate traits that account for 23% of all traits used. Charitable traits are used to a lesser extent (17%), but are the only traits associated to all of the altruistic behaviours. Romantic, remarkable, kingly and attention-avoidance traits are less likely to be related to all altruistic behaviours and instead appear to be related to the context surrounding an act rather than the act itself, for example attention-avoidance traits account for 46% of traits used when describing philanthropists, but are used much less frequently or not at all in relation to the other altruistic behaviours, so overall attention-avoidance traits only account for about 7% of the traits associated to altruism.

The traits that newspapers associate to different altruistic behaviours demonstrates that the media does differentiate between them. For instance, heroic chivalry, hands-on humanitarianism, status humanitarianism, magnanimity, public-spirited crime fighters and public-spirited protectors are all predominantly described as heroic. The remaining altruistic behaviours have much fewer heroic characteristics associated to them, suggesting a distinction between heroic behaviours and other altruistic behaviours. However, to suggest that there is only heroic altruism and non-heroic altruism would be an oversimplification because the behaviours that are not described using heroic traits still differ from each other in relation to other traits. Everyday chivalry and war-time chivalry are both predominantly described using considerate traits whilst philanthropy is predominantly associated to attention-avoidance and charitable traits and public-spirited fixing is associated with remarkable and moral traits. Even the altruistic behaviours predominantly described using heroic traits differ in relation to the other traits being associated to these behaviours – for example, hands-on humanitarianism is described using not only heroic traits but also charitable and considerate traits, whereas public-spirited crime fighting is described using heroic and moral traits. Notably, philanthropy appears unique in the sense that it is the only altruistic behaviour to be described predominantly by attention-avoidance traits. This may be as a result of this behaviour being linked to celebrities, as the traits compare those who publicise their donations to those who do not. For example, when Mark Zuckerberg "*pledged $100million to the Newark school system*" it was met with "*cynicism*" as it occurred at the same time a film was released that

portrayed him in a negative way (Keneally, 2013). Which suggests he was publicising his philanthropy, whereas Chuck Feeney's philanthropy "*went unknown*" and he "*made charities keep the source of their donations secret because he did not want the attention*" (Lawson, 2013). Attention-avoidance traits may be used because they make an individual more newsworthy in comparison to others who publicise their behaviour (De Semir, 1996). The size of the donation also increases the newsworthiness of the act, which means, attention-avoidance traits are unlikely to be associated to philanthropy performed by the general public, where donations are smaller and recognition is less likely to be sought. Charitable traits are the second most associated trait to philanthropy. No other altruistic behaviour, apart from public-spirited monetary donations (which is essentially philanthropy, despite not be labelled as philanthropy by newspaper articles), is predominantly described using charitable characteristics which suggests philanthropy may be distinct.

Romantic chivalry, appears distinctive as it is the only behaviour predominantly described using romantic traits. However, whilst romantic chivalry is recognised within this research as a discrete altruistic behaviour within the chivalry dataset, there is no actual difference between the physical act of carrying out romantic chivalry compared to everyday chivalry, instead context determines whether or not newspapers put a romantic emphasis on chivalrous acts, which results in the distinction between everyday chivalry and romantic chivalry. For example, the same behaviour – helping a woman carry bags –is categorised as both everyday chivalry and romantic chivalry because in one context it is a young man helping an elderly woman carry her shopping bags (everyday chivalry; Morgan & Harrison, 2013) and in another it is a young man helping a young woman with her suitcase the first time they meet and eventually the two end up getting engaged (romantic chivalry; Cooke, 2011). Therefore the actual behaviour is no different, but one is romanticised because of the context surrounding the situation, which leads to romantic traits being used to describe the individuals involved, (i.e. "*Charming*", Cooke, 2011).

Therefore, whilst each type of altruism is not described uniquely, there are differences between the altruistic behaviours, with behaviours being seen as predominately heroic, considerate or charitable.

Motivations

The articles provided a number of motivations for why the different altruistic behaviours occurred. In relation to everyday chivalry, heroic chivalry, war-time chivalry,

magnanimity, public-spirited crime fighting, public-spirited fixing and public-spirited monetary donations, reports suggest that individuals are motivated by a sense of morality – i.e. what's right and what's wrong. For example, when asked why he helped an elderly lady carry her shopping bags one man said "*Old people should expect help from younger people – it was the right thing to do*" (Morgan & Harrison, 2013).

Conversely, altruists associated with hands-on humanitarianism, status humanitarianism, philanthropy and public-spirited protecting are described as motivated to make a difference and/or help others. For example, a doctor who travelled to Syria to "*help the wounded*" is said to have done so because "*He wanted to make a difference. He believed that, as a doctor, this was where he was needed*" (Pitel, 2013). Similar examples can be found within the philanthropy data, such as Bill Gates stating "*My wife and I had a long dialogue about how we were going to take the wealth… and give it back in a way that's most impactful to the world*" (Rossington, 2013). Furthermore, altruists within the philanthropy, hands-on humanitarian and status humanitarian data are represented as motivated by a sense of responsibility or obligation. For example, "*I don't take for granted the opportunities that are awarded to me as an entertainer. I feel a certain sense of responsibility to do something meaningful with these opportunities*" ("Charlize Theron Honoured", 2013).

As discussed in the characteristics section above, some individuals are portrayed as being motivated by self-interest – i.e. Mark Zuckerberg's philanthropy being met with cynicism as the media portrayed him as wanting to boost his public image (Keneally, 2013). This type of motivation applies to some of the altruists within the philanthropy and magnanimity data. Self-interest motivations vary, because different actors foresee different benefits, but for philanthropy, relate to increasing public image, making a profit or getting tax breaks. For example, at a G8 summit, investors were informed about "*combining philanthropy with profit*" with the notion that "*poverty can be the bedrock of prosperity*" (Lean, 2013). In relation to magnanimity the anticipated benefits also vary and relate to maintaining employment, political manoeuvring and increasing public image. For example, a government was described as magnanimous for releasing a political prisoner early, but they were said to have done so because it was "*much better for them to just release him now, and get all the credit and goodwill for this magnanimous gesture, rather than being pushed into releasing him in July*" (WikiLeaks, 2011). None of these self-interest motivations occur more than once in relation to philanthropy or magnanimity, but it is still important to acknowledge that newspapers do report self-interested motives in relation to

behaviours that they usually depict as selfless. From a psychological perspective, these behaviours would not be seen as altruistic, because the primary motivation is not to benefit another, but because the benefits to the self are apparent (Baumann et al., 1981; Wilson, 1992).

Similarly, motivations for romantic chivalry could be seen as self-interested as they relate to attraction. For example, the man who helped a stranger with her suitcase said "*I don't know why my chivalry kicked in… Rachel was extremely charming*" (Cooke, 2011), suggesting that he found her attractive, which motivated his behaviour. Another article reporting on the findings of a social survey proclaims that "men have finally realised that chivalrous behaviour is more attractive to women than a laddish attitude" (Daily Express Reporter, 2010), suggesting that romantic chivalry can be used by men to attract a partner. These ideas about using chivalry to attract a love interest are supported by research which shows that men and women do increase their altruism around potential mates (Griskevicius et al., 2007).

Some of the motivations reported are unique to just one of the altruistic behaviours. Hands-on humanitarians are the only altruists who are emotionally motivated. For example, a British doctor who travelled to Syria was described as "*a real humanitarian, [who] ardently felt the pain of others as though it was his own*" (Cooper, 2013). This suggests that hands-on humanitarianism may be motivated by empathy, which is described as an other-orientated emotion which encompasses many feelings such as distress, sympathy and compassion (Batson et al., 2011). Empathy has previously been linked to being the motivation of what is sometimes called 'true' altruism, that is, altruism that is carried out with the ultimate goal of helping someone in-need (Batson, 1992; Batson et al., 2011; Batson et al., 1988)

Philanthropy is the only altruistic behaviour that occurs because individuals can see the impact their helping has. For example, Mark Zuckerberg, after signing up to "*The Giving Pledge*" which asks billionaires to donate at least half of their wealth to charity, said "*there is a big opportunity for many of us to give back earlier in our lifetime and see the impact of our philanthropic efforts*" (Daily Mail Reporter, 2013b). Visible impact may motivate individuals because they can derive personal satisfaction from seeing the impact their helping has – for instance, one philanthropist said, "*I became convinced that there was greater satisfaction from giving my money away and seeing something come out of the ground, like a hospital*" (Lawson, 2013). The desire to see the impact of philanthropy is not limited to the wealthy philanthropists within the dataset, as the general public said

"*they would probably donate more if there was more evidence given for the impact of their [charities] work and more detail on how donations are used*" (Robinson, 2013). Andreoni (1995) shows that people are more likely to give more to public goods (i.e. charities) when they have an understanding that they are doing something good, because this provides them with a "warm glow". In other words, seeing the impact that one's charitable giving has on those one intends to help provides personal satisfaction to the altruist.

Finally, in relation to public-spirited crime fighting, some individuals were reported to be motivated by "*pure instinct*" (Evans, 2013). For example, a 60 year old man who disarmed a robber who threatened a shop keeper with a knife said "*I sprang into action*" and "*something snapped and I thought I was 20 again*" (Narain, 2012). This suggests crime fighting acts may be motivated by an instantaneous response to the crime taking place in front of them.

Consequences

Newspaper articles throughout the datasets associate a number of consequences to altruists which are determined by the behaviour they carry out. The five original analyses did also examine the consequences for the recipients of altruism (See Appendix 1), but there was little variation in the consequences for recipients, and collectively the finding can be summarised as an individual/organisation/community that needed help received help, which improved their circumstances. Therefore, the focus of this section is on consequences for the altruists as depicted in newspaper articles. All of the behaviours, apart from public-spirited fixing and magnanimity, have both positive and negative consequences associated to them. Although it should be noted that no consequences were associated with public-spirited monetary donations. This is likely because all instances of public-spirited monetary donations relate to money being left by the altruist in their will to help others – so the altruist is not around to experience consequences, positive or negative.

For everyday chivalry, romantic chivalry, philanthropy, hands-on humanitarians, status humanitarians, magnanimous individuals, public-spirited crime fighters, public-spirited fixers and public-spirited protectors, a positive consequence is that their altruism is recognised. This recognition could come in the form of an award, praise, endorsement or another form of being 'honoured'. For example, after the Eyal Ofer foundation made a donation to the Tate Modern is was announced that "*the exhibition galleries on Level 3 East will be named the Eyal Ofer Galleries*" (Clark & Dex, 2013). Altruists may be

recognised at ceremonies, for instance Jon Bon Jovi was "*presented the Centrepoint Great Britain Youth Inspiration Award*" to recognise the work of his foundation in tackling poverty and homelessness (Low & Booth, 2013). Such awards are commonly associated to celebrities and/or the wealthy, but public-spirited crime fighters may receive monetary awards, for example, "*a grandmother [was] given a £250 reward by a judge after she locked a burglar in her garden shed*" (Duell, 2013). Gaining recognition for being altruistic, is the most commonly cited consequence within the datasets.

Similarly to the above consequence, status humanitarians and magnanimous individuals could gain status and/or a public platform when their behaviour is acknowledged. For instance, "*The EU… handed Malala Yousafzai its annual human rights award, in recognition of her battle for girls' education in her native Pakistan*" (Legge, 2013) and Malala was also invited to "*address the UN*" (Ashfaq Yusufzai & Alexander, 2013), demonstrating her increased status. Having altruism acknowledged by others is linked to evidence which shows that individuals are more likely to become regular blood donors when they know that their behaviour will be rewarded with a medal at a public ceremony (Lacetera & Macis, 2010).

Philanthropy and romantic chivalry are the only altruistic behaviours that have unique positive consequences associated to them. For philanthropy, this consequence is that the cost of altruism is offset by a known benefit for the altruist which is usually a monetary reward, either from gaining profits from their philanthropic behaviour (Lean, 2013) or by receiving a "*tax cut for making charity donations*" (Fleet Street Fox, 2013). One non-monetary gain relates to Madonna; "*They waived strict rules that state non-Malawians have to be resident in the country for at least 18 months before adopting…because of the star's promise to build the 400-bed Academy for Girls*" (Scott, 2013). This shows how adoption procedures were overlooked, as a direct result of Madonna's altruism.

For romantic chivalry, the unique positive consequence associated to the behaviour is that the actor is able to initiate a romantic relationship. For example, one chivalrous male says "*I once offered to carry the suitcase of a beautiful girl from the platform of a suburban train station to the taxi rank… the girl in question is now my wife*", within the report he is drawing a direct link between his chivalrous behaviour and the beginning of his long-term romantic relationship. Such comments link to ideas surrounding individuals being motivated to behave altruistically to attract a mate (Griskevicius et al., 2007) and that doing so does make the actor more desirable (Barclay, 2010; Farrelly et al., 2007; Smith &

Bird, 2000). Chivalrous operationalisations of altruism in the literature, which link to this aspect of the coding, show that men who offer a coat when it is cold, hold open doors and offer to carry heavy items for women, are perceived as more attractive than those who do not (Gul & Kupfer, 2018).

In relation to heroic chivalry, war-time chivalry, hands-on humanitarianism, status humanitarians and public-spirited crime fighting the data shows that a negative consequence for these altruists is that they are harmed both physically and psychologically. For example, a man ended up with "*a broken nose and ribs, as well as a partially collapsed lung*" (Gorman, 2013) when he tried to stop the sexual harassment of a woman on a bus. A further example is the case of two women who were kidnapped whilst part of an aid convoy to Gaza and were "*raped…in front of their father*" and were described as being "*in a very bad psychological state*" (Sherlock, 2013). Death is also present within the data as a negative consequence for altruists, for instance, a public-spirited street cleaner "*was stabbed through his heart*" when he tried to stop a burglar (Edwards, 2013). In relation to heroic chivalry, war-time chivalry and at times public-spirited crime fighting, these negative consequences occur whilst providing the positive consequence of protection to the recipient. However, for hands-on humanitarianism, status humanitarianism and other instances of public-spirited crime fighting, behaving altruistically is associated with a risk of harm without necessarily protecting a specific individual.

A negative consequence that occurs in relation to everyday chivalry, philanthropy, hands-on humanitarianism, status humanitarianism and public-spirited protecting is that the altruists are criticised for their behaviour or they suffer reputational damage. For example, philanthropist Chuck Feeney is said to have "*avoided as much tax as possible during his career, setting up companies in tax havens under the name of his French first wife*" (Lawson, 2013), which demonstrates how reports focus on his suspicious financial arrangements as well as his philanthropy. Hands-on humanitarians face similar character criticism, for example, Dr Abbas Khan is said to have gone "*to Syria to save wounded children*" but the same article suggests "*there may have been more to Abbas's trip than meets the eye, amid reports of dozens of so-called British jihadis flocking to join the war*" (Malone & Bird, 2013).

Negative consequences occur within the data in relation to several different altruistic behaviours, however, there are two negative consequences that are unique to just one behaviour. In relation to philanthropy, a negative consequence is that the children of the philanthropist are deprived of an inheritance. For example, in relation to Bill Gates

using his wealth to help others, he states that he will give his children "*some money but not a meaningful percentage. It wouldn't be good for them or society*" (Hendry, 2013). In relation to status humanitarians, the unique negative consequence is that the founder of a charitable organisation says "*he has lost the income with which he supported his wife and three children*" (Times Staff, 2013), this cost can be seen as a negative consequence for the altruist and the wider family in terms of access to resources.

Chapter 4: Discussion

The purpose of this research was to answer the research question "What are the differences and similarities between altruistic behaviours depicted in newspaper articles?". The findings demonstrate that depictions of altruistic behaviours described as philanthropic, chivalrous, humanitarian, magnanimous and public-spirited do differ within newspaper articles. These differences do not demonstrate that each of these behaviours are distinct, but show they are grouped by similar characteristics as being "heroic", "considerate" or "charitable". Furthermore, the analysis shows that behaviours are always depicted as other-orientated except philanthropy, magnanimity and romantic chivalry which at times are portrayed as motivated by self-interest. Finally, in relation to consequences, the reported cost of heroic chivalry, war-time chivalry, hands-on humanitarianism, status humanitarianism and public-spirited crime fighting is higher than the other altruistic behaviours discussed, with recognised risks of physical/psychological harm and at times, the danger of death. These differences infer that altruistic behaviours described in everyday reporting can fit into "philanthropic", "considerate" or "heroic" categories. These findings highlight that there are similarities and differences between altruistic behaviours depicted in newspaper articles. Within the context of this thesis, the results suggest that there are potentially three categories of altruistic behaviour, which could impact upon perceptions of desirability and could signal different underlying qualities. Furthermore, there may be variation in the motivations behind these three types of altruism.

These findings have significant implications for altruism research as it highlights the necessity for consistent operationalisations of altruism to ensure participants are interpreting altruism as intended and to ensure the dependable evaluation of research outcomes across studies. In light of the current findings, previous conflicting results, such as the suggestion that altruism is used as a mating strategy by men (Griskevicius et al.,

2007) and is not used as a mating strategy by men (Bereczkei et al., 2010) can be clarified by considering the operationalisation of altruism. Griskevicius et al. (2007) operationalised altruism so that it had a heroic element – i.e. diving into icy water after a stranger falls from a boat in a storm. They found that romantically primed men increased their altruistic intentions suggesting altruism can be used as a mating strategy. Whereas Bereczkei et al. (2010) operationalised altruism so that it had a considerate element – i.e. providing care for the physically disabled. They found that men did not increase their altruism in front of an audience as anticipated and concluded that men did not use altruism as a mating strategy. Considering the content analysis outcomes, the altruism presented by Griskevicius et al. (2007) reflects heroic altruism whilst the altruism portrayed by Bereczkei et al. (2010) displays considerate altruism. Given the prediction of CST that altruism signals an underlying desirable quality (Zahavi, 1975, 1977) and the earlier suggestion that different altruistic behaviours signal different underlying qualities, this suggests that the conclusions of the aforementioned research conflict because heroic altruism signals a more desirable underlying quality than considerate altruism and therefore men are more likely to behave altruistically in heroic contexts as it is a more rewarding mating strategy. This emphasises that it is important to consider how altruism is operationalised in studies aiming to test specific aspects of altruism.

In relation to the psychological perspective on altruism, the current research demonstrates that newspaper articles do associate different motivations with different altruistic behaviours. Therefore, researchers from this perspective, need to carefully consider which altruistic behaviours they operationalise within their research as philanthropic and magnanimous behaviours could be motivated by self-interest and philanthropic altruists could be motivated by the satisfaction they experience from seeing the impact of their behaviour. This would suggest that self-interest, or broadly speaking, egoism is the proximate cause of some instances of philanthropy/magnanimity. Whereas hands-on humanitarians, who are emotionally motivated to help others, are more likely to be motivated by empathy.

The current research has some limitations in relation to the news content and reporting styles of the media. Some altruistic behaviours did not appear within the data sources, such as giving blood and living organ donation. It is unclear how these behaviours, which can form the basis of research studies, may be positioned in relation to the behaviours analysed here. Further research could include these behaviours to situate them in relation to those already investigated. Also, the findings may have been shaped by

what the media determines to be newsworthy. De Semir (1996) outlines several problems with newspaper articles which are relevant to their use as a data source, including sensationalism, trivialisation and misreporting. Also, competition is high between different publications, but also within a publication, where journalists are fighting to have their articles selected for publication, strategies in writing and editing may further extenuate misrepresentation and sensationalism. Such problems occur because newspapers are trying to provide the public with news that they have an appetite for (De Semir, 1996). However, previous research has shown that newspaper articles influence public opinion (Gilens, 1996; Happer & Philo, 2013; Iyengar & Simon, 1993; McGinty et al., 2013; Roberts & Doob, 1990; Sampei & Aoyagi-Usui, 2009; Terkildsen & Schnell, 1997), so despite the problems with media reporting that may misrepresent altruistic behaviours, these articles are still likely to be influential within the public's construction of altruism. Furthermore, research has found that the problem of sensationalism in news media, is often restricted to 'soft' news media (Semetko & Valkenburg, 2000), such as tabloid newspapers. The inclusion of both tabloid and broadsheet newspapers, helps to diminish the potential of sensationalism impacting upon the findings. A related limitation is that the data was drawn from newspaper articles from British newspapers, so the content analysed may be determined not just by what the media views as newsworthy, but by what is newsworthy within a British cultural context. It is possible that newspapers in different countries would report on altruistic behaviour in a different way. It is also possible that some of the altruistic behaviours depicted within the articles are presented in a particular way because they characterise Britishness, cultural virtues and nostalgic notions of national identity – for example, acts of chivalry during world war II often assigned the attribute of "British" to the altruist and an article within the public-spirited dataset states "Britons are inherently kind, generous and community-spirited, a major international study has concluded" (Martin, 2012), suggesting that this report reflects cultural assumptions back to a receptive British audience. However, all of the newspapers used in this research do report on world events and there are examples of altruism from non-British citizens. Therefore, whilst some findings may differ if this research were conducted in a different country or cultural context, it is unlikely that all findings would be completely unique. Finally, the method for achieving saturation – working backwards from a specific date until no new information was being included into a dataset by continuing to add articles – could have led to the exclusion of some important information, as the public's understanding of altruism may be dependent upon socio-cultural trends which could have been encompassed better with a

wider time frame. The researchers did consider having a large time frame and then randomly selecting articles from within it until saturation was reached but were limited by the usability of the online archives of the newspapers, which had various sized archives, which meant a consistent time frame could not have been selected, unless it was a relatively small one. This in turn raised concerns about balancing the content being included from tabloid and broadsheet newspapers, which as previously discussed was important to avoid having too many sensationalist news items which could bias the dataset.

Three areas where newsworthiness may have impacted the analysis is in relation to romantic chivalry, philanthropy and humanitarianism. For romantic chivalry, this analysis found that romantic characteristics are used to describe the altruist, the altruist is depicted as being motivated to attract a romantic partner and one consequence is that such altruists do attract romantic partners. However, the authors of the newspaper articles have an awareness of the consequences prior to writing the article, and therefore apply a romantic context because of this. One headline demonstrates this - *"love was in the bag after suitcase meeting"* (Cooke, 2011), which shows that because the author is aware that the couple are now engaged, and their first meeting involved chivalry, and this creates a fairy-tale element to the romance, the author implies a direct link between chivalry and the engagement of the parties involved. Had this couple never spoken again after the first incident, then a romantic context would not be applied and instead this behaviour would have been no different to the numerous acts of everyday chivalry within the dataset. Furthermore, most articles depicting philanthropy, related the behaviour to very wealthy individuals, which may make the behaviour appear more distinct than it is. Also, the distinction between hands-on humanitarians and status humanitarians appears to occur because the newspapers are reporting on celebrity behaviour; there are 48 references to unique hands-on humanitarian acts within the dataset and only 3 of these are carried out by celebrities. In contrast, 33 of the 37 acts categorised as status humanitarianism are carried out by celebrities. It is possible that it is the wealth and celebrity of certain individuals that means their behaviour is reported on and these features could also have determined the consequences, motivations and characteristics that were associated to these behaviours. It is therefore important to examine the ways in which participants differentiate between altruistic behaviours (see study 2), to see whether it is as distinct as the current research suggests. By understanding how participants differentiate altruistic behaviours, researchers will be better able to accurately design studies, which are consistent and comparable.

To conclude, the qualitative content analysis has extensively explored different

altruistic behaviours as they are presented within newspaper articles. This has highlighted that whilst there are similarities between altruistic behaviours, there are also specific differences which signify variations in the everyday understanding of altruistic acts. The findings suggest three broad categories of altruism can be distinguished between; philanthropic, considerate and heroic. The implications of this are that an altruist who acts philanthropically, may be differentiated from one who behaves considerately or heroically in the eyes of a participant because different information is being conveyed by different behaviours. This may impact on the way participants respond to altruistic operationalisations in research. Study 2 will examine this by devising a measure of altruistic intentions and then using principal component analysis, to see how participant's responses distinguish between altruistic behaviours

Chapter 5: Measuring, Predicting, Validating and Distinguishing Between Altruistic Intentions

Chapter 5: Overview

The aim of this chapter is to see whether participants show intra-individual variation in their intentions to carry out different altruistic acts. Intra-individual variation in this context, refers to individuals behaving or intending to behave altruistically on some occasions but not others. If intra-individual variation in altruistic intentions is found, this would demonstrate that people distinguish between different altruistic acts, which would support the findings of study 1, which found that newspaper reporting of altruistic behaviour differentiates between altruistic behaviour using three broad categories. Whether or not participants distinguish between altruistic behaviours is of interest to the researchers because currently altruism is operationalised in many ways in empirical research, with the assumption that because all the acts used can be defined as altruism, the same concept is being measured. Therefore, a measure of altruistic intentions has been devised. Furthermore, several personality measures that have been linked to the altruistic behaviours, will be administered. Therefore, if people do distinguish between different types of altruism by showing variation in their altruistic intentions, it will be possible to see which aspects of personality can predict which type of altruism they will carry out. This can help to indicate 1) what the underlying motivations for different types of altruism are and 2) what is potentially being signalled by different types of altruism. The measures of personality that will be administered are the big five personality traits, communal orientation, social dominance, sensation seeking and empathy. The different factors of these measures will then be used as predictor variables in regression models. They were selected because previous research has linked them to altruism (see "Characteristics of an altruist" below) and they represent a mix of egoistic and altruistic motivations for helping. Furthermore, the measure of altruistic intentions will be validated by assessing its relationship with altruistic behaviour.

Study 2: A Principal Component Analysis of Altruistic Intentions

When altruism is operationalised within research it can take many forms. For example, volunteering at a food bank (Barclay, 2010), donating to a charitable organisation (Fehrler & Przepiorka, 2013), investing more than your fair share in a public goods game (Millet & Dewitte, 2007), donating food for public feasts (Smith & Bird, 2000), giving a speech for a good cause to a large and potentially hostile crowd (Griskevicius et al., 2007) volunteering as a member for a local lifeboat crew and doing errands for your elderly grandmother (Kelly & Dunbar, 2001). Despite the clear differences between these behaviours, they are all regarded as altruism. However, when researchers decide how to operationalise altruism within their research, the operationalisation can lead to different empirical findings if intra-individual differences in altruistic intentions exist (i.e. participants are willing to carry out one type of altruism but not another type). Currently, intra-individual differences in altruistic intentions get very little or no consideration, which suggests the dominant perspective is that all altruism is responded to in the same way by individuals who have the capacity to be altruistic. However, if intra-individual differences do impact upon altruistic intentions, then different operationalisations could lead to conflicting empirical findings. Such findings are then difficult to relate to the important questions that altruism researchers are trying to answer, such as; does true altruism exist and what is its ultimate function?

There is a corpus of literature concerning the relationship between personality and helping behaviour. However, to the knowledge of the researcher, no previous studies have examined whether participants alter their altruistic intentions or behaviour based on what is required of them in order to help – i.e. when the cost to the helper relates to resources, time, effort or energy, or a combination of these factors, do their altruistic intentions change? Instead research has focused on the person-situation interaction and has found that people are more likely to help when ease of escape is difficult (Batson et al., 1988; Carlo, Eisenberg, Troyer, Switzer, & Speer, 1991) and when the needs of others are more apparent (Carlo et al., 1991). Research has also shown that there are sex differences in relation to different altruistic behaviours, with men being more likely than women to show intentions to help in heroic contexts, such as diving into the ocean to rescue someone who fell overboard in a storm (Griskevicius et al., 2007). Conversely, women were more likely than men to show intentions to help in contexts which display nurturing characteristics, such as helping at a homeless shelter (Griskevicius et al., 2007). These findings suggest that participants do distinguish between altruistic behaviours, because instead of

consistently showing intentions to either be altruistic or not be altruistic, participant's intentions varied as determined by the altruistic behaviour they were being asked to carry out. This highlights how the operationalisation of altruism within research is important if empirical findings are going to be broadly applied to our understanding of altruism.

Previously, researchers have operationalised altruism so that it adheres to the evolutionary definition of a behaviour that is costly to the survival of the altruist and beneficial to the survival of someone else (Clamp, 2001; Clavien & Chapuisat, 2013; Dugatkin, 2011; Ramsey, 2016; Stich, 2016; Trivers, 1985). However, given the suggestion that altruism may act as a costly signal of an underlying quality (Grafen, 1990; Zahavi, 1975, 1977), it does not appear that researchers have considered that different altruistic behaviours may signal different underlying qualities. This may have led researchers to draw false conclusions from their results. For instance, Bereczkei et al. (2010) operationalised altruism in the following seven ways; 1) taking people's blood pressure, 2) organising a day for blood donors, 3) collecting donations, 4) providing care for the elderly, 5) providing care for the physically disabled, 6) providing health care for the homeless and finally 7) providing assistance for mentally handicapped children. They asked men and women to either publicly or privately volunteer to help in these contexts. They anticipated that men would be more likely than women to publicly volunteer to help, because altruism is said to be a costly signal of an underlying desirable quality and public displays of generosity provide an opportunity for men to attract mates (Grafen, 1990; Zahavi, 1975, 1977). However, Bereczkei et al. (2010) found that women were more likely to publicly volunteer than men, leading them to conclude that altruism does not act as a costly signal. However, if we consider the finding of Griskevicius et al. (2007) that women are more likely to volunteer to help when the altruistic act displays nurturing characteristics and men are more likely to volunteer when the altruistic act displays heroism, Bereczkei et al. (2010) finding could have occurred because they operationalised altruism in a way that provides an opportunity to display nurturing characteristics, but not heroism. This demonstrates why it is important to not assume all operationalisations of altruism will be responded to equally by participants and why it is necessary to investigate further how different types of altruism are distinguished between.

The above literature, whilst not specifically examining intra-individual variation in altruistic intentions, highlights how participants do distinguish between altruistic contexts and vary in their intentions to behave altruistically within them. Furthermore, as the operationalisation of altruism can impact upon empirical findings, it is therefore important

to examine how participants distinguish between different operationalisations more closely. In chapter 4, a qualitative content analysis of altruistic behaviour in newspaper articles suggested that three broad categories may exist, which have unique consequences and characteristics attributed to them, these categories were labelled as considerate altruism, heroic altruism and philanthropic altruism. The research presented in this chapter will quantitatively examine whether participants distinguish between the same types of altruism by displaying different intentions to act altruistically or if they distinguish between altruistic behaviours in a different way.

Characteristics of an Altruist

If participants do distinguish between different altruistic behaviours by demonstrating their willingness to carry out some acts of altruism to a greater extent than others, then it is also of interest to the researchers what personality attributes may contribute to a specific type of altruism occurring. This is because personality attributes can be used to infer the underlying motivation behind the altruistic behaviour and can provide an indication of what underlying quality may be signalled by different altruistic behaviours. Therefore, a range of personality measures will also be administered based on previous research examining altruism and pro-sociality in general.

Research has shown that there is a correlation between numerous facets of personality and helping. Altruism has been found to be positively correlated with empathy (Ashton, Paunonen, Helmes, & Jackson, 1998; Batson et al., 2011; Batson et al., 1988; Batson & Shaw, 1991; Lee, Kang, Lee, & Park, 2005), communal orientation (Clark, Oullette, Powell, & Milberg, 1987; Small & Simonsohn, 2008), Introversion (Demir & Kumkale, 2013), agreeableness (Ashton et al., 1998; Carlo, Okun, Knight, & de Guzman, 2005; Hill, 2016; Oda et al., 2014), conscientiousness (Demir & Kumkale, 2013; Ferguson, 2004; Oda et al., 2014), openness (Demir & Kumkale, 2013; Oda et al., 2014) extraversion (Carlo et al., 2005; Oda et al., 2014; Suda & Fouts, 1980) and sensation seeking (Gomà-i-Freixanet, 1995, 2001; Kish & Donnenwerth, 1972; Wallbank, 1985). Furthermore, Ashton et al. (1998) found that low emotional stability correlated with altruism defined as kin altruism and high emotional stability correlated with altruism defined as reciprocal altruism. Finally, there is a negative correlation between social dominance orientation and altruism (Pratto, Sidanius, Stallworth, & Malle, 1994).

Despite the above findings that numerous personality dimensions are correlated

with helping, different researchers have found inconsistent results. This may occur because helping behaviours are operationalised differently. For example, Carlo et al. (2005) operationalised helping as volunteering, which was measured by participants answering 4 questions; 1) Have you ever volunteered? 2) Are you currently volunteering? 3) Do you plan on volunteering in the next 2 months? And finally 4) What is the likelihood of you volunteering at the campus based community service program? It was found that Agreeableness had a significant, direct effect on volunteering behaviour and extraversion had an indirect, mediating effect (Carlo et al., 2005). Agreeableness has also been discussed as an other-orientated motivating factor for helpfulness and as one of the traits that make up the altruistic personality (Avdeyeva, Burgetova, & Welch, 2006; Graziano & Eisenberg, 1997; Graziano, Habashi, Sheese, & Tobin, 2007; Penner, Fritzsche, Craiger, & Freifeld, 1995). Alternatively, Ferguson (2004) operationalised helping as donating blood and found that males who had been blood donors for a long time and who were highly conscientious donated blood more frequently. Furthermore, females who had been donors for a long time and who were highly emotionally stable donated blood more frequently. The findings of these two studies demonstrate how different personality dimensions have been found to be associated with different altruistic behaviours.

As discussed in Chapter 3, much of the research conducted examining empathy and altruism can be credited to Batson and colleagues who developed the empathy-altruism hypothesis (Batson, 1992; Batson et al., 2011; Batson et al., 1988). This hypothesis suggests that an individual who experiences empathy for someone in-need, may be motivated to help the individual in-need. The helper's motivation is said to be altruistic if it is evoked by empathy and not motivated by the anticipated self-benefits of helping (Batson et al., 2011). Numerous experimental studies have examined whether helping is motivated by altruism or by egoistic alternatives such as aversion-arousal reduction (Batson et al., 1981; Batson et al., 1983; Toi & Batson, 1982), empathy-specific punishment (Batson et al., 1988; Fultz et al., 1986), empathy-specific rewards (Batson et al., 1989; Batson et al., 1991; Batson et al., 1988; Cialdini et al., 1987; Schroeder et al., 1988; Smith et al., 1989) and self-other merging (Batson et al., 1997; Cialdini et al., 1997; Maner et al., 2002). Results suggest that empathic concern can induce altruistic motivations for helping (Batson et al., 2011; Batson et al., 1988; Batson & Shaw, 1991), although this is disputed by some (Maner et al., 2002; Neuberg et al., 1997). Additionally, Lee et al. (2005) interviewed 60 altruists who had been the subject of an hour long TV programme honouring them for their altruism. A content analysis on the interview transcripts was conducted and it was found

that many of the altruists cited experiencing empathy for the individuals they helped (Lee et al., 2005). Furthermore, Haas et al. (2015) found that individuals with higher warm-altruistic personality scores had higher empathic accuracy, as they were better at perceiving the emotions of others. Finally, study 1 within this thesis found that altruistic behaviours described in newspaper articles were predominantly depicted as being other-orientated. Therefore, previous research suggests that empathy is related to altruism, which means it may have predictive value in determining whether people carry out certain altruistic behaviours.

Communal sharing is one of four relational models outlined by Fiske (1992), who suggests that in communal sharing relationships people take what they need and contribute what they can, without anyone attending to what actual contributions/consumptions are. People who are orientated towards communal sharing relationships have a feeling of all being the same and of being naturally united by a common identity – such as family, race, nationality (Fiske, 1992). Furthermore, people with a communal orientation are willing to provide benefits for one another without any expectation of personal gain (Small & Simonsohn, 2008). However, there is an expectation that you will share with other members of the community when they have a need (Fiske, 1992). Research that examined the link between having a communal orientation and helping has been carried out by Clark et al. (1987), who found that individuals high in communal orientation were more likely to help, than those who were not. Furthermore, those high in communal orientation, but not others, increased their helping in relation to another person's sadness (Clark et al., 1987). Finally, Small and Simonsohn (2008) found that individuals who are in a communal relationship with a victim of a particular misfortune (i.e. cancer), have increased sympathy and give more, to victims of the same misfortune. Communal orientation may therefore influence altruistic intentions, either because individuals have increased communal orientation in general, or because they are in a communal relationship with someone who has similar experiences to a victim they encounter.

Social dominance orientation is the extent to which an individual has a preference for inequality amongst social groups (Pratto et al., 1994). Pratto et al. (2013) devised a 16 item measure of social dominance orientation and found that it is negatively correlated with altruism, which they operationalised using five measures from the values scale (Super & Nevill, 1985). This has been supported by further research which has found having a high social dominance orientation score means people are less likely to endorse giving aid to the poor (Pratto et al., 1994) and less likely to donate to a charity that supports an

ethnicity different from one's own (Freeman, Aquino, & McFerran, 2009). However, Zagefka and James (2015) theorise that high social dominance scores will not necessarily inhibit charitable giving and that an outgroup may donate to victims of a natural disaster, if the outgroup is able to dictate how the money is spent as this affirms their superiority, dominance and power. Therefore, it is likely that social dominance orientation will be useful in predicting who will behave altruistically and when, should different types of altruism be identified.

Sensation seeking is a personality trait that can lead individuals high on the trait to seek physiological arousal, novel experiences and show greater willingness to take risks in the social, physical and financial realms in order to achieve arousal (Stephenson, Hoyle, Palmgreen, & Slater, 2003; Zuckerman, 1979). The sensation seeking scale is made up of 4 sub-scales which are labelled experience seeking, thrill and adventure seeking, disinhibition and boredom susceptibility (Zuckerman, 1971). Because the current study is examining intentions to behave altruistically, where some of the behaviours described involve physical risks and novel experiences, it is likely that sensation seeking will have explanatory power in helping determine the intra-individual differences in altruistic intentions, should they arise.

To examine whether people do distinguish between altruistic behaviours a questionnaire has been developed that will measure participant's altruistic intentions. Their responses to this questionnaire will be subject to a principle components analysis, which is anticipated to produce distinct categories of altruistic behaviour. It will then be examined whether the different measures of personality mentioned above provide predictive value in determining the type of individual who is likely to participate in the altruistic categories of behaviour. The primary research question being explored is "Do participants distinguish between altruistic behaviours by showing intra-individual variation in their intentions to carry out said behaviours?"

Study 2: Method

Participants

This study recruited 185 participants (96 males and 89 females) via Mechanical-Turk. These participants were compensated for their time with a payment of $2. A further 145 participants (20 males and 125 females) were recruited from the University of East Anglia to complete the same questionnaire, these participants were compensated with

course credits. Participants ranged in age from 18 to 74 years old (Mean = 28.52, Std Dev. = 11.16). The majority of participants identified as white, with such individuals making up 81.2% of the sample, followed by 7.0% who identified as Asian/Pacific Islander, 3.6% who identified as Black, 3.3% who identified as Latino/Hispanic, 3.3% who identified as Mixed race and 1.5% who specified their ethnicity as "other". In relation to their educational background, 0.3% of the participants indicated that they were "less than a high school graduate", 29.7% indicated they were "high school graduates or equivalent", 33.6% indicated they had "completed some college but not completed a degree", 7.6% indicated they had "completed an associate degree", 24.8% had "completed a bachelor's degree", 2.4% had "completed a master's degree" and 1.5% had "completed a doctorate".

Materials

An altruistic intentions questionnaire was devised (see Appendix 4) which included 38 statements, such as; "I would participate in a fun run to raise money for charity", "I would commit to regularly donating blood", "I would run into a burning building to try and rescue someone trapped inside" and "I would donate money to help protect the habitats of endangered species". The acts of altruism included were varied in order to encompass as many altruistic behaviours as possible. They were adapted from the findings of study 1, the qualitative content analysis which looked at different altruistic behaviours in newspaper articles (see chapter 4), as well as the already existing self-report altruism scale devised by Rushton, Chrisjohn, and Fekken (1981) and the mate preferences for altruistic traits (MPAT) scale devised by Phillips, Barnard, Ferguson, and Reader (2008). Furthermore, some of the questionnaire items were devised by considering the operationalisation of altruism in research conducted by Griskevicius et al. (2007) and Kelly and Dunbar (2001). Participants would respond to each statement using a 7 point Likert scale; (1) Strongly disagree, (2) Disagree, (3) Somewhat disagree, (4) Neither agree nor disagree, (5) Somewhat agree, (6) Agree and (7) Strongly agree.

In addition, the 185 participants recruited via Mechanical-Turk also completed the following measures; the 16-item social dominance orientation scale (Pratto et al., 1994), the 14-item communal orientation scale (Clark et al., 1987), the Ten Item Personality Inventory (Gosling, Rentfrow, & Swann, 2003), the Brief Sensation Seeking Scale-4 (Stephenson et al., 2003), the 40-item empathy quotient (Baron-Cohen & Wheelwright, 2004) and finally participants answered three questions - Have you ever given blood (unpaid)? Have you donated any amount of money to any charity in the last month? Do

you regularly carry out small acts of kindness? (i.e. give change to a stranger, let someone go ahead of you, hold the door open for others etc.). These were devised to measure actual altruism carried out by participants. Participants responded to these by answering yes or no.

Procedure

Participants responded to an advert which invited them to take part in a 15-20 minute questionnaire on helping behaviours (see Appendix 5). Prior to the questionnaire an information sheet was presented (see Appendix 6). Subjects were advised that they were free to stop at any time and if the questionnaire was not completed then the data they had provided thus far would not be used (21 questionnaires were abandoned, and this data was removed). Participants completed the 38-item altruistic intentions questionnaire first, then the additional measures (if applicable) were presented in a randomised order to prevent order effects. Once all measures were completed, demographic information was collected, and participants were debriefed (see Appendix 7) and given one final chance to withdraw from the study.

Study 2: Results and Interpretation

Principal Components Analysis

The 38 items of the altruistic intentions questionnaire (see Appendix 4) were subjected to two principal component analyses (PCA), one using the data collected from Mechanical-Turk participants and a second using the data collected from undergraduate psychology students at the UEA. A two component solution, which was stable across both sets of data, was produced with 18 of the items on the questionnaire being consistently placed into two components (Table 5 and 6). The remaining 20 items, varied across the two PCAs and did not consistently align with the other items and therefore are excluded from the final two component solution. To aid in the interpretation of these two components, varimax (orthogonal) rotation was performed, the results of which are presented in tables 5 and 6. Some questionnaire items loaded onto more than 1 component, suggesting that the components are not completely unrelated. This is not unexpected, as all altruistic acts are likely to have some things in common. Items loading onto more than 1 component were placed in the component on which they loaded more highly.

Component 1 was identified as *considerate altruism* because of high loadings from items such as “I would donate money to a charity which provides counselling to victims of

assault", "I would volunteer to help teach underprivileged children to read" and "I would send essential items that I could spare to occupants of refugee camps". This component was made up of 11 items, which collectively reflect donating and volunteerism behaviours. Therefore the cost of doing such behaviours is money, loss of items or loss of time.

Component 2 was identified as *heroic altruism*, because of high loadings from items such as "I would run into a burning building to try and rescue someone trapped inside" and "I would try and help a woman fight off an attacker if I saw her being assaulted". This component was made up of 7 items, all of which involve a cost of effort to the altruist, but also has the added element or risk, which is absent from the items loading on to component 1. Furthermore, unlike *considerate altruism,* none of the items loading on this component involve making monetary donations.

Table 5: *Results of PCA using Mechanical-Turk data with varimax rotation, showing questionnaire item loadings and communality.*

Mechanical Turk Data	Component 1: Considerate altruism	Component 2: Heroic altruism	Communality
I would donate money to provide humanitarian aid for civilians who are injured in war-torn countries.	**.868**		.783
I would donate money to a charity which provides counselling to victims of assault.	**.862**		.786
I would send essential items that I could spare to occupants of refugee camps.	**.835**		.727
I would donate items to a charity auction to help raise money for victims of natural disasters.	**.834**		.715
I would donate money to help victims of a natural disaster	**.814**		.706
I would place spare change in a charity collection bucket as I exit a supermarket.	**.782**		.671
I would sponsor a colleague/acquaintance I didn't know all that well if the money was going to a good cause.	**.752**		.624
I would volunteer to help at a children's hospital.	**.750**		.629
I would volunteer to help teach underprivileged children to read.	**.676**		.546
I would campaign for better human rights for citizens in countries where human rights violations are high.	**.632**	.322	.504
I would take a thermos of tea to a homeless person sleeping on the street	**.561**	.302	.406
I would run into a burning building to try and rescue someone trapped inside.		**.837**	.707
I would try and help a woman fight off an attacker if I saw her being assaulted.		**.730**	.583
I would try and distract an aggressive dog that I saw attacking someone.		**.726**	.555
I would dive into the ocean to try and rescue someone who fell overboard.		**.684**	.500
I would run into the street and pull an elderly pedestrian to safety if I saw them stepping out in front of a bus.		**.672**	.512
I would give my seat on a lifeboat to a disabled person if I were on board a sinking ship		**.592**	.415
I would chase after a burglar if I saw them fleeing my neighbour's house.		**.588**	.424
Eigenvalue	8.571	2.221	
% of total variance	47.617	12.337	
Total variance		59.954%	

Table 6. *Results of PCA using UEA data with varimax rotation, showing questionnaire item loadings and communality.*

UEA Data	Component 1: Considerate altruism	Component 2: Heroic altruism	Communality
I would donate money to a charity which provides counselling to victims of assault.	**.778**		.628
I would send essential items that I could spare to occupants of refugee camps.	**.771**		.621
I would donate items to a charity auction to help raise money for victims of natural disasters.	**.742**		.566
I would donate money to provide humanitarian aid for civilians who are injured in war-torn countries.	**.732**		.536
I would donate money to help victims of a natural disaster	**.721**		.548
I would volunteer to help at a children's hospital.	**.686**		.500
I would campaign for better human rights for citizens in countries where human rights violations are high.	**.673**		.505
I would place spare change in a charity collection bucket as I exit a supermarket.	**.621**		.389
I would volunteer to help teach underprivileged children to read.	**.611**		.376
I would sponsor a colleague/acquaintance I didn't know all that well if the money was going to a good cause.	**.601**		.369
I would take a thermos of tea to a homeless person sleeping on the street	**.485**		.277
I would chase after a burglar if I saw them fleeing my neighbour's house.		**.708**	.501
I would run into a burning building to try and rescue someone trapped inside.		**.663**	.442
I would dive into the ocean to try and rescue someone who fell overboard.		**.658**	.434
I would try and distract an aggressive dog that I saw attacking someone.		**.629**	.433
I would try and help a woman fight off an attacker if I saw her being assaulted.		**.625**	.457
I would run into the street and pull an elderly pedestrian to safety if I saw them stepping out in front of a bus.		**.620**	.434
I would give my seat on a lifeboat to a disabled person if I were on board a sinking ship.		**.527**	.318
Eigenvalue	6.012	2.321	
% of total variance	33.402	12.896	
Total variance		46.298%	

Bivariate Correlations

Two multiple regression analyses were conducted to see whether the predictor variables of sensation seeking (experience seeking, thrill/adventure seeking, disinhibition and boredom susceptibility), social dominance, communal orientation, personality (extraversion, agreeableness, conscientiousness, emotional stability and openness), empathy (cognitive empathy, emotional reactivity and social skills) and reported altruism predicted scores for the two components produced from the PCA. The means and standard deviations for each variable are provided in Table 7. Furthermore, the bivariate correlations are also provided in Table 7. These show the extent to which each of the dependent variables are correlated with each other and with each predictor variable. Furthermore, they show the extent to which each predictor variable is correlated with one another. Of the 15 predictor variables, 9 significantly correlated ($p < .05$) with considerate altruistic intentions and 14 significantly correlated with heroic altruistic intentions. The predictors that significantly correlated with each component are presented below.

Table 7. *Means, standard deviations and bivariate correlations for each dependent variable and the predicator variables.*

Predictors	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Considerate altruism (component 1)	52.18	16.09																
2. Heroic altruism (component 2)	32.10	9.14	.55**															
3. Emotional Reactivity	11.51	5.16	.54**	.28**														
4. Communal Orientation	69.14	12.45	.50**	.38**	.69**													
5. Reported Altruism	1.91	0.87	.49**	.39**	.35**	.31**												
6. Agreeableness	10.64	2.47	.40**	.35**	.57**	.49**	.21*											
7. Social Dominance	37.21	20.95	-.40**	-.14*	-.48**	-.34**	-.20*	-.42**										
8. Cognitive Empathy	12.34	5.23	.26**	.30**	.56**	.45**	.22*	.32**	-.25**									
9. Social Skills	5.72	2.81	.26**	.27**	.54**	.36**	.24**	.45**	-.37**	.58**								
10. Conscientiousness	11.03	2.57	.19*	.19*	.25**	.25**	.07	.40**	-.21*	.39**	.39**							
11. Emotional Stability	10.05	2.87	.15*	.27**	.09	-.03	.18*	.40**	-.20*	.19*	.40**	.32**						
12. Openness	9.79	2.54	.12	.11	.25**	.24*	.11	.34**	-.26**	.35**	.37**	.14*	.24**					
13. Experience Seeking	3.74	1.11	.11	.28**	-.05	.06	.13*	.06	.03	.13*	.06	.01	.12	.35**				
14. Extraversion	6.82	3.36	.09	.20*	.09	.12	.10	.18*	.04	.18*	.35**	.11	.20**	.25**	.10			
15. Thrill/Adventure Seeking	2.38	1.28	.00	.43*	-.21*	-.06	.03	-.21*	.17*	-.03	-.20*	-.22*	.01	.17*	.43**	.12		
16. Disinhibition	2.70	1.31	-.00	.50*	-.25**	-.10	-.06	-.24*	.28**	-.01	-.12*	-.22*	.02	.21*	.50**	.20*	.75**	
17. Boredom Susceptibility	2.64	1.11	-.00	.48*	-.19*	-.07	-.03	-.14*	.16*	.00	-.10	-.23*	.04	.20*	.48**	.11	.64**	.65**

Note. Dependent variable = 1. Considerate altruism OR 2. Heroic altruism

*p< .05

**p< .001

Simultaneous Multiple Regression

The 15 predictor variables were simultaneously entered into the regression equation in order to predict considerate altruistic intentions. This process was then repeated in order to create a predictor model for heroic altruistic intentions. It was found that the predictor variables explain a significant amount of the variance in considerate altruistic intentions and heroic altruistic intentions, $F(16, 168) = 9.56$, $p < .001$, $R^2 = .48$, $R^2_{Adjusted} = .43$; and $F(16, 168) = 6.60$, $p < .001$, $R^2 = .39$, $R^2_{Adjusted} = .33$ respectively. Tables 8 and 9 show which predictors made a significant contribution to each model. Table 10 shows which predictors contribute significantly to more than one model and which uniquely contribute to just one model.

Table 8. *Linear model of predictors of considerate altruistic intention scores, with 95% bias corrected and accelerated confidence intervals reported.*

	b	*95% confidence interval for b*	*SE B*	*β*	*p*
Considerate	11.69	-5.12, 28.49	8.51		.171
Experience seeking	0.40	-1.64, 2.43	1.03	0.03	.700
Thrill and Adventure seeking	-0.91	-3.20, 1.38	1.16	-0.07	.435
Disinhibition	2.85	0.48, 5.23	1.20	0.23	.019[a]
Boredom susceptibility	0.59	-1.72, 2.90	1.17	0.04	.615
Social Dominance	-0.17	-0.27, -0.06	0.05	-0.22	.002[a]
Communal Orientation	0.22	0.01, 0.44	0.11	0.17	.039[a]
Extraversion	0.15	-0.46, 0.75	0.31	0.03	.635
Agreeableness	0.44	-0.66, 1.54	0.56	0.07	.429
Conscientiousness	0.59	-0.28, 1.45	0.44	0.09	.185
Emotional Stability	0.33	0.47, 1.13	0.40	0.06	.413
Openness	-0.84	-1.70, 0.03	0.44	-0.13	.059
Cognitive Empathy	-0.28	-0.77, 0.20	0.25	-0.09	.252
Emotional Reactivity	1.08	0.45, 1.71	0.32	0.35	.001[a]
Social Skills	-0.72	-1.70, 0.26	0.50	-0.13	.148
Reported Altruism	5.22	2.92, 7.51	1.16	0.28	.000[a]

Note. $R^2 = .48$ and Adjusted $R^2 = .43$.
a. Indicates the predictors making a significant contribution to the model.

Table 9. *Linear model of predictors of immediate heroic altruistic intention scores, with 95% bias corrected and accelerated confidence intervals reported.*

	b	*95% confidence interval for b*	*SE B*	*β*	*p*
Heroic	-1.78	-12.13, 8.56	5.24		.734
Experience seeking	1.14	-0.11, 2.39	0.63	0.14	.074
Thrill and Adventure seeking	0.14	-1.27, 1.55	0.71	0.02	.849
Disinhibition	1.17	-0.30, 2.63	0.74	0.17	.117
Boredom susceptibility	0.40	-1.02, 1.82	0.72	0.05	.578
Social Dominance	-0.01	-0.07, 0.06	0.16	-0.01	.883
Communal Orientation	0.18	0.05, 0.31	0.03	0.25	.007[a]
Extraversion	0.16	-0.21, 0.54	0.07	0.06	.388
Agreeableness	0.85	0.18, 1.53	0.19	0.23	.014[a]
Conscientiousness	0.08	-0.46, 0.61	0.34	0.02	.775
Emotional Stability	0.44	-0.05, 0.93	0.27	0.14	.076
Openness	-0.83	-1.37, -0.30	0.25	-0.23	.002[a]
Cognitive Empathy	0.23	-0.08, 0.53	0.15	0.13	.141
Emotional Reactivity	-0.16	-0.55, 0.23	0.20	-0.09	.412
Social Skills	0.04	-0.56, 0.65	0.31	0.01	.892
Reported Altruism	2.59	1.18, 4.00	0.71	0.25	.000[a]

Note. R^2 = .39 and Adjusted R^2 = .33.
[a] Indicates the predictors making a significant contribution to the model.

Table 10. *The predictors which significantly contribute to one or more of the altruistic intentions models.*

	Considerate altruism	Heroic altruism
Reported altruism	X	X
Communal orientation	X	X
Disinhibition	X	
Social dominance	X	
Emotional Reactivity	X	
Agreeableness		X
Openness		X

Common predictors. This section will discuss the predictor variables that contribute to both predictor models and are therefore common predictors of altruism. Tables 8 and 9 show that the predictor variable of reported altruism significantly contributes to each model and has a positive relationship with both considerate and heroic altruistic intentions. This means that individuals who have previously given blood, donated money to charity within the last month and who regularly carry out small acts of kindness are more likely to demonstrate an intention to be considerately and heroically altruistic. Prior altruistic behaviour is therefore predictive of future altruistic intentions.

Communal orientation is also predictive of both considerate and heroic altruistic intentions. This means that individuals who take other people's needs and feelings into account and expect others to be considerate of their needs in return are more likely to demonstrate an intention to carry out considerate and heroic altruism (Fiske, 1992). This finding supports the work of Clark et al. (1987) who previously found that individuals high in communal orientation were more likely to help, than people with low communal orientation scores.

Considerate altruism predictor model. Table 8 shows which predictors made a significant contribution to the considerate altruism model. Disinhibition, social dominance and emotional reactivity are unique predictors of considerate altruistic intentions, whilst reported altruism and communal orientation are predictive of both considerate and heroic altruistic intentions (see table 10). This section will discuss the unique predictors.

Disinhibition has a positive relationship to considerate altruism (see table 8). Previous research carried out by Bacon (1974; as cited in Zuckerman, 1979) and Wallbank (1985) also found a link between disinhibition and helping. Zuckerman (1971) shows that high scores on the disinhibition subscale reflects individuals who have a preference for out of control situations which often involve illegal drug use or alcohol consumption to lower inhibitions. This description appears at odds with an individual who shows the intention to "donate money to help victims of a natural disaster" or who would "campaign for better human rights for citizens in countries where human rights violations are high". However, Wallbank (1985) suggests that actions that appear to be in contrast, such as helping and delinquency, can both be explained as a result of individuals having a need for novel stimuli. Indeed, Wallbank (1985) found that the same individuals who reported higher drug use were also more likely to volunteer to help in a later experiment than those who had lower drug use. Therefore, disinhibition is likely related to considerate altruistic intentions

because disinhibited individuals seek novel stimuli/experiences.

Table 8 shows that social dominance has a negative relationship with considerate altruism, meaning that lower scores on the social dominance measure are related to higher scores on the considerate altruistic intentions measure. This means that individuals who have an egalitarian view of group relations and believe in social equality are more likely to demonstrate considerate altruistic intentions compared to individuals who place certain groups in society above others and are less concerned with social equality. This finding is supported by previous research which found that high social dominance scores were negatively correlated with altruism (Pratto et al., 1994). In relation to the altruistic items that considerate altruism represents, this finding suggests that people who display an intention to carry out considerate altruistic acts may be more likely to be altruistic towards outgroup members (i.e. by donating money to provide humanitarian aid for civilians in war-torn countries) and to those from disadvantaged backgrounds (i.e. by volunteering to teach underprivileged children to read).

Table 8 also shows that there is a positive relationship between emotional reactivity and considerate altruism. This suggests that individuals who experience an emotional reaction in response to other people's mental states are more likely to show intentions to be considerately altruistic. Emotional reactivity is similar to the concept of emotional empathy (Lawrence, Shaw, Baker, Baron-Cohen, & David, 2004), which has been found to have a positive relationship with altruism in previous research (Batson, 1992; Batson et al., 2011; Batson et al., 1988). Batson et al., (2011) posits that altruism is the mechanism underlying altruism and as it is other-orientated in nature, this shows that true altruism does exist.

Heroic altruism predictor model. Table 9 shows which predictors made a significant contribution to the heroic altruistic intentions model. Agreeableness and openness are the predictors that are unique to this model and will be discussed throughout this section.

Agreeableness has a positive relationship with heroic altruistic intentions which means that people who can be characterized as sympathetic, kind, cooperative and/or warm are more likely to demonstrate heroic altruistic intentions, than people who see themselves as critical and/or quarrelsome. This is supported by previous research which found that agreeableness was predictive of participants intent to become an organ donor (Hill, 2016). Furthermore, agreeableness was found to be positively correlated with characteristics that underlie kin and reciprocal altruism (Ashton et al., 1998) and altruism carried out towards friends and acquaintances (Oda et al., 2014). Agreeableness has also been linked to the altruistic personality and is seen as an other-orientated motive for helping (Avdeyeva et al.,

2006; Graziano & Eisenberg, 1997; Graziano et al., 2007; Penner et al., 1995).

Openness has a negative relationship with heroic altruistic intentions, meaning that individuals who are less open to new experiences and prefer to be in situations that are familiar to them or who hold more traditional values are more likely to demonstrate the intention to carry out heroic altruism. This finding is in contrast with previous research which found that individuals who carry out altruism towards strangers have higher scores on the openness dimension (Oda et al., 2014) and that individuals who intend to be organ donors are more likely to be open (Demir & Kumkale, 2013).

Study 3 and 4: Validation of Altruistic Intentions Questionnaire

The aim of study 3 was to validate the altruistic intentions questionnaire used in study 2. It is important to validate this questionnaire, as intentions can be predictive of future behaviour (Sheppard, Hartwick, & Warshaw, 1988). Research has demonstrated that intentions are predictive of condom use (Sheeran & Orbell, 1998), future offspring (Islam & Bairagi, 2003), diet (Conner & Sparks, 1996), physical activity (Norman & Smith, 1995), weight loss (Bagozzi & Warshaw, 1990), voting (Bassili, 1993), playing the lottery (Sheeran & Orbell, 1999), ecstasy use (Conner, Sherlock, & Orbell, 1998) and blood donation (Warshaw, Calantone, & Joyce, 1986).

Therefore, study 3 validates the considerate altruistic intentions component of the altruistic intentions questionnaire. This is achieved by measuring the altruistic intentions of undergraduate psychology students enrolled at the University of East Anglia. Two weeks later the same students are asked to provide retrospective self-reports of their prior helping behaviour, to see if these match their intentions to help.

Study 4 provides validation of the heroic altruistic component of the altruistic intentions questionnaire, by measuring the altruistic intentions of a group of volunteers known to be heroic.

Study 3: Validation of the Considerate Altruistic Intentions Component

Study 3: Method

Design

A correlational design was used. There were three independent variables, the first was altruistic intent; which had two levels, considerate and heroic. The second was

considerate altruistic behaviour; which was operationalised as voluntarily going to a website where the participants could answer questions, for every correct question, 10 grains of rice were donated to help end world hunger. Finally, the third variable was self-reported prior altruism, which had two levels; prior considerate altruism (donating money, volunteering) and prior heroic altruism (intervening in a dangerous situation).

Participants

There were 145 participants, who were undergraduate psychology students enrolled at the University of East Anglia. However, of the 145 participants that signed up for part 1 of the study, 19 did not return to complete part 2. Therefore, data from 126 participants was used for data analysis. Of these 126 participants, 18 were male and 108 were female. The sample had an age range of 18-45 (M = 20.25, SD = 3.12). The ethnicity of the sample was 86.5% white, 6.3% mixed race, 4.0% Asian and 3.2% of the sample reported their ethnicity to be “other”. Participants were recruited by the School of Psychology’s recruitment system and compensated for their time with credits that enable them to use the same recruitment system for their third year projects.

Materials

A refined 18 item version (see Appendix 8) of the altruistic intentions questionnaire introduced in study 2 was given to participants. The questionnaire has two components, with 11 items representing considerate altruistic intentions and 7 items representing heroic altruistic intentions. Participants respond to statements such as “I would run into a burning building to rescue someone trapped inside” (heroic) and “I would volunteer at a children’s hospital” (considerate). Participants responded to these statements using a 7-point Likert scale where 1 = strongly disagree and 7 = strongly agree.

A pre-existing website (freerice.com) was also utilised, participants had a choice as to whether or not they visited the website, their decision was recorded, and if they did visit they had the opportunity to do a word matching task. The task requires you to look at a word and then choose a synonym of that word from a list of 4 other words. For every correct answer, 10 grains of rice were donated through the world food programme to help end hunger.

Finally, four questions were designed to examine the historical altruistic behaviour of the participants. Two of these questions were designed to measure historical considerate behaviours; “Have you ever volunteered for any local charities in your spare time?” and “Have you ever donated money or items to charitable organisations before?”. The

remaining two questions were designed to measure historical heroic behaviour; “Have you ever intervened in a dangerous situation to help someone else (who is not your dependent)?” and “Have you ever helped at the scene of an accident in a non-dangerous situation (that did not involve an individual who is your dependent)?”. Participants provided a yes/no response to these questions. If they selected yes, they were then asked to give an example of the behaviour they were thinking of when responding yes. These qualitative responses were collected to ensure that the measures of historical considerate and heroic altruistic behaviour accessed relevant behaviours.

Procedure

Participants were directed to Qualtrics where an online questionnaire had been created. After reading an information sheet (see Appendix 9) participants responded to the 18 item altruistic intentions questionnaire. After this, participants answered some demographic questions and provided their email address. Participants were then given the opportunity to have their data removed from the study, if they did not select this option, they would be contacted in two weeks to complete the second part of the study. At the very end of the questionnaire participants were presented with the following statement:

Thank you for participating in this research. The questionnaire is now complete.

If you would like to support the "United nations world food programme” then please select "answer questions and donate rice" below and you will be redirected to their website. For each question you answer correctly, 10 grains of rice will be donated to hungry individuals. If you do not want to answer questions and donate rice, then select "End questionnaire".

A minimum of two weeks later, participants were contacted via the email address they provided and invited to complete the second part of the study. Once again participants were directed to Qualtrics and provided with a new information sheet (see Appendix 10). If participants decided to continue, they were presented with the following statement:

Please read the following questions carefully. You should answer these questions in relation to behaviours you have performed outside of paid employment. Please note that some of the questions are quite broad and may relate to many different behaviours. If you are unsure as to whether the behaviour you are thinking of is relevant or not, you

should answer yes, as there will be an opportunity for you to give an example and the relevance can then be determined by the researchers.

Participants were then presented with the four questions which measured historical considerate and heroic altruistic behaviour. If they indicated that they had performed the behaviour is the past they would then provide an example. After this, participants were thanked for their participation, debriefed (see Appendix 11) and given one final opportunity to remove their data from the study.

Study 3: Results and Interpretation

The purpose of this study was to examine the relationship between altruistic intentions and behaviours. Specifically, whether the altruistic intentions questionnaire devised by the researchers had predictive value for behaviours, or whether the intentions were unrelated to behaviour. Firstly, the qualitative responses given by participants were examined to see whether the questions had internal validity. Participants responded to the questions about volunteerism, donating money or items and intervening in a dangerous situation as anticipated. However, the answers given when participants responded to the question about helping at the scene of an accident indicated a lack of internal validity, as the behaviours described seemed more considerate than heroic, for example, one participant's example was "*an old man was blown over by the wind and dropped his shopping. I helped him up and gathered his shopping for him*". Therefore, we made the decision not to include responses to the question "Have you ever helped at the scene of an accident in a non-dangerous situation (that did not involve an individual who is your dependent)?" in the analysis.

Firstly, binary logistical regression was carried out to see whether considerate altruistic intentions or heroic altruistic intentions were better predictors of the altruistic behaviour of answering questions in order to donate rice through the world food programme. The predictor model is presented in table 11 and shows that considerate altruistic intentions are a significant contributor to the model whilst heroic altruistic intentions are not. This is as anticipated, as it shows that participants who have high considerate altruistic intentions (say they would do considerate behaviours) are more likely to behave in a considerate way.

Table 11. *Binary Logistical regression model for considerate altruistic behaviour of donating rice.*

		95% CI for odds ratio		
	B (SE)	*Lower*	*Odds Ratio*	*Upper*
Donate Rice (Constant)	-5.30 (1.41)			
Heroic Intentions	-0.05 (0.22)	0.62	0.95	1.46
Considerate Intentions	1.22 (0.26)*	2.05	3.38	5.60

Note: R^2 = .18 (Hosmer & Lemeshow), .20 (Cox & Snell), .29 (Nagelkerke). Model $\chi^2(1) = 32.83$, $p<.001$. *$p<.001$

Secondly, a multinomial logistical regression was carried out to see whether considerate altruistic intentions or heroic altruistic intentions were better predictors of the considerate behaviours we asked participants if they had performed in the past (volunteered, donated). The results of this analysis are presented in table 12, which demonstrates that considerate altruistic intentions, but not heroic altruistic intentions are significant predictors of whether participants have previously been a volunteer or donated money or items to charity. Considerate altruistic intentions are an even stronger predictor of participants having done both of these behaviours.

Table 12. *Multinomial logistical regression model for historical considerate altruism.*

		95% CI for odds ratio		
	B (SE)	*Lower*	*Odds Ratio*	*Upper*
One considerate behaviour vs None				
Intercept	-1.71 (1.67)			
Heroic Intentions	0.02 (0.31)	.56	1.02	1.87
Considerate Intentions	0.70 (0.31)*	1.09	2.00	3.69
Both considerate behaviours vs None				
Intercept	-4.32 (1.94)			
Heroic Intentions	0.17 (0.34)	.61	1.18	2.28
Considerate Intentions	0.97 (0.35)**	1.34	2.64	5.21

Note: R^2 = .08 (Cox & Snell), .10 (Nagelkerke). Model $\chi^2(4) = 10.94$, $p = .027$. *p=.026, **p=.005

Finally, to examine whether heroic altruistic intentions were predictive of having previously carried out a heroic behaviour (intervening in a dangerous situation), rather than considerate altruistic intentions, a binary logistical regression was conducted. The results of this analysis are presented in table 13 and demonstrate that whilst heroic altruistic intentions have a descriptively positive relationship with past heroic behaviour, neither heroic nor considerate altruistic intentions are significant contributors to the model.

Table 13. *Binary logistical regression model for heroic behaviour of intervening in a dangerous situation.*

		95% CI for odds ratio		
	B (SE)	*Lower*	*Odds Ratio*	*Upper*
Dangerous Situation (Constant)	-2.326 (1.32)			
Heroic Intentions	0.276 (0.22)	0.86	1.32	2.02
Considerate Intentions	-0.00 (0.22)	0.65	1.00	1.54

Note: R^2 = .01 (Hosmer & Lemeshow), .01 (Cox & Snell), .02 (Nagelkerke). Model $\chi^2(1) = 1.83$, $p = .40$. Heroic and considerate .21 and .99 respectively

Study 4: Validation of the Heroic Altruistic Intentions Component

The results of study 3, provide evidence that the considerate altruistic intentions component of the altruistic intentions questionnaire is predictive of considerate altruistic behaviour. However, the heroic component of this measure was not validated, as heroic intentions were not predictive of heroic behaviour. The sample used for study 3 was made up of university students who had a mean age of approximately 20. It is therefore possible that these individuals demonstrate heroic altruistic intentions but have not yet had the opportunity to behave heroically given their limited life experiences. Whilst study 3 measured participant's altruistic intentions and then contacted them at a later date to measure their prior altruistic behaviour, study 4 will measure the altruistic intentions of a group of known heroic altruists, to see whether they display higher heroic altruistic intentions than considerate altruistic intentions.

Study 4: Method

Design

A repeated measures design was used, where heroic mountain rescue volunteers indicated the extent to which they had both considerate and heroic altruistic intentions.

Participants

One hundred and fifty-six participants were recruited from the organisation "mountain rescue". Of these 156 participants, 132 were male and 24 were female. The sample had an age range of 19-74 (M = 49.88, SD = 11.86). The ethnicity of the sample was predominantly white, with 98.1% of the participants self-defining as white, 0.6% defining as Hispanic and 1.3% defining as "other" (i.e. not white, black, Asian, Hispanic or mixed race). To insure internal validity, the participants were also asked about their role within mountain rescue, 93.6% of the participants stated that they currently go on search and rescue expeditions. The remaining 6.4% did not currently go on search and rescue expeditions but had previously. Participation was incentivised using a prize draw which participants opted into for the chance to win a £20 gift certificate.

Materials

The 18 item altruistic intentions questionnaire (see Appendix 8) introduced in study 2 and used for study 3, was once again utilised to measure considerate and heroic altruistic intentions. The measure includes 11 items measuring considerate intentions and 7 which measure heroic intentions.

Procedure

Individuals who volunteer for mountain rescue were emailed a link to an online questionnaire which was distributed via the mountain rescue press office. The link took participants to Qualtrics where they viewed an information sheet (see Appendix 12) and then if they still wanted to participate, they completed the altruistic intentions questionnaire and provided demographic information. Participants were then debriefed (see Appendix 13) and given a final opportunity to withdraw. Finally, participants were asked if they wanted to enter the prize draw.

Study 4: Results and Interpretation

To examine whether individuals who are known to be heroic have higher heroic altruistic intentions than considerate altruistic intentions, a repeated measures t-test was

conducted. The mean score given to the considerate items was 4.69 (SD = 1.25) and the mean score given to the heroic items was 5.21 (SD = 0.95) suggesting that the mountain rescue participants did display intentions to behave heroically more so than intentions to behave considerately (see figure 4). A repeated measures t-test found that the two means were significantly different, t (155) = -5.04, $p < .001$, r = 0.14 (small effect).

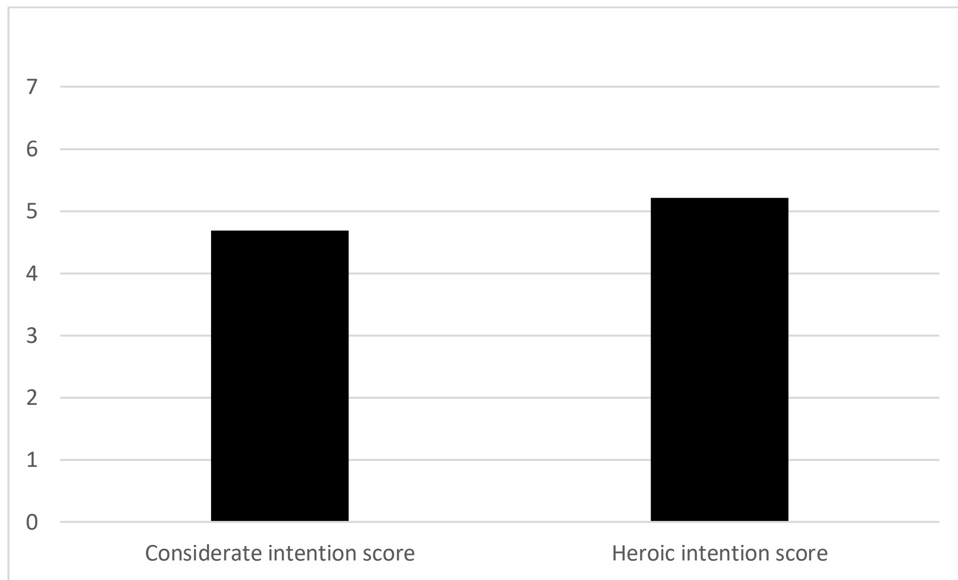

Figure 4. Mean altruistic intention scores of mountain rescue volunteers.

In addition, a 2 (heroic vs considerate) x 2 (Mountain Rescue vs Undergraduates) mixed ANOVA was conducted, using participant responses to the altruistic intentions measure in studies 3 and 4. This allows for an examination of the interaction between type of altruism and the different populations sampled. A significant interaction effect was found, F (1, 280) = 91.29, $p < .001$, $\eta_p^2 = 0.25$ (large effect), suggesting that the considerate and heroic altruistic intentions of mountain rescue volunteers and undergraduate students do significantly differ. Planned comparisons revealed that mountain rescue volunteers had higher heroic altruistic intention score (M = 5.21, SE = 0.08) than the undergraduate students (M = 4.45, SE = 0.09), $p < .001$. Whereas undergraduate students had a higher considerate altruistic intention score (M = 5.39, SE = 0.10) than the mountain rescue volunteers (M = 4.69, SE = 0.09), $p < .001$. For a graphical depiction of the above interaction, see figure 5 below.

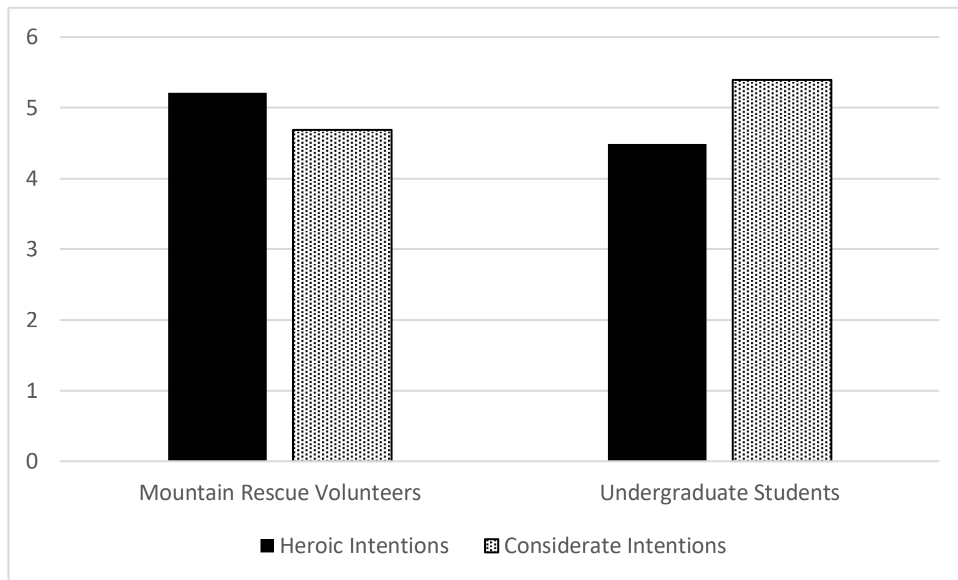

Figure 5. Mean altruistic intention scores for mountain rescue and undergraduate students.

Chapter 5: Discussion

The aim of this chapter was to see whether participants demonstrate intra-individual variation in altruistic intentions, therefore demonstrating that they distinguish between altruistic behaviours. By submitting the altruistic intentions questionnaire to PCA two stable components were produced, with component 1 representing considerate altruism and component 2 representing heroic altruism. This shows that as predicted, participants do demonstrate intra-individual differences in altruistic intentions. Whilst previous research (i.e. Griskevicius et al., 2007) has demonstrated that men are more likely to behave heroically and women are more likely to carry out altruistic behaviours that put nurturing characteristics on display, study 2 is the first to not pre categorise altruistic behaviours without knowing how they are perceived by participants and instead use participants' responses to form groupings of altruistic behaviours so that said groupings are reflective of participants distinctions between altruistic behaviours. The comparison of the qualitative content analyses presented in chapter 4, suggested the potential for three altruistic components – whilst considerate and heroic behaviours have been grouped as anticipated, philanthropic altruism has been subsumed within the considerate component. The reason for this is likely that the acts of philanthropy within the newspaper articles usually related to large donations, often in excess of £1million, whereas the research here included charitable giving on a much smaller scale. It is likely that whilst newspapers differentiate between considerate everyday acts of altruism and large donations, participants do not

differentiate between considerate everyday acts of altruism and small donations.

Furthermore, the results of the multiple regression analysis show that whilst there are personality variables that are common to both altruistic components, such as reported altruism and communal orientation, each predictor model has some unique variance explained by personality variables that are singularly associated to only one altruistic component. This suggests that individuals may vary in the altruistic intentions they display because of variations in their personality. For instance, having a low social dominance orientation (believing in equality for different groups of individuals) will increase the likelihood that someone will demonstrate intentions to behave in a considerate altruistic manner, whereas the current study suggests this same individual would be less likely to demonstrate intentions to carry out heroic altruism. These variations in personality amongst altruists make sense in relation to the finding that individuals do demonstrate intra-individual differences in altruistic intentions.

The predictor models suggest that further research should be conducted to examine the relationship between personality variables and both considerate and heroic altruism. Previous research into the empathy-altruism hypothesis has suggested that empathy-induced helping can be motivated by other-orientated ultimate goals (Batson et al., 1989; Batson et al., 1981; Batson et al., 1988; Batson et al., 1983; Batson et al., 1997; Fultz et al., 1986; Toi & Batson, 1982). Whilst emotional reactivity, a component of the empathy measure used in the current research, is predictive of considerate altruistic intentions, it is not predictive of heroic altruistic intentions. Furthermore, communal orientation, is predictive of both sets of altruistic behaviours. Communal orientation can be understood as people showing a willingness to meet the needs and share with those engaged in communal relationships with them, without a direct exchange being required, but there is still an expectation that one's own needs will be met by communal partners (Fiske, 1992). Therefore, helping that occurs because of a communal orientation, is unlikely to be other-orientated, when there is some form of reciprocity. In addition, because of the measure of empathy used in the current research, emotional reactivity rather than empathic concern was entered into the predictor model, which means that emotionally reactive people may show greater intentions to help in considerate contexts because of personal distress, rather than other-orientated ultimate goals (Batson & Coke, 1981; Batson et al., 1981; Batson et al., 1987; Batson et al., 1983). However, the inclusion of multiple predictors whilst examining helping behaviours expands previous research conducted by Batson and colleagues, who explore just one egoistic alternative to the empathy-altruism hypothesis at

a time (Sober & Wilson, 1999). Whilst the bivariate correlations suggest there is a moderate relationship between emotional reactivity and heroic behaviours, emotional reactivity is not predictive of heroism when other variables are considered. Instead, agreeableness appears to be the other-orientated motivation for heroic altruistic intentions. This may suggest that having an altruistic personality, which agreeableness is one indicator of, may be predictive of heroic but not considerate altruistic intentions. This highlights the importance of examining multiple potential motivators, which underlie self-orientated and other-orientated motives, when trying to resolve the egoism-altruism debate.

The aim of study 3 and 4, was to demonstrate the validity of the altruistic intentions questionnaire by establishing that considerate and heroic altruistic intentions do have a positive relationship with considerate and heroic altruistic behaviour respectively. In relation to the considerate component of the altruistic intentions questionnaire, the results demonstrate that participants who have higher considerate altruistic intentions also have a history of carrying out considerate behaviours such as volunteering/donating, and that this history is predictive of current intentions to behave altruistically. Furthermore, participants who had high considerate altruistic intentions were also more likely to go to a website where they had the opportunity to donate rice through the world food programme to help feed those that are suffering the most from hunger (a considerate behaviour). In relation to the heroic component of the altruistic intentions questionnaire, participants who had high heroic altruistic intentions were not significantly more (or less) likely to have previously carried out heroic behaviours. However, this may be down to the population sampled (undergraduate university students) not having had enough life experience to be able to act in a heroically altruistic manner. The results of study 4, provides validation for the heroic altruistic intention component. Study 4 asked individuals who were mountain rescue volunteers and were therefore known to be heroic to complete the altruistic intentions measure. The results showed that these participants had significantly higher heroic altruistic intentions than they did considerate altruistic intentions – giving validity to the heroic altruistic intentions measure.

There are some limitations to this research, firstly participants intentions to participate in the heroic behaviours, may have been impacted by the physicality of the behaviours depicted – for example if participants had a physical disability or were weak swimmers, they may not ever intend to perform these behaviours, not because of the inherent risk, but because of the increased risk due to their individual circumstances. Secondly, there are other variables that could have been included in the multiple regression

analyses as predictors, but because of the sample size, some variables were omitted (i.e. age) to preserve the robustness of the models created. Finally, the empathy quotient was used to assess self-reported empathy (Baron-Cohen & Wheelwright, 2004). This measure does not control for personal distress (Lawrence et al., 2004), meaning that the positive relationship between emotional reactivity and considerate altruistic intentions, cannot be said to demonstrate that individuals displaying considerate altruistic intentions are motivated by an other-orientated ultimate goal (although it could indicate this). This is because if the participants are more likely to experience personal distress in response to someone else's unfortunate circumstances, then they may help that person, but only to improve their own emotional state (Batson et al., 1987). This would make helping an instrumental goal, which is one step in the journey to reducing personal distress (the ultimate, self-orientated goal). However, previous researchers have found that the emotional reactivity scale has moderate correlations with empathic concern, but not with measures of personal distress (Lawrence et al., 2004). Therefore, I tentatively suggest that considerate altruistic behaviour is motivated by empathic concern and is therefore a candidate behaviour for true altruism. The relationship between empathy and considerate and heroic altruistic behaviour will be examined in study 5, this time using Davis's (1980) empathy questionnaire which does control for personal distress.

In summary, study 2 demonstrates that participants do distinguish between altruistic behaviours by showing varying intentions to conduct altruistic behaviours. Two altruistic categories of behaviour, considerate behaviour and heroic behaviour, have been found across two principal component analyses. These findings provide partial support for the findings of study 1 (see chapter 4) as two of the three suggested categories of altruistic behaviour have been supported. Most importantly, study 2 provides further support that different altruistic behaviours are perceived differently. It is therefore important, given the predictions of costly signalling theory, to examine whether there are differences in the desirability of considerate and heroic altruists in romantic and non-romantic relationship contexts (see studies 6-9, chapter 7) and to see whether there are differences in the characteristics that observers attribute to considerate vs heroic altruists (see study 10, chapter 7). Furthermore, study 2 demonstrates what personality variables are predictive of participants displaying considerate altruistic intentions and heroic altruistic intentions. Emotional reactivity and agreeableness are predictive of considerate altruistic intentions and heroic altruistic intentions respectively. Study 5 (see chapter 6) will examine the relationship between these variables and egoistic alternatives with considerate and heroic

altruistic behaviour. Finally study 3 and 4 demonstrate that the altruistic intentions measure is associated with altruistic behaviour, as considerate altruistic intentions are predicted by historical considerate acts and heroic volunteers demonstrate significantly higher heroic altruistic intentions than considerate altruistic intentions.

Chapter 6: The Relationship Between Empathic Concern and Considerate and Heroic Altruism

Chapter 6: Overview

This chapter aims to explore the relationship between empathic concern and two forms of altruistic behaviour: Considerate altruism and heroic altruism. Study 1 (see chapter 4) found that altruistic behaviours depicted within newspaper articles are differentiated between. This differentiation is largely in relation to the consequences and characteristics associated to the altruistic behaviour or the individual carrying out the behaviour – rather than differences in the underlying motivations behind the behaviours. In study 2 (see chapter 5), a PCA produced two altruistic components which are representative of considerate altruistic behaviours, such as donating money, items or volunteering and heroic altruistic behaviours, such as intervening in dangerous situations. Furthermore, predictor models for each altruistic component were created, which demonstrated the likely factors that influenced whether participants showed intentions to behave considerately or heroically. One finding of interest was that emotional reactivity, which correlates with the empathic concern dimension of Davis' (1980) empathy questionnaire, but does not control for personal distress (Lawrence et al., 2004), was a significant predictor of considerate altruistic intentions but not heroic altruistic intentions. This finding warrants further investigation given the ongoing egoism-altruism debate, where empathy has been suggested as the motivating mechanism for true altruism (Batson et al., 2011; Batson & Powell, 2003; Batson & Shaw, 1991) (see chapter 3).

Study 5: Considerate Altruism, Heroic Altruism and Empathic Concern

True altruism is when a behaviour is carried out, to meet the needs of another individual without consideration of any anticipated self-benefits (Batson & Coke, 1981). Research has explored whether empathy-induced helping is motivated by true altruism or, as an opposing perspective suggests, egoism. This has been done by seeing whether participant's helping in experimental studies is best explained by the empathy-altruism hypothesis or an egoistic alternative. The empathy-altruism hypothesis predicts that empathic concern motivates an individual to help meet the needs of someone else, and this help is deemed altruistic if it is an end in itself and not a means to a different, selfish, ultimate goal (Batson & Shaw, 1991). Egoistic alternatives suggest that empathy-induced helping occurs because it helps an individual meet a selfish ultimate goal, such as reducing personal distress (Batson et al., 1981; Batson et al., 1983; Toi & Batson, 1982), to avoid being negatively evaluated by others (Fultz et al., 1986), to avoid self-imposed punishments for not helping when one feels they should (Batson et al., 1988), to share in the joy when the need of another individual is met (Batson et al., 1991; Smith et al., 1989), to gain mood enhancing benefits from helping (Batson et al., 1988) or to relieve themselves of the negative state created by empathic concern (Cialdini et al., 1987). Research has overall supported the empathy-altruism hypothesis, however, as discussed in chapter 3, the approach taken by Batson and colleagues has been criticised for not considering multiple egoistic explanations at a time and for not exploring that alternative other-orientated concepts may be responsible for motivating altruism instead of empathy (Maner et al., 2002; Neuberg et al., 1997; Sober & Wilson, 1999).

To continue exploring the relationship between empathy and both considerate and heroic altruism, the current research will extend upon the research conducted in chapter 5, where it was found that emotional reactivity was a unique predictor of considerate altruistic intentions but not heroic altruistic intentions. Study 5 will go beyond measuring intentions to behave altruistically, by also examining altruistic behaviours. Zero order correlations between empathic concern and considerate and heroic altruistic intentions will be examined, but to ensure empathic concern is a unique predictor, predictor models will be created which includes alternative egoistic motivators.

Hypothesis 1: Empathic concern will have a positive relationship with the considerate altruistic behaviour.

Hypothesis 2: The relationship between empathic concern and the considerate altruistic

behaviour will be stronger than the relationship between empathic concern and the heroic altruistic behaviour.

Study 5: Method

Design

A correlational design was used in an experimental setting which utilised repeated measures. Participants completed the Empathy Questionnaire (Davis, 1980) which measured empathic concern through self-report. Considerate altruistic behaviour was operationalised as adding more time to a maths test in order to reduce the number of times another participant had to place their hand in cold water and experience pain (the cold pressor test). Heroic altruistic behaviour was operationalised as volunteering to complete trials on a cold pressor test in lieu of another participant. Agreeableness, communal orientation, anxiety about performing the cold pressor test, pain experienced whilst completing the cold pressor test, anxiety about completing the maths test, boredom whilst completing the maths test, considerate altruistic intentions and heroic altruistic intentions were also measured in order to be able create predictor models, for each altruistic behaviour.

Participants

The experiment was completed by 98 participants, however, the data of one participant was removed because during the debrief they revealed that their responses were not caused by the manipulation but by unrelated external factors. Therefore, the data analysed was comprised of responses from 64 women and 33 men, with an age range of 18-77 (Mean = 26.54, SD = 13.98). The sample was predominantly White (74.2%), but also included individuals that self-defined as Asian (17.5%), Black (4.1%), Mixed race (3.1%) and other (1%). Participants were recruited via a mailing list which they had signed up to via the School of Psychology webpages at the University of East Anglia. They received an email which advertised the study and responded if they were interested in participating. Participants were not able to participate if they 1) had a history of cardiovascular disorder, 2) had a history of fainting or seizures, 3) had any cuts or sores on their non-dominant hand, 4) had a history of frostbite, 5) had a history of Reynaud’s phenomena (where their hands turn white then blue when exposed to cold and then become red once warmed), 6) had recently taken analgesics i.e. paracetamol (within the past 6

hours), 7) were currently experiencing significant pain and/or 8) were under 18 years old. Participants were compensated for their time with a payment of £8.50.

Measures and Apparatus

Participants completed the following measures; an 18-item altruistic intentions questionnaire (see Appendix 8) which was devised by the researchers and included items such as “I would run into a burning building to try and rescue someone trapped inside” and “I would volunteer to help teach underprivileged children to read”. The 14-item communal orientation scale (Clark et al., 1987) which includes items like “It bothers me when other people neglect my needs” and “I don’t especially enjoy giving others aid”. Participants responded to the altruistic intentions measure and the communal orientation scale using a 7 point Likert scale which raged from strongly disagree (1) to strongly agree (7). Participants completed the Ten Item Personality Inventory (Gosling et al., 2003) to operationalise the variable of agreeableness, and responded to items like “I see myself as sympathetic, warm” and “I see myself as critical, quarrelsome”. Participants also completed the 28-item empathy questionnaire (Davis, 1980), which has four dimensions; fantasy dimension (“I really get involved with the feelings of the characters in a novel”), perspective taking dimension (“I believe that there are two sides to every question and try to look at them both”), personal distress dimension (“I tend to lose control during emergencies”) and the empathic concern dimension (“I am often quite touched by the things that I see happen”). Participants responded to the items of the empathy questionnaire using a 5-point Likert scale, ranging from “does not describe me well” (0) to “describes me very well” (4). Finally, the 16-item social dominance orientation scale (Pratto et al., 1994) and the Brief Sensation Seeking Scale-4 (Stephenson et al., 2003) were also administered to participants, to distract them from identifying the aims of the study, but were not used in the subsequent analysis.

For the cold pressor test, a Techne B-18 stainless steel water bath with TE-10D thermos-regulator and RU-100 dip cooler was used to keep water at a temperature of 6.5 degrees Celsius (+/- 0.2 degrees). Another water bath was used to hold water at room temperature. A stopwatch was also used to measure how long participants kept their hand in the cold water.

A maths test was created by the researchers which consisted of 10 questions (see Appendix 14). For example, (562-313) + (12/3) = ___. Participants also completed

measures of anxiety, boredom and pain, where they indicated on an 11 point scale how much anxiety, boredom or pain they had experienced at specific stages of the experiment, where 0 = no anxiety/boredom/pain and 10 = extreme anxiety/boredom/unbearable pain.

Procedure

Once participants had expressed interest in participating in the study and were confirmed to be eligible, they were matched with another participant who was the same gender as them. Both participants were then invited to attend a testing session in the School of Psychology at the University of East Anglia. It was ensured that participants did not know each other prior to the experiment. Participants were informed that the testing session would take approximately one hour and that they would be compensated £8.50 for their time. Once in the laboratory, the participants confirmed that they were still eligible and read an information sheet (see Appendix 15). If participants were eligible and wanted to continue, they read and signed a consent form (see Appendix 16).

Participants were told that they would each perform at least one trial of the cold pressor test, which required them to submerge their hand in cold water and would create a sensation similar to chronic pain. They would also have to answer at least 10 math questions. They were told that after these initial tasks, they would be assigned to a condition where they would 1) complete 10 more trials of the cold pressor test or 2) complete a 20 minute math test. Participants were told that the conditions would be randomly assigned. Participants then gave informed consent and the researcher randomly assigned the conditions by flipping a coin, having one participant call heads or tails and depending on the outcome, one of the participants selected a blue folder or a yellow folder. At this point, the participants were not able to look inside the folder but were told they would be given it later on.

After this participants completed the questionnaires, including the empathy questionnaire. Once these were completed, one participant completed the 10 maths questions in a room by themselves whilst the other participant completed a single trial on the cold pressor test in a different room.

The participant completing the 10 maths questions was told that the questions were very similar to the types of questions on the 20 minute math test condition, that they should answer the questions to the best of their ability without using a calculator, but they could show their workings out on either side of the page if they wished and they were told to wait in the room until the researcher returned. Once the researcher returned, the participant was

asked to answer two questions, one measured the extent to which they felt anxious whilst answering the 10 math questions and the other measured the extent to which the participant felt bored whilst answering the 10 math questions. Participants who completed the math test first would then go on to complete a single trial on the cold pressor test.

The participant completing the single trial on the cold pressor was asked to remove any jewellery from their non-dominant hand and asked to wash their hands with soap and water. The participant was then led to a water bath which contained room temperature water. They were instructed to place their hand in the water so that it was fully submerged, with their palm facing upwards, with their fingers spread and with the back of their hand away from the base of the bath so there was water all around their hand. They were asked to keep their hand like this for 60 seconds to acclimatise them, this was timed by the researcher. Whilst the participants hand was in the room temperature water, they were told that they would be given a 10 second warning when the 60 second mark was approaching. Once the 60 second period was over, they would be asked to move straight to the cold pressor test. It was reiterated to the participant that they had complete control over the situation, that the aim was for them to keep their hand in the cold water for as long as they could tolerate it, but that there was no minimum time they had to leave their hand in the cold water for and that they could remove it whenever they needed to without asking the researcher for permission. Once the 60 seconds was up, participants moved over to the cold pressor test and were told again to keep their hand in the water for as long as they could but remove it as soon as they needed to. If participants left their hand in the bath for over two minutes, they were told that there was a maximum time they could leave their hand in for, and they could still choose to remove their hand whenever they wished, but that they would be given further instructions once they were approaching the maximum time. If the participant kept their hand in for 3 minutes 30 seconds the researcher would inform them that they were approaching the maximum time, that they could still remove their hand whenever they wished, but once the researcher began to count to 10 out loud, they would need to remove their hand once the researcher reached 10. After the cold pressor test, participants were given the option of washing their hands again and provided with paper towels. They were then asked to answer two questions, one which measured the extent to which they felt anxious whilst completing the cold pressor test and another which measured the extent to which they felt pain during the cold pressor test. Participants who completed a trial of the cold pressor test first would then answer the 10 math questions.

Once both participants had completed both of these tasks, they were told that they

would be given the folders that were randomly allocated earlier. They were reminded that one folder contained the cold pressor test condition and would require the participant to complete 10 more trials of the cold pressor test and that the other folder contained the 20 minute math test condition. In reality, both folders contained identical instructions, which told the participants they were allocated to the 20 minute math test condition and the other participant would be doing 10 more trials on the cold pressor test. Participants looked at the contents of their folder in separate rooms. After seeing that they were in the 20 minute math test condition, they were given the following opportunity to help:

The other participant has been allocated to the cold pressor test condition, which means they are required to complete 10 trials of the cold pressor test. Because this is the condition that can result in distress for the participant, you are being given the opportunity to reduce the number of cold pressor trials they have to do. You can do this by ….

A) Adding more time to your maths test. *For every 5 minutes you add to the maths test, you will reduce the number of trials the other participant does by one.*

B) Volunteering to complete some of their cold pressor trials. *After you have completed your 20 minute maths test, you can complete some trials on the cold pressor test. For every trial you volunteer to complete, you reduce the number of trials the other participant completes by 1.*

You will indicate the extent to which you are willing to add time to your maths test AND volunteer to complete trials on the cold pressor test, however, the researcher will randomly select your response to either "A" or "B". If "A" is randomly selected the number of minutes indicated by you will be added to your maths test. If "B" is randomly selected the number of trials you volunteer for will be completed by you after the maths test. You will NOT be required to do both. The other participant will not be made aware that you have been given the opportunity to reduce the number of cold pressor trials they perform.

Participants were then presented with a hypothetical example to look at, where a fictional participant named "Alex" was in the same condition as them whilst "Sam" was in the cold pressor test condition, Alex offered to add 5 minutes to his math test and offered to do 1 trial on the cold pressor test. As a comprehension check, participants were asked

"How many trials of the cold pressor test will Sam have to complete?", with the correct answer being nine. Participants were then asked to indicate how much time they would add to their maths test (options were 0, 5, 10, 15, 20, 25, 30, 35, 40, 45 and 50) and how many trials of the cold presser test they would be willing to complete after their maths test (options were 0-10). The considerate altruistic behaviour was operationalised as adding time to a maths test, rather than adding more sums to a maths test, because this avoided a potential confounding variable; ability to perform mathematical tasks. For example, someone with a greater ability to solve maths problems would be at an advantage and complete sums quicker, than someone with less ability. This could mean, that someone with less ability would fear how long it would take them to complete additional problems. This could create a situation where someone with excellent mathematical ability adds more sums, and is therefore viewed as more altruistic, but the cost, in terms of time, is higher to an individual who added fewer sums, but has poor mathematical ability. Therefore, by using time as opposed to sums, an "equal playing field" was created, that did not require participants to factor in their ability to solve maths problems, and subsequently, increased the studies internal validity. Once participants answered these questions, the researcher checked their answer to the comprehension question, if the participant had not given the correct answer, the researcher walked through the example with them to insure they understood. Participants were then given the opportunity to alter their offers to help if they wished to.

Once both participants had completed their offers to help, they were informed that the study had in fact finished. The deception used was explained to the participants and they were debriefed in relation to the purpose of the study (see Appendix 17). There was also a suspicion check, where participants were asked whether they believed they would have to add time to their maths test/complete some trials on the cold pressor test as per the offers to help they made. Finally, participants were given a last chance to withdraw their data from the study.

Study 5: Results and Interpretation

Histograms were produced to visually represent participant responses to adding time to a maths test (see figure 6) and volunteering to complete trials on a cold pressor test (see figure 7). The histograms suggest that participants who added over 35 minutes to a maths test and who volunteered to complete 10 trials on the cold pressor test, may be

outliers. To examine this further the interquartile range method was used to identify outliers, see figure 8 and 9.

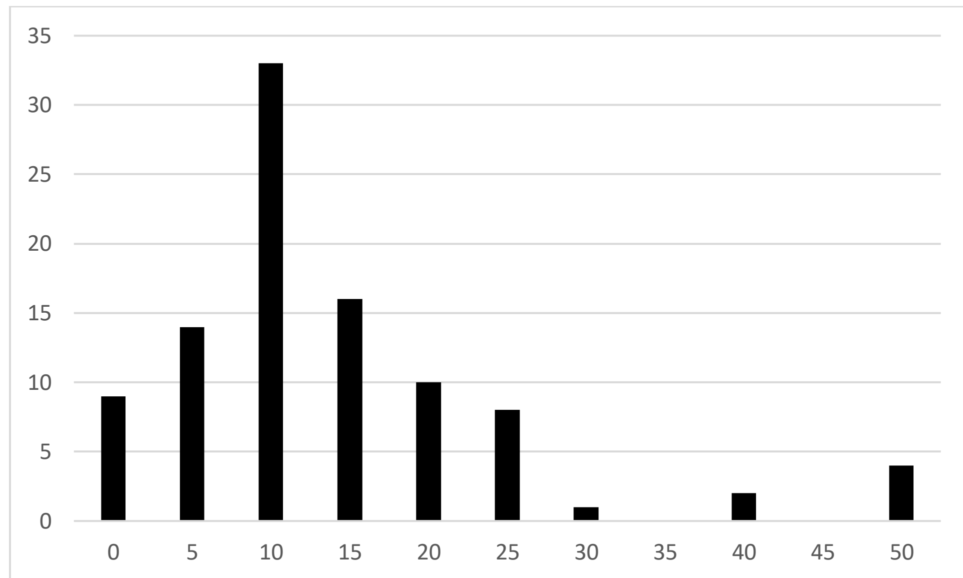

Figure 6. Histogram showing the distribution of responses in relation to adding time to a maths test.

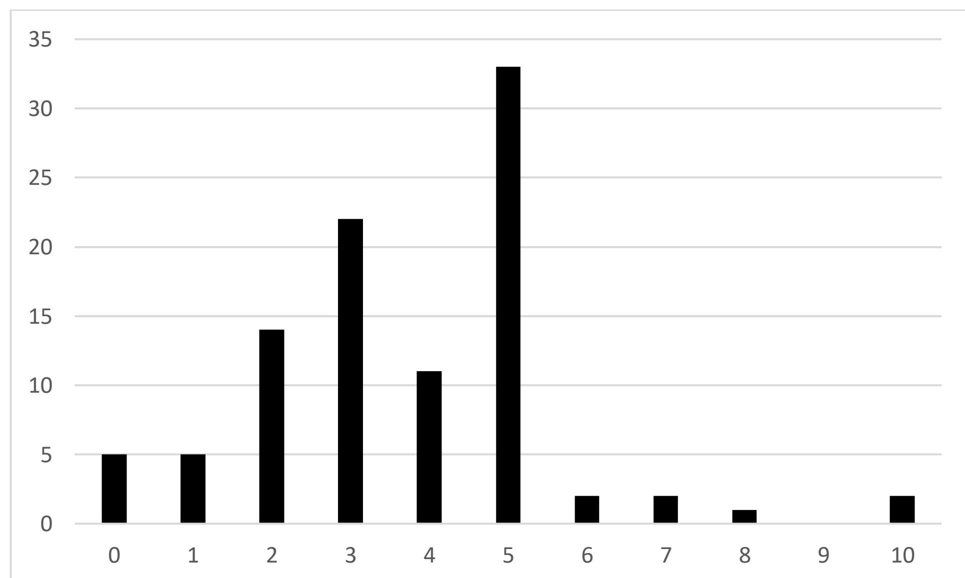

Figure 7. Histogram showing the distribution of responses in relation to volunteering to complete cold pressor test trials.

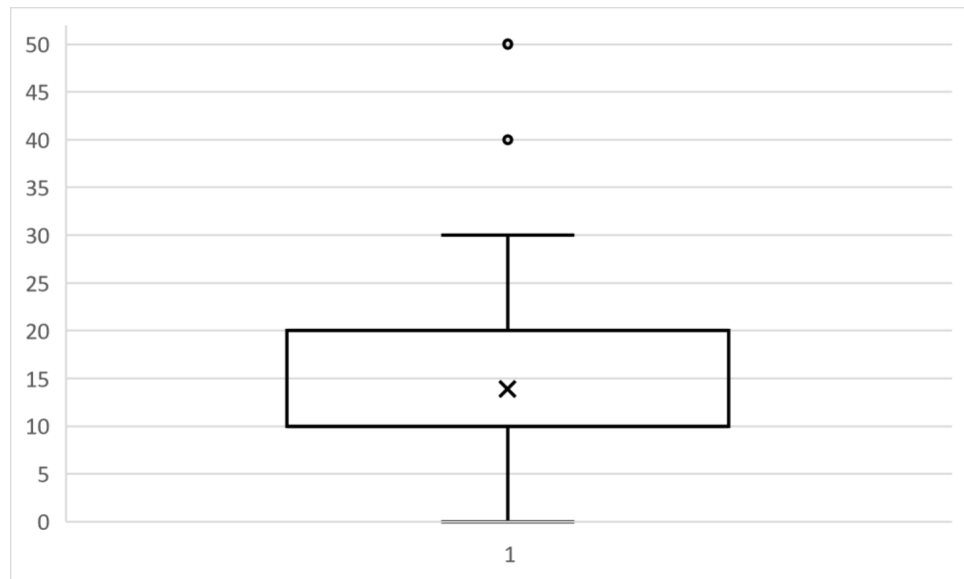

Figure 8. Boxplot displaying the distribution of responses for the considerate behaviour of adding time to a maths test.

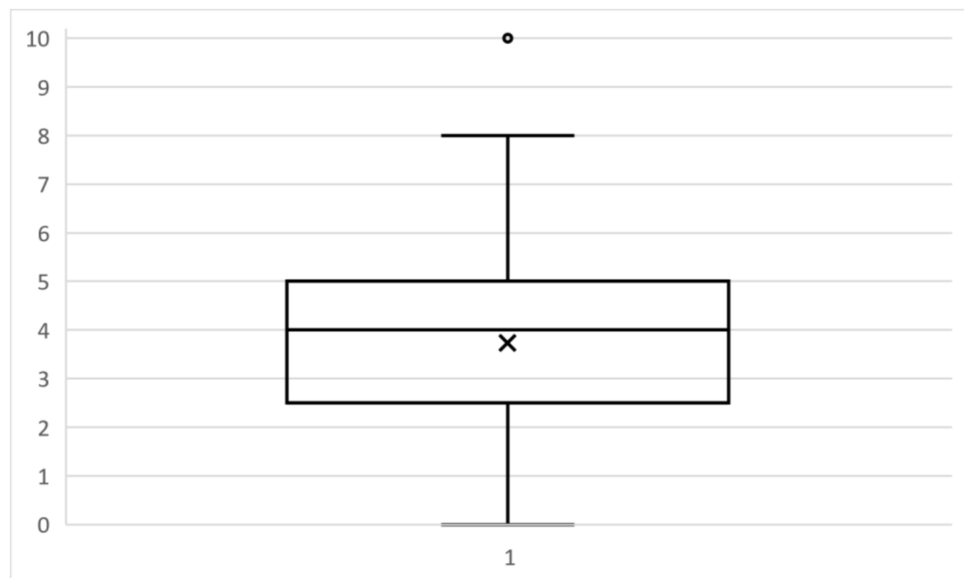

Figure 9. Boxplot showing the distribution of responses for the heroic behaviour of volunteering to complete trials on a cold pressor test.

Based on the inter quartile range, the responses where participants added more than 35 minutes to a maths test and volunteered to complete 10 trials on the cold pressor test can be seen to be outliers and were therefore removed prior to analysis.

Table 14. *Means, standard deviations and bivariate correlations for each dependent variable and the predicator variables.*

Predictors	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Considerate altruistic behaviour	11.26	7.12													
2. Heroic altruistic behaviour	3.60	1.67	.46**												
3. Math Test Boredom	1.84	2.31	-.32*	.03											
4. Empathic Concern	2.76	0.70	.30*	.03	-.29*										
5. Perspective Taking	2.71	0.63	.25*	.20*	-.15	.54**									
6. Communal Orientation	5.20	0.73	.21*	.01	-.21*	.69**	.45**								
7. Considerate Altruistic Intentions	5.34	1.08	.16	.13	-.24*	.62**	.45**	.58**							
8. Agreeableness	4.65	1.13	.14	.08	-.22*	.52**	.30*	.40**	.38**						
9. Heroic Altruistic Intentions	4.72	1.06	.11	.27*	-.15	.34**	.26*	.18*	.52**	.29*					
10. Cold Pressor Pain	6.52	2.00	-.08	-.05	.02	.14	.05	.16	.26*	-.10	-.02				
11. Personal Distress	1.63	0.73	-.06	-.11	.09	.06	-.04	.04	.07	-.15	-.35**	.37**			
12. Fantasy	2.45	0.89	-.06	.07	.08	.19*	.18*	.19*	.14	.07	-.06	.39**	.38**		
13. Cold Pressor Anxiety	2.82	2.50	.00	-.03	.04	.04	.08	.11	.07	.06	-.21*	.33*	.30*	.23*	
14. Math Test Anxiety	2.31	2.67	.00	.03	.13	.02	.03	.08	.08	-.06	-.06	.26*	.22*	.39**	.36**

* Significant at the <.05 level.
** Significant at the <.001 level.

To examine Hypothesis 1, a Pearson correlation was conducted, which found that there was a significant positive correlation between empathic concern and the considerate altruistic behaviour; r (86) = .305, p = .003. This suggests that as empathic concern scores increase so does the amount of time an individual is willing to add to a math test in order to reduce the distress of another individual.

To examine hypothesis 2, a Pearson correlation was conducted which found that there was no relationship between empathic concern and the heroic altruistic behaviour; r (86) = .028, p = .790. Therefore, as empathic concern scores increase the number of trials on a cold pressor test that an individual is willing to complete to reduce the distress of another participant does not increase. Then the correlation coefficients that reflect the relationship between empathic concern and the considerate altruistic behaviour and empathic concern and the heroic altruistic behaviour and their respective sample sizes were used to see if there was a significant difference between the strengths of the two relationships (Preacher, 2002). The results of this showed that there was no significant difference between the strength of the two relationships, but there was a trend towards significance, p = .056.

To explore the relationship between empathic concern and the two altruistic behaviours further, a predictor model was produced for each behaviour using backwards regression. The predictor variables entered into the backwards regression for the considerate altruistic behaviour were self-report scores for empathic concern, fantasy, perspective taking, personal distress, communal orientation, agreeableness, math test anxiety, math test boredom, cold pressor test anxiety, cold pressor test pain, considerate altruistic intentions and heroic altruistic intentions. The final predictor model for the considerate behaviour of adding time to a math test did explain a significant amount of the variance in this behaviour, $F(2, 86) = 7.61$, $p = .001$, $R^2 = .15$, $R^2_{Adjusted} = .13$. The two predictor variables that made a significant contribution to the final model were math test boredom, which had a negative relationship with the considerate altruistic behaviour and empathic concern which had a positive relationship with the considerate altruistic behaviour (see table 15).

Table 15. *Model showing predictors of the considerate altruistic behaviour (adding time to a maths test to reduce the number of cold pressor test trials for another participant), with 95% bias corrected and accelerated confidence intervals reported.*

	b	*95% confidence interval for b*	*SE B*	*β*	*p*
Considerate	6.68	0.31, 13.05	3.20		.040
Math Test Boredom	-0.77	-1.41, -0.14	0.32	-0.25	.018
Empathic Concern	2.35	0.26, 4.44	1.05	0.23	.028

The predictor variables entered into the backwards regression for the heroic altruistic behaviour were self-report scores for empathic concern, fantasy, perspective taking, personal distress, communal orientation, agreeableness, cold pressor test anxiety, cold pressor test pain, considerate altruistic intentions and heroic altruistic intentions. The final predictor model for the heroic behaviour of volunteering to complete trials on a cold pressor test in place of someone else did explain a significant amount of the variance in this behaviour, $F(1, 91) = 7.34$, $p = .008$, $R^2 = .08$, $R^2_{Adjusted} = .06$. Only one predictor variable made a significant contribution to the final model, which was heroic altruistic intentions ($p = .008$) which had a positive relationship with the heroic altruistic behaviour, suggesting that participants self-reported heroic altruistic intentions were predictive of the heroic behaviour of volunteering to complete cold pressor trials in lieu of someone else.

Chapter 6: Discussion

Hypothesis 1 predicted that there would be a positive relationship between empathic concern and the considerate altruistic behaviour. The results support this, as a weak positive relationship was found between self-report empathic concern and the considerate behaviour of adding more time to a math test to reduce the number of potentially distressing trials someone else had to do on a cold pressor test. Furthermore, backwards regression revealed that empathic concern was a significant predictor of carrying out the considerate behaviour. Hypothesis 2 predicted that the relationship between empathic concern and the considerate behaviour would be stronger than the relationship between empathic concern and the heroic behaviour. Whilst no relationship was found between empathic concern and the heroic behaviour, nor was empathic concern a significant predictor of the heroic behaviour, the difference between the strengths of the

two relationships was not significantly different, but it was approaching significance. Furthermore, in chapter 5, agreeableness was found to be predictive of heroic altruistic intentions. This suggested that heroic altruistic intentions may be other-orientated because of an altruistic personality, which high agreeableness is considered to be an indicator of (Avdeyeva et al., 2006; Graziano & Eisenberg, 1997; Graziano et al., 2007; Penner et al., 1995). However, agreeableness was not predictive of heroic altruism in study 5, suggesting that agreeableness may only have predictive power in determining intentions, not behaviour. Overall, these findings provide tentative support for our earlier finding that emotional reactivity was predictive of considerate altruistic intentions but not heroic altruistic intentions (see chapter 5), but also increases our understanding as this time the finding was replicated using behaviours, rather than intentions and personal distress has now been controlled for.

The backwards regression also revealed that maths test boredom was a unique contributor to the considerate altruistic behaviour predictor model, and it had a negative relationship with the behaviour, meaning that individuals who experienced high levels of boredom whilst doing the practice test, were less likely to volunteer to add more time to a second maths test even though it meant reducing the distress of someone else doing cold pressor trials. Table 14 shows that there is a significant but weak negative correlation between maths test boredom and empathic concern, which suggests that as boredom decreases empathic concern increases. This may mean that individuals more susceptible to boredom will focus on themselves and less on others.

The backwards regression revealed that the only significant contributor to the predictor model for the heroic altruistic behaviour was heroic altruistic intentions as measured by the altruistic intentions questionnaire. This provides further validation for the questionnaire (see chapter 6), as it suggests that individuals who demonstrate an intention to behave heroically altruistic are more likely to then behave in that way when presented with the opportunity.

There are some limitations to this study. Firstly, participants were instructed prior to attending the laboratory session that the experiment would take approximately one hour. If participants volunteered to add 50 minutes to their maths test, then the experiment would have taken them beyond the one hour mark by 45 minutes. During debrief, some participants stated that they would have volunteered to add more time to the maths test, but that they had appointments they needed to get to. Therefore, to an extent, external variables impacted upon some participant responses. However, we were aware of this potential

limitation prior to the study but decided to proceed as it made the laboratory experiment more representative of altruism in the real world – for example, if an elderly person fell over in the street, one factor that determines whether you stop to help would be whether or not you had the time or if you have other priorities that are more important. Secondly, a few participants asked whether they could volunteer to do all of the potential maths questions, but leave as soon as they were finished, even if it did not take 50 minutes. These participants were told that the maths test had so many questions that it would not be possible to complete them all in 50 minutes. This information was not shared with all participants, which may mean that some participants had a belief that they could leave as soon as they were done, leading them to volunteer to do more, because they felt their math ability would enable them to finish quickly. Finally, whilst participants were told that the study would take approximately one hour and that they would be compensated £8.50 for their time, they were not explicitly told when making their decisions that payment would not increase if they volunteered to stay and do the maximum. Whilst no participants queried whether their pay would increase, there may have been an assumption that it would for some participants which could have influenced their responses.

In summary, study 5 demonstrates that empathic concern is predictive of considerate altruistic behaviour, which provides additional support to the finding from study 2 (see chapter 5) where emotional reactivity, a dimension of the empathy quotient was found to be predictive of considerate altruistic intentions. The findings of study 5 however, go beyond this, as personal distress has now adequately been controlled for. Furthermore, study 5 has examined the relationship not with intentions, but with actual behaviour. The same relationship was not found between empathic concern and heroic altruistic behaviour. Nor was the finding that agreeableness was a significant predictor of heroic altruistic intentions replicated in study 5 with regards to heroic altruistic intentions. This therefore suggests that considerate altruistic behaviour, but not heroic altruistic behaviour is motivated by empathic concern and such behaviour could be other-orientated, demonstrating that true altruism does occur, in line with the pluralist theory of motivation (see chapter 3).

Chapter 7: Desirability of Considerate and Heroic Altruists

Chapter 7: Overview

The aim of this chapter is to explore whether there are differences between the desirability scores given to considerate altruists compared to heroic altruists. Costly signalling theory suggests that altruism can be sexually selected for as it signals to observers that the altruist has an underlying desirable quality. I believe that this means that different altruistic behaviours have the potential to signal different underlying qualities. Therefore now that a wide variety of altruistic behaviours have been examined (see study 1 and 2) and a stable two component solution has been constructed after measuring participants altruistic intentions (see study 2) and the measure of altruistic intentions has been validated (see studies 3 and 4) it is important to explore whether considerate and heroic altruists differ in the extent to which others find them desirable in romantic and non-romantic contexts. Furthermore, it is important to examine what attributes participants associate with considerate altruists and with heroic altruists, to see whether different altruistic behaviours signal different underlying qualities.[1]

[1] Study 6 and 7 within this chapter have previously been published within the journal Current Psychology, a copy of the published manuscript can be found in Appendix 18.

Study 6: The Desirability of Considerate Altruists, Heroic Altruists and Neutral Individuals in Different Relationship Contexts.

Altruism has been described as an evolutionary puzzle (Van Vugt & Van Lange, 2006), because a behaviour that is costly for the survival of the actor, but beneficial for the survival of the recipient should not have evolved, considering the forces of natural selection (Clamp, 2001; Stich, 2016; Trivers, 1985). Altruism towards genetically related individuals can be explained by Hamilton's (1964) theory of inclusive fitness, which explains how altruistic acts carried out towards close relatives are adaptive because the cost is offset by the benefits being bestowed upon an individual with a similar genetic make-up as the altruist, therefore the altruistic gene can pass to future generations despite it negatively impacting on the survival of the altruist, because the relative likely shares the same altruistic gene. Furthermore, Trivers's (1971) theory of reciprocal altruism, offers an explanation for how altruism could have evolved amongst groups of unrelated individuals, as altruistic acts simply need to be reliably and consistently repaid. When humans interact over time, if the benefits of cooperation are greater than the costs, then helping can evolve if reciprocated (Axelrod & Hamilton, 1981). This type of altruism would occur when the cost to the altruist is low but the benefit to the recipient is high, so that when the "investment" is repaid, both parties receive greater benefits than costs (Hampton, 2009). However, as the altruist in this situation is actually trying to maximise pay-offs it is misleading to refer to this form of social-exchange as altruism (Becker, 1976; Khalil, 2004). Therefore, the current puzzling aspect of altruism, is how individuals could have evolved to behave altruistically towards strangers who are unlikely to reciprocate?

Altruism towards strangers can be explained, by reputational gains (Kurzban, Burton-Chellew, & West, 2015). These gains then increase fitness benefits from indirect cooperation partners (friends, colleagues, romantic partners), who are encouraged to cooperate (i.e. give up their time/resources to help) because of the altruist's desirable reputation (Nowak & Sigmund, 2005), which indicates that they will be beneficially reimbursed for their cooperation. These increased fitness benefits offset the cost of altruism for the actor (the individual behaving altruistically). Costly signalling theory (CST) formalises these ideas and posits that altruism is a costly signal of a desirable underlying quality, which would otherwise be unknown without altruism (Kafashan, Sparks, Rotella, & Barclay, 2016; Zahavi, 1975, 1977). Behaving altruistically ultimately increases the fitness of the actor, because the desirable quality attracts more, and higher quality, cooperative partners. Furthermore, CST can be coupled with sexual selection

theory, where the cooperative partners would be reproductive mates (Kafashan et al., 2016; Zahavi, 1975). If altruism signals that the actor has an underlying desirable quality, then the actor will attract more mates (or mates of a higher quality), increasing the actor's reproductive success compared to a non-altruist (Miller, 2007). Therefore, the cost of altruism is offset by the increased reproductive benefits. The fact that signalling altruism is costly for the actor ensures that the signal is honest (Zahavi, 1975, 1977) and dishonest signallers would fail to bear the cost of altruism should they try and 'cheat' by signalling high quality when they are actually low quality (Lotem, Fishman, & Stone, 2003), which would be detrimental to their survival (Barclay, 2010). The act does not in fact, need to be costly to the individual who actually possesses the underlying quality, but punishment must be incurred by dishonest signallers (Getty, 1998; Számadó, 1999, 2011) to maintain the reliability of signalling (Kafashan et al., 2016).

When altruism is observed, the altruist will become more desirable compared to non-altruists in the eyes of observers, according to CST (Zahavi, 1975, 1977). As predicted, men and women are more willing to have friendships with altruists (Barclay, 2010; Bereczkei et al., 2010), lend money to altruists (Barclay, 2010) and prefer colleagues who are altruistic (Barclay, 2010; McAndrew & Perilloux, 2012) compared with neutral individuals. Bereczkei et al. (2010) also found that individuals who publicly displayed intentions to help strangers, were perceived as more popular, were more likely to be called upon in a crisis and people preferred to spend time with them, compared to those who did not publicly display altruistic intentions. McAndrew and Perilloux (2012) found that individuals who sacrifice for the good of the group by engaging in physically costly altruistic activities are more respected, receive more recognition, achieve high social status and are rewarded more than other group members. Altruists are more desirable as romantic partners, as expected by CST and sexual selection theory (Barclay, 2010; Farrelly et al., 2016; Farrelly et al., 2007; Margana et al., 2019). This is particularly the case for long-term romantic relationships, as opposed to short-term sexual relationships (Barclay, 2010; Bhogal et al., 2018; Ehlebracht et al., 2018; Farrelly, 2011, 2013; Farrelly et al., 2016; Farrelly & King, 2019; Margana et al., 2019). This suggests that altruism signals good character rather than good genes (Barclay, 2010). A long-term context is necessary to fully benefit from cooperation with an altruist of good character, because repeated interactions multiply the benefits (Barclay, 2010). Either short or long-term contexts would allow an individual to benefit from cooperation with an altruist who was signalling good genes, as benefits would occur via reproduction. Research also shows that men (Farrelly et

al., 2007; Griskevicius et al., 2007; Iredale et al., 2008; Van Vugt & Iredale, 2013) and women (Farrelly et al., 2007; Griskevicius et al., 2007), will act altruistically to attract mates in romantic contexts and that members of the same sex recognise that altruistic rivals are viewed as more desirable than non-altruists by potential romantic partners (Barclay, 2010; Kelly & Dunbar, 2001). Furthermore, research shows altruism predicts mating success (Arnocky et al., 2017).

Although the theoretical predictions of costly signalling theory and sexual selection theory have been supported, few studies have compared different helping behaviours to see whether some altruistic acts are more desirable than others. If altruism is a costly signal of a desirable quality, such as good character, different behaviours may signal different qualities or differ in reliability. Griskevicius et al. (2007) did compare different altruistic behaviours and found that when romantically primed, men were more likely than women to publicly volunteer for heroic behaviours, whilst women were more likely than men to display intentions to carry out considerate behaviours, such as “help at a homeless shelter” (Griskevicius et al. 2007, p88). This suggests considerate and heroic altruistic behaviours may be distinct strategies that men and women adopt when attracting a mate.

Kelly and Dunbar (2001) utilised vignettes to compare altruistic, brave and heroic (i.e., altruistic and brave) individuals, to see who was more desirable in short and long-term romantic relationship contexts. They concluded bravery was more desirable than altruism across all relationship contexts, but a brave and altruistic individual was most desirable. Further evidence shows women find brave *and* altruistic men more attractive than risk-avoiders, but did not show bravery without altruism is more desirable, as women demonstrated a preference for risk-avoiders over non-heroic risk-takers (Farthing 2005). Risk-avoiders are only preferred to non-heroic risk-takers when the risk is high, for medium risk situations the non-heroic risk-taker was preferred (Farthing 2007). However, only heroic risk-takers (i.e. those that are brave and altruistic) were perceived as more attractive than risk-avoiders (Farthing 2007). Furthermore, war heroes produce more offspring and are rated as significantly more attractive than regular veterans but the same was not found for heroes in the realms of sport or business (Rusch, Leunissen, & van Vugt, 2015). The ability-based pathway to risk-taking suggests that individuals carry out risk-taking when they possess the abilities to succeed in a specific risky situation or the situation provides the opportunity to showcase such abilities which have signalling value (Barclay, Mishra, & Sparks, 2018; Mishra, Barclay, & Sparks, 2017). Therefore, ability-based risk-taking is likely to increase the desirability of the risk-taker (Barclay et al.,

2018). More recently, Margana et al. (2019) found that women rated individuals displaying high levels of altruism and heroism as more desirable compared to individuals who displayed low levels of these traits, but found no difference between the desirability of altruism and heroism. McAndrew (2018) suggests that high risk, heroic behaviour provides men (particularly young men) with an opportunity to advertise abilities which are linked to resource acquisition, strength and status. This theory is supported by research which demonstrates that in hunter gatherer societies, men who carry out risky hunting strategies have increased access and opportunity to reproduce (Hill & Hurtado, 1996; Smith, 2004; Wiessner, 2002). While Kelly and Dunbar (2001) conclude that bravery was the most influential variable in determining desirability, it is possible that the descriptive vignettes used were insufficiently comparable between altruistic, brave and heroic conditions. This paper borrows from the Kelly and Dunbar (2001) paradigm, however the profiles created will be matched except for the information which depicts whether the individual is a considerate altruist, heroic altruist or neutral.

The current research examines how desirable considerate altruists, heroic altruists and a neutral individual are perceived to be, in a number of relationship contexts, by implementing an online dating advertisement design. Hypothesis 1 predicts that both considerate and heroic altruists will be more desirable than a neutral individual in long-term relationship contexts but not short-term sexual contexts. Hypothesis 2 predicts that there will be a significant difference between the desirability of considerate and heroic altruists – however, the direction of this prediction is uncertain due to previously mixed findings which suggest that bravery is more influential in determining desirability than altruism (Kelly & Dunbar, 2001), that risk-avoiders are preferred to risk-takers when the risk is not associated to altruism (Farthing 2005) and that there is no difference in desirability between altruists and heroes (Margana et al., 2019). Hypothesis 3 predicts that both considerate and heroic altruists will be more desirable than the neutral individual as friends, colleagues and cooperative partners.

Study 6: Method

Design

A repeated measures design was used. The independent variable was altruism, which had 3 levels; considerate altruism, heroic altruism and no altruism (neutral). The dependent variable was the extent to which participants found each level of the independent variable desirable for a range of relationship contexts.

Participants

The participants were 93 heterosexual females, enrolled on an undergraduate psychology degree at the University of East Anglia, who were recruited to complete an online dating advertisement study for course credit. The age range of the sample was 18-45 (M = 20.30, SD = 4.09) and 81.7% of the sample self-defined as being White, 8.6% as Asian, 3.2% as Mixed Race, 1.1% as Black and 5.4% listed their ethnicity as other.

Measures

The information about the considerate altruist, heroic altruist and neutral individual were conveyed to participants using dating advertisements (see Appendix 19). Three critical advertisements and seven filler advertisements were produced, of which all 10 were viewed by each participant. The three critical adverts represented the considerate altruist, heroic altruist and neutral individual. Each advert contained a photograph of a man with an open mouthed smile, which was taken from the Chicago Face Database (Ma, Correll, & Wittenbrink, 2015). A pre-rating study was conducted in order to determine which photographs would be used for the three critical profiles (see figure 10). Twenty seven individuals (18 females and 9 males) rated 15 male faces from the Chicago Face Database (Ma et al., 2015) for attractiveness on a 7 point scale, which ranged from “not at all attractive” to “extremely attractive”. The faces were also rated for perceived age. Photo 1 had a mean attractiveness score of 3.04 (SD = 1.43) and a perceived age range of 17-30 (M = 23.48, SD = 3.41). Photo 2 had a mean attractiveness score of 2.96 (SD = 1.32) and a perceived age range of 18-34 (M = 25.07, SD = 3.92). Photo 3 had a mean attractiveness score of 2.93 (SD = 1.30) and a perceived age range of 17-33 (M = 25.23, SD = 3.92) (see figure 10). These three photos were selected as they had similar attractiveness scores which fell towards the middle of the range to avoid floor/ceiling effects. Despite the three photographs being closely matched for perceived age and attractiveness, they were still counterbalanced across the three critical profiles. Each photograph was followed by a

dating profile, which provided participants with information such as the age, height, body type, education level and hobbies of the person in the dating advert.

Figure 10. Photographs from the Chicago Face Database (Ma et al. 2015) used for the 3 critical dating profiles, from left to right, photo 1, photo 2 and photo 3.

To manipulate altruism-type, the last detail included in the dating profile was "Thing you are most proud of", the considerate altruist answered this by saying "I volunteer at a children's hospital", the heroic altruist answered by saying "I once helped a woman fight off an attacker when I was walking home after a night out" and the neutral individual answered by saying "Completing my undergraduate degree". The considerate and heroic behaviours were selected based on the principal component analyses conducted earlier (see chapter 5), as participants had demonstrated that these behaviours were distinct from one another based on their intentions to carry out such behaviours and the behaviours had consistently loaded on to opposing components.

To measure desirability, participants responded to 8 statements, which reflected the extent to which they would want to partner with the individual from the dating advert in 4 different relationship contexts; long-term romantic relationship, short-term sexual relationship, as a friend, and as a colleague. For example, responses to the statement "I would want to collaborate with Mike in a work environment", indicate the extent to which participants find Mike a desirable colleague, whilst responses to the statements "Mike does not seem like the type of person I'd want to settle down with" and "If Mike approached me on a night out, I'd go home with him" indicate the extent to which Mike was desirable to participants for long-term romantic and short-term sexual relationships respectively. Additionally, 2 statements were included which measured the extent to which participants would cooperate with the individual depicted in the dating advert (see Appendix 20 for all

statements). For example, “If Mike asked me for help, I’d make an excuse as to why I was not able to”. All statements were responded to using a 7 point Likert scale, ranging from strongly disagree to strongly agree and were presented to participants in the same order.

Procedure

Participants were directed to an online survey which was created in Qualtrics (https://www.qualtrics.com/uk/), where they read an information sheet (see Appendix 21) and then if they wished to continue they viewed 10 dating adverts. The adverts were presented in the following order, adverts in positions 1, 2, 4, 5, 7, 8 and 10 were filler adverts and adverts in position 3, 6 and 9 were the critical adverts. The considerate, heroic and neutral adverts were counterbalanced across position 3, 6 and 9. Participants would first see the photograph of a man and then the dating advert beneath. Immediately after each dating advert, participants would respond to the 10 statements which measured desirability and willingness to cooperate, the dating adverts were still visible to participants whilst they responded to these statements, but each of the 10 advertisements were presented alone and participants did not have the ability to return to the advertisement once they had proceeded to the next page. After all dating adverts were viewed, participants were debriefed (see Appendix 22) as to the purpose of the study and were given a final chance to withdraw their data.

Study 6: Results and Interpretation

A 3 (considerate, heroic, neutral) x 2 (long-term romantic vs short-term sexual) ANOVA was conducted, to explore the desirability of the individuals in the dating adverts for romantic contexts (see figure 11). There was a significant main effect for the type of relationship on ratings of desirability. The mean desirability score for the long-term romantic relationship type was 3.71 (SE = 0.15) and 3.04 (SE = 0.14) for the short-term sexual relationship type, F (1, 92) = 48.70, $p < .001$, $\eta_p^2 = 0.35$ (large effect), which shows that independent of altruism-type, dating adverts were rated as significantly more desirable in long-term romantic contexts compared to short-term sexual contexts and a large amount of the variance is uniquely explained by relationship type. There was no significant main effect for altruism-type, F (2, 184) = 1.57, $p = .209$, $\eta_p^2 = 0.04$, (small effect), suggesting that ratings of desirability did not differ for the considerate, heroic or neutral individual.

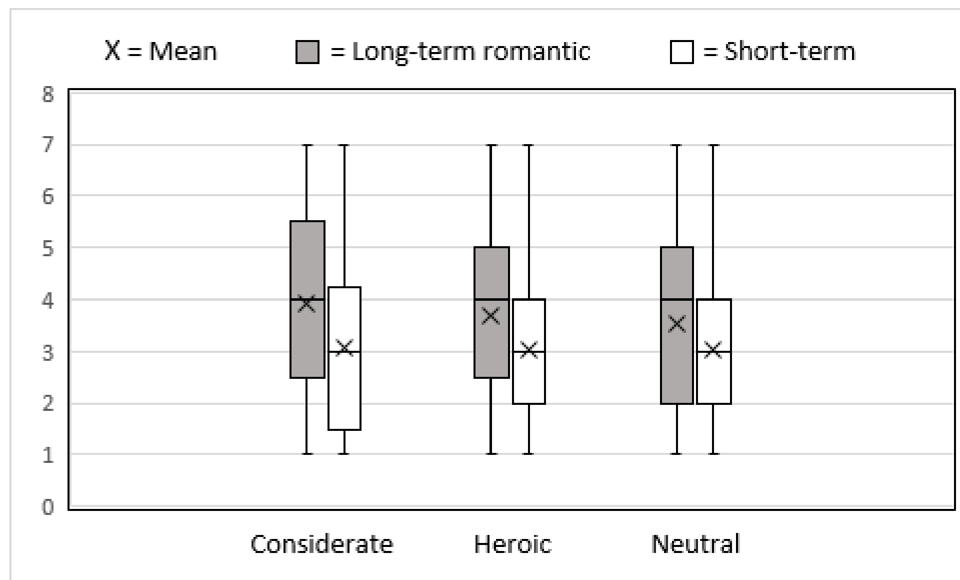

Figure 11. Boxplot displaying the mean, median, range and standard deviation of desirability scores for considerate, heroic and neutral dating adverts for romantic relationship contexts.

There was a significant interaction effect between the altruism-type and the type of relationship depicted, F (2, 184) = 5.09, p = .007, η_p^2 = 0.05 (small effect) (see figure 11). This indicates that altruism-type had different effects on people's ratings of desirability in relation to the type of relationship they were contemplating and that a small amount of the variance in responses can be explained by a combination of altruistic condition and type of relationship. Simple effects analysis revealed that mean desirability scores for long-term romantic relationships were significantly higher for the considerate altruism advert (M = 3.93, SE = 0.17) compared to the mean desirability scores for the neutral advert (M = 3.53, SE = 0.17), p = .003. There was no significant difference between the mean desirability scores for the considerate altruism advert and the heroic altruism advert (M = 3.68, SE = 0.16) in long-term relationship contexts, but there was a trend towards significance, p = .087. If the effect is in fact true, it would be a small effect. The mean desirability scores for the heroic altruism and neutral adverts in long-term romantic contexts did not differ significantly, p = .276. Therefore, there is partial support for hypothesis 1, as the considerate altruist is more desirable than the neutral individual in long-term romantic contexts, but the desirability of the heroic altruist did not differ significantly from the neutral individual in the same context. The findings do not support hypothesis 2, as there is no significant difference between the desirability ratings of the considerate vs heroic altruist in long-term romantic contexts, although the considerate altruist is descriptively

more desirable. The mean desirability scores for considerate altruism (M = 3.07, SE = 0.17), heroic altruism (M = 3.02, SE = 0.16) and the neutral advert (M = 3.03, SE = 0.16) in short-term sexual relationship contexts did not differ significantly from each other.

To examine whether the altruistic dating adverts were more desirable than the neutral dating advert in the long-term romantic relationship context, a paired samples t-test was conducted. The mean desirability score given to altruists was 3.80 (SD = 1.49) and 3.53 (SD = 1.65) for neutral adverts. This difference was significantly different (t (92) = 2.42, p = .017, r = 0.24), demonstrating that altruists were perceived as more desirable than neutral individuals, which is in line with previous research (Barclay, 2010; Farrelly et al., 2016; Farrelly et al., 2007; Margana et al., 2019). There was no difference between the desirability of altruists and neutral individuals for short-term sexual relationships (t (92) = 0.11, p = .916, r = 0.01).

A 3 (considerate, heroic, neutral) x 3 (friend, colleague, co-operator) ANOVA was conducted to explore the desirability of the individuals in the dating adverts for non-romantic contexts. There was a significant effect for the type of relationship on ratings of desirability. The mean desirability score was 5.45 (SE = 0.08) for the friendship context, 5.45 (SE = 0.09) for the cooperation context and 5.22 (SE = 0.08) for the colleague context, F (2, 184) = 8.03, p < .001, η_p^2 = 0.08 (small-medium effect), which shows that desirability was higher in friendship and cooperation contexts compared with the colleague context and that a small to moderate amount of the variance in participant responses was uniquely explained by the type of relationship. There was no significant main effect for altruism-type, F (2, 184) = 0.90, p = .408, η_p^2 = 0.01 (small effect), suggesting that ratings of desirability did not differ for the considerate, heroic or neutral individual. There was no significant interaction effect between the altruism-type and the type of relationship depicted, F (3.58, 329.55) = 1.005, p = .400, η_p^2 = 0.01 (small effect).

Study 7: Considerate, Heroic and Neutral Dating Adverts in Romantic Contexts

To further investigate whether both considerate and heroic altruists are more desirable than a neutral individual in long-term romantic contexts but not short-term sexual contexts (hypothesis 1) and to examine whether there is a significant difference between the desirability of considerate vs heroic altruists (hypothesis 2) study 7 refines the design of study 6, by using an independent measures design. Participants only view one dating advert, which represents either the considerate altruist, the heroic altruist or the neutral

individual. This removes any order effects, any effects that occurred because of the filler adverts (such as boredom) and any effects that occurred because of different photos being attached to the dating adverts (despite randomisation and photo selection based on pre-ratings of attractiveness). Furthermore, the data was collected using the online participant pool, Prolific academic, which allows for a wider demographic to be sampled.

Study 7: Method

Design

An independent measures design was used, but otherwise, the variables are the same as study 6, only participants are now exposed to just 1 level of the independent variable.

Participants

Two hundred female participants were recruited from prolific (https://prolific.ac) to participate in the study. The age range of the participants was 19-36, with a mean age of 27.96 (SD = 4.44). In relation to ethnicity, 88% of the sample self-defined as being White, 6% as Asian, 2% as Mixed Race, 1.5% as Black and 2.5% listed their ethnicity as other. In relation to level of education, 9.5% of the sample identified as having an education level less than A-level, 24.5% had A-levels or equivalent, 19% had some college education but not a completed degree, 35.5% had completed a bachelor's degree and 11.5% had completed a graduate degree. Participants were paid £0.50 to complete the 5 minute study online.

Measures

The same three critical profiles that were used for study 6 were used again for study 7 (example provided in Appendix 19), but because participants would only view one dating advert, there was no need for the filler profiles. Nor were 3 different photos attached, instead 'photo 3' from figure 10, was presented alongside all 3 profiles.

Desirability was measured in the same way as in study 6, but this time only desirability for long-term romantic relationships and short-term sexual relationships were measured as this was the area of interest given the findings of study 6 (see Appendix 20).

Procedure

The procedure for study 7 was similar to study 6, apart from instead of viewing 10 dating adverts after reading the information sheet (see Appendix 23), participants only looked at one dating advert. After looking at the dating advert they then indicated how

desirable they found the individual in the dating advert as a long-term romantic or short-term sexual partner. Participants were subsequently debriefed (see Appendix 24).

Study 7: Results and Interpretation

A 3 (considerate, heroic, neutral) x 2 (long-term romantic vs short-term sexual) mixed ANOVA was conducted. There was a significant main effect for the type of relationship on ratings of desirability. The mean desirability score for the long-term romantic relationship type was 4.14 (SE = 0.16) and 2.98 (SE = 0.10) for the short-term sexual relationship type, F (1, 197) = 132.09, $p < .001$, $\eta_p^2 = 0.40$ (large effect), which shows that independent of altruism-type, profiles were rated as significantly more desirable in long-term romantic contexts compared to short-term sexual contexts and that a large amount of this variance is uniquely explained by relationship type. There was no significant interaction effect between relationship type and altruism-type, F (2, 197) = 1.09, $p = .338$, $\eta_p^2 = 0.01$ (small effect), suggesting that ratings of desirability did not differ for the considerate, heroic or neutral individual. Because of the findings of study 6, where the considerate altruist was significantly more desirable than the neutral individual but not the heroic altruist, in the long-term romantic relationship context, planned comparisons investigated this in study 7, but found no significant difference between the mean desirability score (M = 4.26, SE = 0.19) of the considerate altruist and the mean desirability score (M = 3.90, SE = 0.18) of the neutral individual in the long-term romantic context ($p = .175$). The mean desirability score (M = 4.26, SE = 0.19) given to the heroic altruist in the long-term romantic context was identical to that of the considerate altruist, and therefore was not significantly different to the neutral individual.

To examine whether the altruistic dating adverts were more desirable than the neutral dating advert in the long-term romantic relationship context, an independent samples t-test was conducted. The mean desirability score given to altruists was 4.26 (SD = 1.53) and 3.90 (SD = 1.42) for neutral adverts. Whilst altruists had desirability scores that were descriptively higher than the neutral dating adverts, this difference was not significantly different; t (198) = 1.58, $p = .12$, $d = 0.24$. In short-term sexual relationship contexts there was also no significant difference between the mean desirability scores given to altruists (M = 3.00, SD = 1.35) and the mean desirability score given to the neutral dating advert (M = 2.93, SD = 1.44); t (198) = 0.34, $p = .735$, $d = 0.05$.

Study 6 and 7: Discussion

The results of study 6 demonstrate that a considerate altruist is more desirable than a neutral individual in long-term romantic contexts. This provides partial support for hypothesis 1, which predicted that both considerate and heroic altruists would be more desirable to participants than a neutral individual in long-term but not short-term romantic contexts – partial support because the heroic altruist did not differ significantly from the neutral individual. However, the results of study 7, found that there was no significant difference between the considerate and neutral dating adverts. Furthermore, neither study 6 nor study 7 found support for hypothesis 2, which predicted that there would be a significant difference between the mean desirability scores of the considerate and heroic altruists. Whilst considerate altruists were rated as more desirable than heroic altruists in study 6, there was only a trend towards this difference being significant ($p = .087$). These findings are consistent with previous research that found that altruism and heroism were equally desirable (Margana et al., 2019) and inconsistent with Kelly and Dunbar’s (2001) finding that bravery is the most significant factor contributing to attractiveness, even in the absence of altruism.

The inconsistent support for hypothesis 1 (that both considerate and heroic altruists will be more desirable than non-altruists) is contrary to numerous studies in which an altruistic individual is more desirable than a neutral individual (Barclay, 2010; Bereczkei et al., 2010; Bhogal et al., 2018; Farrelly, 2013; Farrelly et al., 2016; Farrelly et al., 2007; Kelly & Dunbar, 2001; Margana et al., 2019). However, when the considerate and heroic altruists’ desirability scores from study 6 are combined and compared to the neutral individual, there is a significant preference for altruism over the neutral individual. This suggests that the robust finding that altruism is more desirable than a neutral individual is present but becomes more complicated when different altruistic behaviours are examined independently. The materials used in studies 6 and 7 could also explain why the finding is not as clear cut. Whilst the neutral dating advert did not depict an altruistic individual, it did highlight the individuals proudest moment as “completing my undergraduate degree”, which is a potentially desirable quality. Buss and Barnes (1986) found women desired partners who showed good earning potential and were college educated. There is strong evidence that women desire mates who display qualities linked to resource acquisition (Bech-Sørensen & Pollet, 2016; Buss, 1989; Furnham, 2009; Shackelford, Schmitt, & Buss, 2005; Souza, Conroy-Beam, & Buss, 2016; Sprecher, Sullivan, & Hatfield, 1994; Wiederman, 1993). Therefore, by highlighting a desirable correlate of earning potential

(level of education, Woodhall, 1987) in the neutral dating advert, the neutral advert we used may have been as desirable as the altruistic adverts, but for different reasons. Although the two altruistic individuals were reported as having the same level of education as the neutral individual, this was reiterated twice in the neutral advert as it was used as the proudest moment and therefore it featured more prominently.

In study 6, the considerate altruist was significantly more desirable than the neutral individual. This was not replicated in study 7, where the mean age of participants increased from 20.30 to 27.96. Research on women's mate preferences found that as women get older they become less willing to marry someone that earns less than them (Sprecher et al., 1994). Given that there is a well-established link between educational level and earning potential (Woodhall, 1987) and evidence that women educated to degree level earn less than men educated to the same level (DiPrete & Buchmann, 2006) it might be that older women in our sample are more attracted to the (university educated) neutral individual than younger women, meaning older women's desirability for the neutral and altruistic individuals are more closely matched. To examine this further, a mixed 2 (long-term romantic vs short-term sexual) x 3 (considerate, heroic or neutral advert) x 2 (19-25 year olds vs 26-36 year olds) ANOVA was carried out, using the data from study 7. Whilst the interaction between relationship type, altruism condition and age was not significant, (F (2, 194) = 0.18, p = .839, η_p^2 = .002), planned comparisons, allowed us to look at the difference between mean desirability scores in the long-term romantic relationship context for considerate altruists vs neutral individuals, so we could specifically explore the significant finding from study 6 with the study 7 data. These planned comparisons revealed that participants aged 19-25 years old had a significantly higher mean desirability score (M = 4.48, SE = 0.32) for the considerate altruist in the long-term romantic relationship context compared with the neutral individual in the same relationship context (M = 3.60, SE = 0.31), p = .049. This replicates the finding from study 6. The mean desirability ratings given to the considerate altruist (M = 4.15, SE = 0.23) and the neutral individual (M = 4.07, SE = 0.23) by the women aged 26-36 years old were not significantly different to each other (p = .803). Therefore, an explanation for our findings may be that for younger women, altruism has more of an impact on a potential mate's desirability than cues linked to earning potential, whilst for older women, altruism and cues linked to earning potential are seen as equally desirable.

There are certain limitations that need to be discussed in relation to the current research. Firstly, the altruistic act that represented considerate altruism (volunteering at a

children's hospital) may convey greater levels of commitment than the altruistic act that was used to represent heroic altruism (helping a woman fight off an attacker), as it is clear that the heroic act is a one off act, whereas there is ambiguity as to whether the considerate act is a continuous behaviour. Secondly, the considerate and heroic altruists were represented using only one operationalisation of the behaviour, which could mean that the findings are not generalizable to all considerate and heroic acts, but are instead specific to just the two behaviours used in this study, even though previously participants had distinguished between these acts in relation to their altruistic intentions, this may not be representative of their perceptions of the behaviours when thinking about the desirability of a third party. Finally, the current research only examined the extent to which female participants desired a considerate, heroic or neutral individual, meaning we are unable to shed light on whether males perceive such individuals as more or less desirable in relation to each other.

Study 8: Considerate Altruism vs Heroic Altruism: The Impact of Altruistic Behaviour and Commitment Level on Desirability in Romantic Contexts

Study 6 and 7 provide some evidence that considerate altruists are more desirable for long-term romantic relationships compared to a neutral individual. However, there was never a significant difference between the desirability of considerate or heroic altruists for any relationship type, but the mean scores given to the considerate altruist in long-term romantic relationships was descriptively higher than the mean scores given to heroic altruists and this difference was approaching significance (in study 6). Given that the comparison of considerate and heroic altruism is the novel element of this chapter, it is necessary to explore this further. As the neutral dating advert used in study 6 and 7 may have led to higher desirability scores because of the emphasis placed on education level, removing the neutral individual all together will allow for a clearer comparison of considerate and heroic altruism. Therefore, study 8 provides participants with the opportunity to directly compare a considerate and a heroic altruist and then state their preference for long and short-term romantic contexts. Furthermore, the disparity between the behaviours varying in commitment level will also be addressed to ensure that this is not a confounding variable, this will also mean that considerate and heroic altruism will not be represented by a single behaviour. Furthermore, study 8 will examine whether considerate or heroic altruism is more or less desirable to both men and women.

Study 8: Method

Design

A repeated measures design was used. There were 2 independent variables. The first was altruism, which had two levels, considerate and heroic. The second was commitment level, which had two levels; single occurrence or repeated. Altruism was operationalised by including a section on a dating advert where the advertiser listed the thing they were most proud of. Commitment level was operationalised by having two sets of dating adverts, one where the behaviour listed under "thing you are most proud of" was a one off behaviour, and another set where the behaviour listed demonstrated a longer-term commitment. The dependent variable was desirability as a long-term or short-term partner, which was measured using an 11 point scale.

Participants

There were 405 heterosexual participants, 250 males and 155 females, all recruited from prolific (https://prolific.ac). The sample had an age range of 18-36 (M = 25.94, SD = 5.05). The ethnicity of the sample was 75.1% white, 11.4% Asian, 5.9% mixed race, 4.4% black and 3.2% selected other. Participants were compensated with £0.50p for their participation.

Measures

An online questionnaire was created using Qualtrics (see Appendix 25). There were two sets of two dating adverts, followed by two questions. The dating adverts were presented side by side, contained information such as name, height, education etc. This information had little variation in order to not be a confounding variable, but there was a slight difference because of the repeated measures design. The adverts then ended with a statement of something the creator of the dating advert was most proud of. This statement was manipulated so that it reflected considerate or heroic altruism, and a single occasion of helping or long-term helping (see table 16).

Table 16. *Showing the operationalisations of considerate and heroic altruism for each commitment level.*

	Set 1 – Long-term helping	Set 2 – Single occasion of helping
Thing you are most proud of - Considerate	I volunteer at a children's hospital	I once helped an elderly lady who had fallen, by calling the paramedics and waiting with her until they arrived.
Thing you are most proud of - Heroic	I volunteer as a member of a lifeboat rescue crew	I once helped a woman fight off an attacker when I was on my way home after a night out.

After viewing the dating advert, participants were asked to indicate which individual depicted they preferred as a long-term romantic partner and as a short-term sexual partner. The mid-point of the 11 point scale was of 0, which represented neutral, or no preference for either individual. Selecting a point to the left or right of 0 demonstrated a preference for one individual over the other, selecting a point 5 places to the left or right of 0 indicated the strongest preference for one individual over the other. Each dating advert was also accompanied by a photo which had been pre-matched for attractiveness and perceived age. As with study 6, 27 individuals (18 females and 9 males) rated 15 male faces from the Chicago Face Database (Ma et al., 2015) for attractiveness on a 7 point scale, which ranged from "not at all attractive" to extremely attractive". The faces were also rated for perceived age. Photo 1 had a mean attractiveness score of 3.04 (SD = 1.43) and a perceived age range of 17-30 (M = 23.48, SD = 3.41). Photo 2 had a mean attractiveness score of 2.96 (SD = 1.32) and a perceived age range of 18-34 (M = 25.07, SD = 3.92) (see figure 12). Photo 3 had a mean attractiveness score of 2.93 (SD = 1.30) and a perceived age range of 17-33 (M = 25.23, SD = 3.92). Photo 4 has a mean attractiveness score of 2.88 (SD = 1.67) and a perceived age range of 18-29 (M = 20.96, SD = 2.44) (see figure 13). The photos and names of the individuals depicted were counterbalanced across the dating adverts and the order in which the dating adverts were presented was randomised. A separate set of dating adverts depicting female altruists was also created, with photos also matched for attractiveness and perceived age taken from the Chicago face database (Ma et al., 2015), to be displayed to male participants. Photo 1 had a mean attractiveness score of 3.48 (SD = 1.37) and a perceived age range of 19-30 (M = 23.30, SD = 2.88). Photo 2 had a mean attractiveness score of 3.41 (SD = 1.12) and a perceived age range of 20-40 (M = 26.44, SD = 5.12). Photo 3 had a mean attractiveness score of 3.59 (SD = 1.39) and a perceived age range of 18-30 (M = 21.74, SD = 2.85).

Photo 4 has a mean attractiveness score of 3.48 (SD = 1.28) and a perceived age range of 17-26 (M = 21.96, SD = 2.75).

Figure 12. Photographs from the Chicago Face Database (Ma et al. 2015) which were counterbalanced across the dating profiles; top left = photo 1, top right = photo 2, bottom left = photo 3 and bottom right = photo 4.

Figure 13. Photographs from the Chicago Face Database (Ma et al. 2015) which were counterbalanced across the dating profiles; top left = photo 1, top right = photo 2, bottom left = photo 3 and bottom right = photo 4.

Procedure

Participants were directed to the online questionnaire. After reading an information sheet (see Appendix 26) and participants provided some demographic information. They were then presented with the following statement:

You will now be presented with some dating advertisements. You should read through each dating advertisement and then answer the questions that follow. The researchers are interested in your honest responses, so please read the questions carefully and respond as openly as you can.

Participants then viewed two dating adverts side by side, one depicting a considerate altruist and the other depicting a heroic altruist. They then demonstrated which individual they would prefer to have a long-term romantic or short-term sexual relationship using the 11 point scale. Participants would then view a second set of two dating adverts, meaning that all participants rated considerate vs heroic altruists for both single occurrence behaviours and long-term committed behaviours. Finally participants were debriefed (see Appendix 27) and given a final opportunity to withdraw their data from the study.

Study 8: Results and Interpretation

The 11-point scale was converted so that it ranged from -5 to +5. A score below 0 indicates a preference for considerate altruism, whilst a score above 0 indicates a preference for heroic altruism. To examine whether males and females demonstrated a preference for considerate or heroic altruists independent of relationship context and altruistic commitment level, a one sample t test was conducted. The mean score given by male participants was higher than 0 (M = 0.07, SD = 1.53), indicating a slight preference for heroic altruists, but this mean did not significantly differ from 0, t (249) = 0.74, p = .462, d = 0.05. The mean score given by female participants was also higher than 0 (M = 0.14, SD = 1.30), indicating a slight preference for heroic altruists, but this mean did not significantly differ from 0, t (154) = 1.34, p = .182, d = 0.11. Therefore, there was a slight descriptive preference for heroic altruists, but this was not significant, suggesting that there is no overall preference for considerate or heroic altruists independent of relationship context or altruistic commitment level.

To examine whether relationship type or altruistic commitment level impacted participants preferences when choosing a romantic partner a 2 (Long-term relationship vs short-term relationship) x 2 (single occurrence or repeated altruism) repeated measures ANOVA was conducted for male and then female participants. For male participants, there was a significant main effect for the type of relationship on preferences for the considerate or heroic altruist. The mean desirability score for the long-term romantic relationship type was 0.22 (SE = 0.12) and -0.07 (SE = 0.12) for the short-term sexual relationship type, F (1, 249) = 4.167, p = .042, η_p^2 = 0.02 (small effect), which shows that there is a significant difference between the desirability scores of male participants, with them showing a greater preference for heroic altruism in long-term romantic relationship contexts. There was no significant main effect for altruistic commitment level independent of relationship context, with male participants having a mean preference score of 0.08 (SE = 0.13) for the repeated altruistic behaviours and a mean preference score of 0.07 (SE = 0.14) for the single occurrence altruistic behaviours, these means indicate a small descriptive preference for the heroic behaviours across altruistic commitment level, but this is not significant, F (1, 249) = 0.00, p = .957, η_p^2 = 0.00 (no effect). There was also no significant interaction between relationship type and altruistic commitment level for male participants, F (1, 249) = 0.15, p = .703, η_p^2 = 0.00 (no effect).

For female participants, there was no significant main effect for the type of relationship on preferences for the considerate or heroic altruist. The mean desirability

score for the long-term romantic relationship type was 0.12 (SE = 0.15) and 0.16 (SE = 0.13) for the short-term sexual relationship type, F (1, 154) = 0.06, p = .808, η_p^2 = 0.00 (no effect), which suggests that in long-term romantic relationship contexts and short-term sexual relationship contexts, there is a slight preference for heroic altruists, but this preference does not significantly differ between contexts. There was no significant main effect for altruistic commitment level independent of relationship context, with female participants having a mean preference score of -0.04 (SE = 0.16) for the repeated altruistic behaviours and a mean preference score of 0.32 (SE = 0.16) for the single occurrence altruistic behaviours, these means indicate that females show a preference for a romantic partner who is considerate when the behaviour is repeated (volunteering at a children's hospital) but the preference changes to heroic when the behaviour is a single occurrence (helping a woman fight off an attacker), but this preference was not significantly different, F (1, 154) = 2.25, p = .136, η_p^2 = 0.01 (small effect). There was also no significant interaction between relationship type and altruistic commitment level for female participants, F (1, 154) = 2.05, p = .155, η_p^2 = 0.01 (small effect).

Study 8: Discussion

The findings of study 8 found that neither men nor women showed a significant preference for considerate or heroic altruists independent of relationship context. There was one main effect for relationship type, which found that men preferred heroic altruists in long-term romantic relationships but considerate altruists in short-term sexual relationship contexts; the preference for considerate altruists in short-term sexual relationships was only slight, but the desirability rating significantly differed from the desirability rating in long-term romantic contexts. This finding is inconsistent with previous research, which found that men did not find heroic female soldiers more attractive than non-heroic female soldiers (Rusch et al., 2015). Furthermore, Griskevicius et al. (2007) explored the extent to which females would behave heroically when romantically primed, but found that women were not more likely to increase their heroism in these contexts, instead they would increase monetary donations or helping that is consistent with the definition of considerate altruism within this thesis – suggesting females do not use heroism as a costly signal. Finally, McAndrew (2018) suggests the high risk heroic behaviour is perceived as a male behaviour, that allows them to assert dominance – so it would be expected that this behaviour being carried out by a woman would not increase

her desirability. However, it might be the novelty of this behaviour that increases desirability.

Study 8 also explored whether altruism that only occurs as an isolated incident is more or less desirable to altruism that occurs repeatedly. The results demonstrate that there was no significant difference in the desirability of these to helping contexts.

It is possible that both considerate and heroic altruism are equally desirable but still signal different underlying qualities. To further explore the desirability of both types of altruistic behaviour, study 9 will utilise a ranking system to determine which characteristics are most important when constructing an ideal romantic partner. Study 10 will then examine which characteristics are associated most to an individual who carries out considerate altruism compared to an individual who carries out heroic altruism, to access whether different underlying qualities are perceived by observers.

Study 9: Constructing an Ideal Altruist

Study 6 and 7 suggested that considerate altruism is significantly more desirable than a neutral individual and descriptively more desirable than heroic altruism for female participants. However, study 8, which directly compared considerate and heroic altruism, found no significant difference between the two types of altruism and that descriptively, the preference was for heroic altruism across both long-term and short-term relationship contexts. Dating adverts were utilised throughout studies 6, 7 and 8, because of the real world link to popular dating apps, which increases ecological validity. However, this may have caused participants to base their ratings primarily on the photograph attached to the profile rather than the content of the dating advertisement; given that the photographs were matched for age and attractiveness and counterbalanced this could explain why there were not consistent significant differences between conditions. To further examine female participant's preferences for the two types of altruism, another comparison study has been devised, which allows participants to construct an ideal long-term partner and removes the possible confounding variable of physical attractiveness as no photograph was provided.

Study 9: Method

Design

A repeated measures design was used with participants indicating the extent to which they found both considerate and heroic qualities desirable in an ideal long-term

romantic partner. The independent variable of altruism had two levels; considerate altruism, which was operationalised monetary donations and volunteerism and heroic altruism, which was operationalised as protecting others and intervening in dangerous situations. The dependent variable was the extent to which these qualities were desired in a long-term romantic context, which was measured by ranking ordering them.

Participants

The 141 participants recruited were all female and were enrolled on a Psychology degree at the University of East Anglia. The sample had an age range of 18-46 (M = 20.38, SD = 3.92). The ethnicity of the sample was 83% White, 11.3% Asian, 4.3% Mixed Race and 1.4% Black. In relation to relationship status, 56.7% of the sample reported being single and 43.3% of the sample reported being in a relationship.

Measures

An online questionnaire was created, which asked participants to construct their ideal partner for a long-term relationship. Participants were presented with 7 categories, which were labelled; physical attraction, personality 1, personality 2, life skills, hobbies, circumstances and helpfulness. Within each category were 3-5 descriptors, for example, the category of personality 1 contained the following descriptors; "Outgoing – enjoy socialising and going out, talkative", "Kind – nice, thoughtful, thinks of other people", "Dominant – strong, able to take charge of a situation" and "Ambitious – focussed, driven" (see Appendix 28 for all categories and descriptors). The helpfulness category was the critical category, as this contained the altruistic descriptors that represented considerate and heroic helping. The considerate descriptors in the helpfulness category were "willing to make donations to charity" and "willing to volunteer to help others" and the heroic descriptors in the helpfulness category were "willing to protect others from harm" and "willing to put themselves in danger to help someone else".

Procedure

Participants were directed to the online questionnaire which was created in Qualtrics (https://www.qualtrics.com/uk/) where they were shown an information sheet (see Appendix 29). If participants wished to proceed they were then asked to:

Imagine that you have been on a few dates with someone and you really like them and feel as if the relationship is developing into something serious that could be long-term.

Imagine that the individual you are dating is your ideal partner. Read through the different categories below and think about what is important in an ideal partner. Indicate which attributes are most important by rank ordering them (1 = most important, 2 = second most important and so on).

Participants were then presented with the 7 categories, in a randomized order, and indicated which descriptors in each category were most to least important by rank ordering them. Once this task was completed, participants were given the following instructions:

Now that you have ranked the attributes within the categories, we'd like to know which categories are most important to you when considering an ideal long-term romantic partner and which are least important.

Please rank order the categories in order of importance (1 = most important category, 2 = second most important category and so on…)

The category in first place, should be the category that would be the most influential in determining if someone is your ideal partner.

Participants would then rank order the 7 categories, from most to least important, when considering a long-term romantic partner. The same participants then went on to participate in study 10, after which they were debriefed (see Appendix 30) and given a final opportunity to withdraw from the study.

Study 9: Results and Interpretation

The descriptive statistics for each category as a whole are presented in table 17. Helpfulness, which was the critical category representing considerate and heroic altruism, was the fourth most important category in determining whether someone was an ideal long-term romantic partner, after personality 2, personality 1 and physical attraction respectively. Life skills, hobbies and circumstances were less important than considerate and heroic altruism.

Table 17. *The mean ranks given to each category by participants who were constructing an ideal, long-term romantic partner.*

Category	Mean rank	Standard Deviation
Personality 2	2.19	1.34
Personality 1	2.35	1.29
Physically Attraction	2.89	1.65
Helpfulness	4.42	1.42
Life Skills	4.79	1.32
Hobbies	5.11	1.39
Circumstances	6.23	1.41

A Friedman's ANOVA was conducted, to see whether there was a difference between the mean ranks given to the 7 categories. A significant difference between the mean ranks given to each category was found, χ^2 (6) = 430.22, $p < .001$. Post hoc comparisons revealed that helpfulness had a significantly lower mean rank than hobbies (T = 3283.50, p = .007, N = 141, r = 0.21, small to medium effect) and circumstances (T = 1349.50, $p < .001$, N = 141, r = 0.45, medium to large effect) but not life skills (T = 4003.50, p = .756, N = 141, r = 0.12, small effect). Furthermore, the mean rank given to helpfulness was significantly higher than the mean rank given to personality 2 (T = 675.00, $p < .001$, N = 141, r = 0.53, large effect), personality 1 (T = 864.50, $p < .001$, N = 141, r = 0.51, large effect) and physical attraction (T = 1915.50, $p < .001$, N = 141, r = 0.38, medium effect). This suggests that when considering an ideal, long-term romantic partner, considerate and heroic altruistic attributes are more important than hobbies and circumstances, less important than personality and physical attraction and equally as important as life skills.

To examine whether the attributes representing considerate altruism or heroic altruism were most important for an ideal partner within the helpfulness category, the mean ranks given to these items were combined. A Wilcoxon T-test was conducted which demonstrated that there was a significant difference between the mean ranks given to considerate attributes (M = 2.71, SD = 0.66) and the heroic attributes (M = 2.29, SD = 0.66) despite them both having the same median of 2.50; T = 1444.50, $p < .001$, N = 141, r = 0.21 (small to medium effect size). This suggests that heroic attributes are significantly more important, for females, when constructing an ideal partner. Table 18 provides the

mean ranks given to the individual altruistic attributes and demonstrates that whilst the combined heroic attributes are significantly more important, the considerate attribute of volunteering to help others was the second most important attribute, independent of the combined groupings.

Table 18. *Mean ranks given to the attributes within the helpfulness category.*

Attribute	Mean Rank	SD
Protect others from harm	1.57	0.76
Volunteer to help others	2.13	0.89
Intervene in a dangerous situation to help others	3.01	1.00
Donates money to charity	3.28	0.89

Study 10: Quality Signalling for Considerate and Heroic Altruism

Finally, to gain further insight into how participants perceive considerate and heroic behaviours in romantic contexts, this study will ask participants to rate the extent to which they would like their ideal partner to carry out certain acts of altruism. They will also be asked to indicate what qualities they associate with an individual who carries out different altruistic behaviours, to provide insight into their decision making.

Study 10: Method

Design

A repeated measures design was used, with participants indicating the extent to which they found both considerate and heroic altruistic behaviours desirable in an ideal long-term romantic partner. The independent variable of altruism had two levels; considerate altruism and heroic altruism, both of which were operationalised by using four behaviours from the altruistic intentions questionnaire that he been previously created by the researchers. The dependent variable was the extent to which these behaviours were desired in a long-term romantic context, which was measured by having participants rank order the behaviours.

Participants

The participants were the same 141 female participants recruited for study 9.

Measures

An online questionnaire was created, which asked participants to imagine their ideal long-term romantic partner. Participants were presented with 8 altruistic behaviours, 4 of which represented considerate altruism and 4 of which represented heroic altruism, the behaviours were as follows;

Considerate behaviours: Donate money to a charity which provides counselling to victims of assault; volunteer to help at a children's hospital, campaign for better human rights for citizens in countries where human rights violations are high and send essential items that they can spare to occupants of refugee camps.

Heroic behaviours: Run into a burning building to rescue someone trapped inside, run into the street and pull an elderly pedestrian to safety if they saw them stepping out in front of a bus, try and help a woman fight of an attacker if they saw her being assaulted and chase after a burglar if they saw them fleeing their neighbours house.

These behaviours were presented in a list, where their order was randomised and participants were asked to rank order them.

Participants were also asked to respond to the following statement in relation to each of the considerate behaviours:

If someone…[considerate behaviour (i.e. volunteered at a children's hospital)]…I'd think they…

and for heroic behaviours the statement was altered slightly to read as:

If I saw someone…[heroic behaviour (i.e. running into a burning building to rescue someone trapped inside)]…I'd think they…

Participants then rank ordered the following characteristics/attributes in response to the above statements: "*Were kind and understanding", "Have an exciting personality", "Were*

intelligent", "Were healthy", "Were easy going", "Were creative", "Were trustworthy", "Have the ability to be a good parent", "Were cooperative", "Were helpful", "Were sympathetic", "Were wealthy", "Were competitive", "Were courageous", "Were physically attractive".

If a characteristic/attribute was ranked as 1, then the participant was indicating that the individual carrying out the behaviour was most likely to have that characteristic/attribute.

Procedure

Participants were directed to the online questionnaire which was created in Qualtrics (https://www.qualtrics.com/uk/) where they read an information sheet (see Appendix 29). If they continued with the study after this they were asked to:

Imagine that you have been on a few dates with someone and you really like them and feel as if the relationship is developing into something serious that could be long-term. Imagine that the individual you are dating is your ideal partner. Read through the behaviours below and indicate which behaviours you would most want an ideal partner to carry out by rank ordering them (1 = Behaviour I'd most like my ideal partner to carry out, 8 =Behaviour I would least like my partner to carry out).

Participants were then presented with the 8 behaviours, in a randomized order, and they indicated which behaviours were most to least important for their ideal partner to carry out by rank ordering them. Once this task was completed, participants were given the following instructions:

Now we would like you to imagine that you observe someone carrying out a behaviour and indicate what characteristics or attributes you think such a person would be likely to have.

You will rank order the characteristics provided, so that 1 = most likely to have this characteristic or attribute and 15 = least likely to have this characteristic or attribute.

Participants were then presented with each of the 8 behaviours in a randomized order and responded to the "if someone/if I saw someone [doing this behaviour]….I'd think they were/have" statements by rank ordering the 15 characteristics/attributes provided.

Participants were then debriefed (see Appendix 30) and given a final opportunity to withdraw their data from the study.

Study 10: Results and Interpretation

A Friedman's ANOVA was conducted and it was found that there was a significant difference between the mean ranks given to the 8 altruistic behaviours, χ^2 (7) = 248.11, p < .001. The mean ranks given to each of the behaviours are presented in table 19 below, along with the results of post hoc comparison tests which demonstrates where the significant differences between the mean ranks given to each behaviour are.

The mean ranks show that two of the heroic behaviours are the most desirable for an ideal partner to carry out, but the other two heroic behaviours are the least desirable for an ideal partner to carry out. These descriptive statistics suggest that neither considerate nor heroic behaviours are collectively more desirable than the other type of altruistic behaviour.

The results of the post hoc comparisons demonstrate that the heroic behaviours of "trying to help a woman fight of an attacker" and "running into the street to pull an elderly pedestrian to safety" are both given significantly lower ranks than the other behaviours, demonstrating they are more desirable behaviours for an ideal partner to carry out – with the behaviour of "trying to help a woman fight of an attacker" being the most desirable. Conversely, the heroic behaviour of "chasing after a burglar" is the least desirable, as it has a significantly higher mean rank than all other behaviours. The most desirable considerate behaviours are "volunteering at a children's hospital" and "Donating money to a charity which provides counselling to victims of assault". The mean ranks given to these two behaviours do not significantly differ from each other. But both are still ranked significantly lower than the two most desirable heroic behaviours.

Table 19. *Mean ranks, Standard deviations and results of post-hoc comparison tests.*

			t value (*r*)						
Behaviour	**Mean rank**	**Std dev.**	**1.**	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**
1. Try and help a woman fight off an attacker if they saw her being assaulted[1]	2.57	1.95							
2. Run into the street and pull an elderly pedestrian to safety if they saw them stepping out in front of a bus[1]	3.18	1.72	3467.50* (0.19)						
3. Volunteer to help at a children's hospital[2]	4.00	1.73	2558.00** (0.30)	3394.50* (0.20)					
4. Donate money to a charity which provides counselling to victims of assault[2]	4.46	2.05	2075.50** (0.36)	2769.50** (0.28)	4187.00 (0.10)				
5. Campaign for better human rights for citizens in countries where human rights violations are high[2]	4.78	2.19	1926.50** (0.38)	2459.00** (0.31)	3322.00** (0.21)	4329.00 (0.08)			
6. Send essential items that they could spare to occupants of refugee camps[2]	5.18	1.88	1312.50** (0.45)	1835.00** (0.39)	2379.00** (0.33)	3496.00* (0.19)	4239.00 (0.10)		
7. Run into a burning building to rescue someone trapped inside[1]	5.52	2.47	1015.00** (0.49)	1187.00** (0.47)	2650.00** (0.29)	3437.50* (0.19)	4011.00* (0.12)	4517.50 (0.06)	
8. Chase after a burglar if they saw them fleeing their neighbour's house[1]	6.31	1.80	216.50** (0.59)	321.50** (0.58)	1268.50** (0.46)	2100.00** (0.36)	2661.00** (0.29)	2967.00** (0.25)	3783.00* (0.15)

[1]Heroic behaviour, [2]Considerate behaviour.
* $p < .05$ level
** $p < .001$ level

To examine whether the behaviours representing considerate altruism or heroic altruism were collectively most important for an ideal partner to carry out, the mean ranks given to these items were combined. A Wilcoxon T-test was conducted which demonstrated that there was no significant difference between the mean ranks given to considerate behaviours (M = 4.61, SD = 1.15) and the heroic behaviours (M = 4.39, SD = 1.15) with them both having the same median of 4.50; $T = 3116.00$, $p = .288$, N = 141, $r = 0.06$ (no effect).

To gain additional insight into why there is no significant difference between the considerate and heroic behaviours in terms of them being desirable behaviours for an ideal partner to carry out, we can examine the characteristics/attributes that participants associate with considerate or heroic behaviours. Table 20 provides the combined mean rank given to the considerate and heroic behaviours for each characteristic/attribute. A series of Wilcoxin T-tests were conducted to examine whether the mean ranks given to each characteristic/attribute significantly differed when considerate behaviours were being evaluated compared to heroic behaviours. Table 20 shows that significant differences were found between considerate vs heroic behaviours in relation to the characteristics/attributes, apart from when participants considered helpfulness and trustworthiness.

Sympathetic and intelligent are the 2 characteristics most associated to the considerate behaviours by participants. Whereas courage and kindness/understanding are the 2 characteristics most associated with heroic behaviours. Table 21 below demonstrates which characteristics/attributes are most associated with considerate behaviours and which are most associated with heroic behaviours. Because all these characteristics could be desirable for an ideal romantic partner to have, it could be that situational differences relating to the participants unique circumstances determine whether they rate considerate or heroic behaviours as more desirable. This can help to explain why there is no significant difference between the desirability of considerate and heroic behaviours when considering what behaviours an ideal partner should carry out.

Table 20. *Mean ranks, Standard deviations and results of Wilcoxin t-tests.*

	Considerate Mean Rank (SD)	Heroic Mean Rank (SD)	T[a]	*r*
Kind and Understanding	7.37 (3.83)	3.25 (1.34)	86.50**	0.60
Exciting Personality	7.71 (2.84)	6.05 (2.06)	1663.00**	0.37
Intelligent	4.96 (1.68)	7.70 (1.90)	295.50**	0.57
Healthy	8.09 (2.24)	7.17 (1.80)	2820.50**	0.23
Easy Going	8.46 (1.96)	9.65 (1.84)	1462.00**	0.41
Creative	9.24 (1.87)	10.58 (1.60)	1246.00**	0.44
Trustworthy	6.65 (1.70)	6.56 (1.73)	4210.50	0.06
Ability to be a good parent	7.50 (1.63)	8.32 (1.90)	2006.00**	0.32
Cooperative	8.31 (1.87)	9.41 (1.68)	1911.50**	0.35
Helpful	5.04 (2.22)	4.74 (2.03)	3651.00	0.13
Sympathetic	4.69 (2.60)	6.92 (2.35)	780.50**	0.51
Wealthy	10.54 (2.02)	13.41 (0.98)	89.50**	0.59
Competitive	12.73 (1.36)	11.23 (2.20)	1899.00**	0.37
Courageous	10.93 (2.78)	3.10 (2.55)	3.00**	0.61
Physically Attractive	13.31 (2.18)	11.91 (2.65)	1112.00**	0.42

[a] Bonferroni adjustment conducted on all p values.
** Significant at <.001 level

Table 21. *Characteristics that are significantly more frequently associated to each altruistic behaviour.*

Characteristic/Attribute	Considerate Behaviours	Heroic Behaviours
Intelligent	X	
Easy Going	X	
Creative	X	
Ability to be a good parent	X	
Cooperative	X	
Sympathetic	X	
Wealthy	X	
Kind and Understanding		X
Exciting Personality		X
Healthy		X
Competitive		X
Courageous		X
Physically Attractive		X

Chapter 7: Discussion

The findings of the research presented in this chapter are somewhat mixed. The aim of conducting this research was to examine whether considerate and heroic altruism differ from each other in relation to how desirable they are for relationships. Study 6 found that altruism was more desirable than a neutral individual in long-term romantic relationship contexts, which replicated the findings of previous research (Barclay, 2010; Farrelly et al., 2016; Farrelly et al., 2007; Margana et al., 2019). Furthermore, Study 6 found that considerate altruism is more desirable than a neutral individual in long-term romantic relationships contexts, whilst heroic altruism did not differ from the neutral individual or considerate altruism, but the considerate altruist had a higher mean desirability score. However, these findings were not replicated in study 7, but this is potentially because of a flaw in the materials, as the neutral individual was still presented in a flattering way, albeit not an altruistic way. Study 6 also examined the extent to which considerate and heroic altruists and the neutral individual were desirable as short-term sexual partners, friends, colleagues and general co-operators and found there was no significant difference between desirability scores for considerate, heroic or the neutral individual in any of these relationship contexts. This is counter to findings from Barclay (2010) who found that women preferred altruistic individuals over neutral individuals in all of these contexts. Kelly and Dunbar (2001), alternatively found that when women rated altruistic, brave and neutral profiles for attractiveness on short-term sexual, long-term romantic and friendship dimensions, women were much less choosey on the friendship dimension as demonstrated by them rating profiles as more attractive when contemplating friendship. These findings taken into account with the current findings may suggest that altruism is an important quality for potential romantic partners to pay attention to, but in other relationship contexts the importance of altruism is diminished.

Study 8 went on to do a direct comparison of the desirability of considerate vs heroic altruists in romantic relationship contexts, as the comparison of these 2 types of altruism was the novel element of the research. Study 8 also examined whether the level of "commitment to the cause" impacted upon ratings of desirability. The results found that there was no significant difference between considerate or heroic altruists across long-term or short-term romantic contexts or when single occurrence/committed helping was depicted.

Study 9 utilised a ranking system to assess the desirability of considerate and heroic altruism in case the dating advert paradigm used throughout studies 6-8 caused participants

to focus too much on the photograph that accompanied the dating advert, rather than the contents of the advert. In study 9, participants indicated which helping attributes were most important for their ideal partner to have by rank ordering the attributes. The results demonstrated that there was a significant preference for heroic attributes rather than considerate attributes. Study 10 asked participants to look at a list of considerate and heroic behaviours and indicate which behaviours they would most want their ideal partner to perform. The results found that there was no significant difference between the compiled mean ranks given to considerate or heroic altruistic behaviours. The means ranks indicated that two heroic behaviours were most desirable, but the remaining two were the least desirable.

The results of study 10 also provide us with a potential explanation for the mixed results. Participants were asked to indicate what characteristics they would perceive an individual to have, if that individual carried out a specific behaviour. The results found that for 13 of the 15 characteristics provided, participants allocated them significantly different mean ranks, suggesting that considerate and heroic altruistic behaviours convey different information to third parties. All of the characteristics can be seen as desirable, so it may be that individual differences in participant's personal circumstances determine the desirability they place on specific attributes, for example, a single mother may desire a considerate altruist more so than an heroic altruist, as considerate altruists are perceived as having the ability to be a good parent more so than heroic altruists.

Another possible explanation for the findings is that the desirability of the behaviour is impacted by who the recipient of the altruism is. For example, the two most desirable behaviours for an ideal partner to perform (study 10) were "helping a woman fight off an attacker" and "running into the street to pull an elderly pedestrian to safety". In comparison, the two least desirable behaviours were "run into a burning building to rescue someone trapped inside" and "chase after a burglar you see fleeing your neighbour's house". A notable difference is that for the two most desirable behaviours, the beneficiary of the altruism is more specifically focussed and the beneficiary may be perceived as more vulnerable as a consequence. However, in study 8, where the committed altruistic behaviour for the heroic individual was listed as "I volunteer as a member of a life boat rescue crew" vs the considerate behaviour of "I volunteer at a children's hospital", the second behaviour has a clearer beneficiary than the first, but the behaviour is no more desirable. It may therefore be that it is a combination of perceived risk and target. For example, running into a burning building to rescue someone is not desirable, this has

considerable risks associated with it and no specific recipient. Volunteering as a member of a life boat rescue crew also has risks associated with it and no specific recipient, but the risks may be minimised by the fact that participants know that to be a member of a life boat rescue crew, an individual will be trained, which reduces the risks.

The two significant findings are that 1) considerate altruism is more desirable than a neutral individual in long-term romantic contexts, whilst a heroic altruist is not and 2) that participants show a preference for heroic attributes over considerate attributes when constructing an ideal, long-term romantic partner. These two findings are somewhat contradictory but can potentially be explained by individual differences because of what the characteristics participants associate with the behaviours. As these findings relate to long-term romantic contexts they support the idea that altruism signals good character to observers (Barclay, 2010; Bhogal et al., 2018; Farrelly, 2011, 2013; Margana et al., 2019). This is because for desirability to increase for a type of altruism, that type of altruism must convey to an observer that cooperating with the altruist will benefit them. Because desirability only increases in long-term romantic contexts (as found in study 6), the potential benefits must require repeated interactions. Good character is therefore a likely candidate for what is being signalled to observers via altruistic acts, as if it were good genes alone that altruism signalled, the benefits of cooperating with the altruist could potentially be achieved in a single interaction. Previous research has theorised that the good character signalled by altruism could relate to willingness and ability to be a good parent (Farrelly, 2011, 2013; Griskevicius et al., 2007; Tessman, 1995), cooperativeness (Barclay & Willer, 2007; Bereczkei et al., 2010), kind, helpful and sympathetic personality traits (Farrelly, 2011; Griskevicius et al., 2007; Miller, 2007), trustworthiness (Barclay, 2004; Fehrler & Przepiorka, 2013), competitive ability (Smith & Bird, 2000), and finally, courage (Zahavi & Zahavi, 1999). Based on the current research, there is support for these suggestions, but considerate altruism is most likely to signal intelligence and that an individual is sympathetic, whilst heroic altruism is more likely to signal that an individual is kind/understanding and courageous.

Future research should consider examining whether the target being helped by the altruist is more important in determining the desirability of the altruist than the actual altruistic behaviour being carried out. Also, research could examine whether considerate altruists and heroic altruists significantly differ in relation to attributes such as intelligence and exciting personality, to see if these are accurate signals.

In summary, there is mixed evidence to suggest that there are differences between the desirability of considerate vs heroic altruists. Study 6 shows that considerate altruists were more desirable than a neutral individual whilst heroic altruists were not, and there was a trend towards considerate altruists being more desirable than heroic altruists in long-term romantic relationship contexts. However, study 9, found that helping attributes associated with heroic altruism were more important when participants constructed an ideal long-term romantic partner than helping attributes associated with considerate altruism. Whereas study 7 and 8 found no significant differences between the desirability of considerate or heroic altruists. Study 10 found that different qualities are associated to considerate altruists compared with heroic altruists based on the perceptions of participants. These findings suggest that inconsistent findings throughout studies 6-9 could be due to both considerate and heroic altruism signalling desirable qualities to observers, despite these qualities being different for considerate altruists compared with heroic altruists.

Chapter 8: General Discussion

Overview of Findings

This thesis has examined altruism from both an evolutionary and psychological perspective. These perspectives contain different debates and conceptualisations of altruism. However, our understanding of altruism from either perspective can be increased by considering how altruism is operationalised in research. From an evolutionary perspective, the debate is about how altruism towards strangers could have evolved. Costly Signalling Theory (CST), which is often coupled with sexual selection theory, provides an explanation for the evolution of the behaviour, by suggesting that altruism signals to observers that the altruist has a desirable underlying quality, which leads to them being chosen as reproductive mates (Zahavi, 1975, 1977; Zahavi & Zahavi, 1999). Research evidence shows that altruists are more desirable mates (Barclay, 2010; Farrelly et al., 2016; Farrelly et al., 2007; Margana et al., 2019) and that altruism is predictive of mating success (Arnocky et al., 2017). Altruism is particularly desirable in long-term romantic relationships, as opposed to short-term sexual relationships (Barclay, 2010; Bhogal et al., 2018; Ehlebracht et al., 2018; Farrelly, 2011, 2013; Farrelly et al., 2016; Farrelly & King, 2019; Margana et al., 2019), which has led to the suggestion that altruism is a signal of good character, as opposed to good genes (Barclay, 2010), because for a partner to benefit from good character they would need repeated interactions over a long period of time, whilst benefiting from good genes could occur in a single, sexual interaction.

A central premise of this thesis, is that our understanding of what is being signalled can be increased by deconstructing the concept of altruism – in other words, instead of using altruism as an umbrella term for all behaviours that incur a cost to the actor whilst providing a benefit to a recipient, research should examine the individual behaviours encompassed by the term altruism, so that insight into how people perceive these behaviours can be gained and the qualities signalled by different behaviours can be understood.

Therefore the primary aim of this thesis was to examine whether different operationalisations of altruism differ in relation to the characteristics, consequences and motivations attributed to the individuals carrying out the altruistic behaviours. From an evolutionary perspective, motivations are not important, but from a psychological perspective they are, as psychological altruism refers to a behaviour that is motivated by the ultimate desire to improve the wellbeing of another individual (Clavien & Chapuisat,

2013; Sober & Wilson, 1999; Stich, 2007, 2016). There is debate surrounding whether such behaviours ever exist, or if all behaviours that appear to be altruistic, are actually motivated by selfish ultimate goals (Baumann et al., 1981; Wilson, 1992).

Study 1 explores the research question *"what are the differences and similarities between altruistic behaviours depicted in newspaper articles?"* by carrying out five qualitative content analyses. Datasets were produced using the online archives of several newspapers, with articles being retrieved using the search words philanthropy, chivalry, humanitarian, magnanimity and public-spirit.

Philanthropy retrieved behaviours like Mark Zuckerberg pledging $100million to the Newark school system, nearly all the acts were multi-million donations.

Chivalry retrieved behaviours like giving up your seat on public transport, men allowing women and children to board lifeboats first on sinking ships, men carrying a suitcase for a love interest and war-time chivalry, where pilots allowed enemies to escape/survive.

The humanitarian dataset included behaviours like going on an aid convoy or celebrities endorsing charitable foundations.

The magnanimity dataset retrieved examples of victims forgiving those who had harmed them or their loved ones.

Finally, the public-spirit dataset included examples of members of the public catching criminals, cleaning up public spaces, protecting their community members when fires and riots occurred and donating money to reduce the national debt.

Therefore, the search words used retrieved a variety of different altruistic behaviours. Each dataset was analysed independently (see Appendix 1). Chapter 4 provides a comparison of the results of these qualitative content analyses. The findings showed that the altruistic content retrieved using the search words represented three broad categories of altruism, based on the characteristics associated with the altruistic behaviours and the consequences that resulted from the altruistic behaviours. These three categories of altruistic behaviour are considerate altruism, philanthropic altruism and heroic altruism.

Considerate altruism refers to behaviours that are described using adjectives like considerate, polite, courteous, kind and thoughtful. Some examples of these behaviours are holding the door open for someone who has their arms full, helping an elderly person cross the street and giving up your seat on public transport for someone who has a greater need for it. There is no particularly unique consequence or motivation attributed to this form of altruism.

Philanthropic altruism represents behaviours that are described using adjectives that are predominantly synonymous with charitable, such as helpful, generous and selfless. Philanthropic altruistic behaviours include multi-million dollar donations to charities or institutions and the public-spirited behaviour of leaving money in one's will to help reduce the national debt. Again, there is no consistent consequence reported within newspapers, however, from an evolutionary perspective, the cost of philanthropic altruism is different to the cost of considerate altruism (money vs time).

Heroic altruism refers to behaviours that are described using adjectives like heroic, courageous, brave and fearless. It encompasses behaviours like pulling someone out of the path of oncoming traffic, travelling to a war-torn country to provide medical care, protecting the elderly during a riot and accosting a thief you witness stealing from someone. A unique consequence reported alongside such behaviours is that the altruist is at a risk of experiencing psychological or physical harm, sometimes resulting in death. Furthermore, such behaviours, were not only described using "heroic adjectives" but also the adjectives associated with the considerate altruistic and philanthropic altruistic behaviours, although to a lesser extent. This suggests that heroic altruists have many of the same qualities of other altruists, but additional qualities too, which are likely linked to the increased risk they are taking which could result in the cost of heroic altruism being an individual's life. These findings demonstrated that behaviours that fit the evolutionary definition of altruism do differ from each other based on the representations of them within newspaper articles. Not in the sense that every behaviour is uniquely presented to the public, but in the sense that the presentations used place a behaviour into a considerate, philanthropic or heroic category of altruism.

The findings of study 1 demonstrated that there were differences between how altruistic behaviours are depicted within newspapers. In study 2, the following research question was examined; *"Do participants distinguish between altruistic behaviours by showing intra-individual variation in their intentions to carry out said behaviours?".* To do this, an altruistic intentions measure was created, which quantified the extent to which individuals would be willing to carry out a variety of different behaviours that reflected considerate altruism (small acts of everyday kindness), heroic altruism (risky, potentially lifesaving acts) and philanthropic altruism (donating money to a charity or person in-need, although no sum was specifically dictated). In addition, some behaviours that were not present in the qualitative datasets from chapter 4 were also included, like donating an organ to a stranger and donating blood. The measure was completed by two different

populations. Two PCAs were conducted, one for each of the samples, and a stable two component solution was found. These components demonstrated that participants had similar intentions in relation to the considerate and philanthropic behaviours, meaning these formed one component, not two distinct components. The second component represented the heroic behaviours, which had a clear risk associated to them. It is likely that the reason newspapers present altruism using three categories of behaviour, but participant responses only differentiated between two, is because the philanthropic acts reported in newspapers were multi-million dollar donations, usually gifted by high profile celebrities or public figures, making them newsworthy. Whereas the philanthropic behaviours on the altruistic intentions questionnaire were smaller donations, like placing change in a charity bucket as you leave the supermarket, or sponsoring a colleague that is doing a fun run. Despite there being no differentiation between the considerate and philanthropic behaviours identified in study 1, the PCAs do provide evidence that participants distinguish between considerate/philanthropic behaviours and heroic behaviours by showing intra-individual variation in their intention to carry out considerate (with philanthropic) altruism and heroic altruism.

One of the samples that completed the altruistic intentions questionnaire also completed measures of social dominance orientation, communal orientation, the big five personality traits, sensation seeking, prior helpfulness and empathy. These measures were completed to allow for an exploration of what kind of people display which form of altruistic intentions. Through multiple regression, predictor models were created for considerate altruistic intentions and heroic altruistic intentions. Participants who reported that they had previously been helpful and who scored highly on the communal orientation measure, were more likely to show intentions to behave altruistically across *both* components. However, there were personality variables that were unique predictors of considerate altruistic intentions; high scores on the disinhibition component of the sensation seeking measure and the emotional reactivity component of the empathy measure, along with low scores on the social dominance measure, were predictive of considerate but not heroic, altruistic intentions. Conversely, high scores on the agreeableness component of the big five measure and low scores on the openness component of the same measure were predictive of heroic altruistic intentions. Therefore, not only do participants differentiate between two types of altruistic behaviours by displaying different intentions, but those who are likely to display intentions to act considerately can be predicted by different personality variables than those who will

display intentions to act heroically. Finally, the two components of the altruistic intentions measure were validated, demonstrating that the altruistic intentions were representative of actual altruistic behaviour, which gives predictive power to the altruistic intentions questionnaire.

The finding that emotional reactivity was predictive of considerate altruistic intentions and agreeableness was predictive of heroic altruistic intentions warranted further examination, because it has been theorised from a psychological perspective that empathy may be a proximate mechanism for motivating true altruism, this idea is referred to as the empathy-altruism hypothesis (Batson, 1992; Batson et al., 2011; Batson et al., 1988). Agreeableness may also be an indicator that helping is other orientated, as it is one of the traits associated with the altruistic personality, which could also be a motivator of true altruism (Batson, 2014; Oliner & Oliner, 1988; Penner et al., 1995). The results of study 2 therefore suggested that considerate and heroic altruistic intentions could both be other-orientated, but via different underlying mechanisms (empathy vs agreeableness). Previous research which has examined other-orientated motivations for helping have not considered the way behavioural operationalisations of helping are expressed – meaning this avenue of research could help to highlight whether considerate or heroic altruistic behaviours are more likely to be motivated by other orientated motivations. However, the link between empathy (emotional reactivity) and considerate altruistic intentions may not reflect that people are motivated to help because of empathic concern as suggested by the empathy-altruism hypothesis (Batson, 1992; Batson et al., 2011; Batson et al., 1988). This is because the measure of empathy quotient (Baron-Cohen & Wheelwright, 2004; Lawrence et al., 2004), which was used to measure empathy in study 2, does not measure personal distress, it only measures whether or not people are likely to experience an emotional response when they are confronted by others in various emotional states, hence why the component of the empathy quotient that is predictive of considerate altruistic intentions is labelled emotional reactivity. This emotional response may be caused by the personal distress they experience when confronted with an emotional individual, rather than because they are empathising with the emotional state of the individual (Batson et al., 1983). The difference is that personal distress occurs because of concern for one's self, whereas empathic concern occurs because of concern for someone else. Therefore, helping that is motivated by personal distress is egoistic, whilst helping that is motivated by empathic concern is true altruism (Batson & Coke, 1981; Batson et al., 1987; Coke et al., 1978).

To explore the relationship between considerate and heroic altruism and other-

orientated motivators for helping further, study 5 examines the research question "*are different altruistic behaviours more associated with other-orientated motivations?"* using a laboratory experiment. Considerate altruism was operationalised as "increasing the amount of time you are willing to spend doing a maths test in order to reduce the pain/distress of another participant" and heroic altruism was operationalised as "volunteering to do between 0-10 trials of a cold pressor test in lieu of another participant, to reduce their pain/distress". Participants also completed the 28 item empathy questionnaire (Davis, 1980) which has four components; empathic concern, fantasy, personal distress and perspective-taking. When these 4 variables, along with agreeableness, considerate and heroic altruistic intentions, communal orientation, maths test anxiety, maths test boredom, cold pressor test anxiety and cold pressor test pain were entered into a backwards regression to see which variables were uniquely predictive of behaving considerately, empathic concern had a positive and significant relationship with the considerate altruistic behaviour of adding more time to a maths test. Furthermore, maths test boredom had a negative but significant relationship with the considerate behaviour. A backwards regression was also created for predicting the heroic behaviour of volunteering to do trials on the cold pressor test, the same variables were entered into the model, but maths test boredom and maths test anxiety were excluded, as these would have had no impact on the decision. Empathic concern did not predict the heroic behaviour and neither did agreeableness, with the only unique contributor to the model being heroic altruistic intentions. This therefore suggests that considerate altruism is more likely to be true altruism, as it is motivated by an other-orientated mechanism for helping (empathic concern) whilst heroic altruism is not.

Comparing the predictor models created in study 2, where altruistic intentions were examined, with the predictor models created in study 5, where altruistic behaviour was examined shows some differences with the predictor variables that are important for the respective models. Communal orientation no longer made a unique contribution to the models for either behaviour in study 5, suggesting that the predictive power of communal orientation is powerful when intentions are measured, but not necessarily useful at predicting actual altruistic behaviours. Furthermore, personal distress was not examined in study 2, whilst study 5 included a measure of personal distress within the empathy questionnaire used, as well as measures of anxiety around the maths test and cold pressor test and a measure of pain for the cold pressor test. Neither anxiety or pain were predictive of participants altruistic behaviours for considerate or heroic altruism – demonstrating that

personal distress is not a motivator of altruism as it was operationalised in study 5. However, there was evidence that some individuals that experience boredom whilst answering the maths questions were less likely to carry out the considerate altruistic behaviour of adding more time to their maths test to reduce the pain/distress of the other participant, which nicely shows that whilst empathic concern can motivate considerate altruism, other individuals will still be motivated by self-orientated factors. Another important thing to note is that considerate altruistic intentions, as measured by the altruistic intentions questionnaire, did not make a significant, unique contribution to the predictor model for the considerate behaviour of adding more time to a maths test to reduce the distress of another participant. This may suggest that the operationalisation of considerate altruism lacks internal validity, especially as the bivariate correlation between considerate altruistic intentions and the considerate altruistic behaviour was weak (.16). It could be that the behaviour was a fair representation of considerate altruism, but extraneous variables impacted upon the amount of time participants added to the maths test. For example, during debrief, some participants said that they added as much time as they could to the maths test, but had somewhere else they needed to be so could not volunteer for the full amount. Indeed, in the advert for the study, participants were told the experiment would take approximately one hour, but this did not factor in them adding any time to the maths test, so anytime they did add had the potential to interfere with other plans. Whilst this may warrant further investigation, if this is the case, it is not particularly problematic for the findings, but highlights the importance of not only examining intentions, but also behaviours. Furthermore, in a real world helping situation, people would have to make a decision between stopping to help someone else or continuing on with their own plans, so if such a confounding issue is responsible for the lack of a relationship between considerate intentions and behaviour, it is likely a fair representation of considerate altruism in the real world.

Chapter 7 moves towards examining the predictions of costly signalling theory, by examining the desirability of considerate and heroic altruists and away from examining the motivations and predictors of considerate and heroic altruism. Studies 6, 7 and 8 address the research question *“Does carrying out different altruistic behaviours lead to different desirability ratings in romantic and non-romantic contexts?”,* where the different behaviours referred to are representative of considerate and heroic altruism. Study 6 utilised a dating advertisement paradigm, where participants would see the dating profiles of several individuals, three of these adverts were closely matched to each other, with the

only difference being that the reported proudest moment for each differed (see Appendix 19). The considerate altruist's proudest moment was that they volunteered at a children's hospital. The heroic altruist's proudest moment was that they once helped a woman fight off an attacker. Finally, a neutral profile was matched for all other information but listed their proudest moment as completing their undergraduate degree. Female participants recruited via the University of East Anglia's participant system viewed all dating adverts in a repeated measures design and then rated the extent to which they found the individual depicted desirable as a friend, colleague, general cooperative partner, long-term romantic partner and short-term sexual partner. There were no significant differences across these relationship contexts, apart from the considerate altruist was significantly more desirable than the neutral individual as a long-term romantic relationship partner. In this context, the desirability scores of the heroic altruist did not significantly differ from the considerate altruist (but the scores were descriptively lower) or the neutral individual (but their scores were descriptively higher).

When the desirability scores of both altruists for the long-term romantic relationship context were combined and compared with the desirability scores of the neutral individual for the same relationship context, the altruists were significantly more desirable. Therefore, the finding that altruism is more desirable in long-term relationship contexts than a control description that does not mention altruism was replicated (Barclay, 2010; Bhogal et al., 2018; Ehlebracht et al., 2018; Farrelly, 2011, 2013; Farrelly et al., 2016; Farrelly & King, 2019; Margana et al., 2019). Furthermore, there appears to be some difference between the desirability of considerate altruists and heroic altruists, with considerate altruists receiving more favourable ratings. The difference was not significantly different, but there was a trend towards significance. Additionally, considerate altruists but not heroic altruists were significantly more desirable than the neutral individual.

To investigate this further, study 7 adopted a similar approach to investigating the desirability of considerate and heroic altruists and a neutral individual, but used an independent measures design, in case order effects, or the photos attached to dating adverts influenced the results of study 6. Only long-term romantic and short-term sexual relationship contexts were examined. The sample was gathered using Prolific, which is an online participant pool of individuals who live in the UK, rather than the University's participant pool. The results showed that there was no difference in the desirability of the considerate, heroic or neutral individual. However, this might be attributed to the

demographic make-up of the sample, as they had a higher mean age than the participants in study 6. When the participants were separated into age groups of 19-25 and 26-36, the younger group did have significantly higher desirability scores for considerate altruists compared to the neutral individual for long-term romantic relationship contexts, replicating the finding from study 6. However, there was still no significant difference between the desirability scores of the considerate and heroic altruist.

Study 8 examined desirability in long-term and short-term romantic contexts further, by directly comparing considerate and heroic altruists. Participants still viewed dating adverts, but two were presented side by side, one which represented a considerate altruist and another which represented a heroic altruist. Furthermore, the operationalisation of altruism was altered so that the commitment level of the altruistic behaviour appeared equal. This was because in study 6 and 7, it was possible that volunteering at a children's hospital showed more commitment than the one-off act of helping a woman fight of an attacker. Single occurrence and repeated altruistic behaviours were both represented in study 8, meaning participants viewed two sets of two dating adverts. Male and female participants viewed the dating adverts and then indicated which dating advert they were more interested in for a long-term romantic or short-term sexual relationship. The findings showed that for women, there was no significant difference between the commitment levels or relationship contexts in relation to which altruist was more desirable. For male participants, a significant main effect was found for type of relationship, with heroic altruists being rated more favourably in long-term romantic relationships and considerate altruists being rated more favourably in short-term sexual relationship contexts. There was no significant interaction or main effect for commitment level for male participants. Previous research has demonstrated that altruism can be desirable for males seeking long-term romantic partners (Barclay, 2010) but it is unclear why male participants demonstrated a preference for heroism in long-term romantic partners and considerate altruism in short-term sexual partners.

Study 9 asked female participants to construct an ideal partner for a long-term romantic relationship. They did this by rank ordering seven categories. One of these categories represented considerate and heroic altruism together (it was labelled helpfulness). This provided me with the opportunity to see how important a factor altruism was in determining romantic desirability in relation to other attributes, like physical attractiveness, personality, life skills, hobbies and circumstances. The helpfulness category included four descriptors, two representing considerate altruism and two representing

heroic altruism which were also ranked – so the study also provided another opportunity to compare the desirability of these two types of altruism. Collectively, the helpfulness category was ranked fourth most important when participants constructed an ideal long-term romantic partner, with the two personality categories and physical attractiveness ranking above it. Participants also ranked the items within a category. The results showed that the two heroic items were collectively ranked as significantly more important than the two considerate items, suggesting that attributes associated with heroic altruism are significantly more important when constructing an ideal long-term romantic partner. This finding opposes the results of study 6, where females displayed the greatest preference for considerate altruists (although the difference between considerate and heroic altruist desirability was not significant). The items representing heroic altruism in study 9 were "willing to protect others from harm" and "willing to put themselves in danger to help someone else". Behavioural examples of what this might look like in action were not presented to participants, so it is possible that the items did not conjure up heroic behaviours, particularly "willing to protect others from harm" which could relate to behaviours like "campaigning for better human rights for citizens in countries where human rights violations are high", which in study 2 loads on to the considerate altruistic component. Therefore, the preference participants displayed for heroic attributes over considerate attributes was examined further in study 10.

Finally, study 10 provided the same female participants from study 9, with a list of eight altruistic behaviours, four of these represented considerate altruism and four represented heroic altruism. Participants were asked to rank order these behaviours to demonstrate which they would prefer an ideal long-term romantic partner to carry out. This study therefore provided a further examination of the research question *"Does carrying out different altruistic behaviours lead to different desirability ratings in romantic contexts"*. When the mean ranks of the considerate behaviours were combined, they did not significantly differ from the combined mean ranks of the heroic behaviours. The mean ranks given to each behaviour demonstrate that the two most desirable behaviours were heroic, but the two least desirable behaviours were also heroic.

To gain further insight into what may make considerate and heroic altruistic behaviours desirable, participants were asked to imagine an individual carrying out each of the eight altruistic behaviours. They were then provided with a list of 15 attributes, and asked to think about which attributes they would most associate with an individual carrying out each type of altruistic behaviour. Participants then rank ordered the attributes

from most to least associated. This enabled an examination of the research question *"do observers associate different qualities with different acts of altruism?"*

The results demonstrated that the following attributes were associated significantly more with heroic behaviours than considerate behaviours; kind and understanding, exciting personality, healthy, competitive, courageous and physically attractive. Whereas the following attributes were associated significantly more with considerate behaviours compared with heroic behaviours; intelligent, easy going, creative, ability to be a good parent, cooperative, sympathetic and wealthy. Therefore, different qualities are associated to considerate altruism compared with heroic altruism. This may explain why there is inconsistent evidence that one type of altruism is more desirable than another – because both signal desirable qualities, even though these qualities are different.

Furthermore, the finding that two of the heroic behaviours are the most desirable for an ideal partner to carry out may reflect that these behaviours have specific targets – i.e. "helping a *woman* fight off an attacker" and "running into the street to pull an *elderly* pedestrian to safety" – whilst the least desirable heroic behaviours have broader targets – i.e. "running into a burning building to rescue *someone* trapped inside" – or the behaviour is not about rescuing a victim, but trying to right a wrong – i.e. "chasing after a burglar they see fleeing their neighbour's house". Therefore, women may desire someone they perceive as offering help to a specific vulnerable person, rather than a vague unknown person. The two most desirable considerate behaviours also have specific targets; children and victims of assault.

Limitations

There are several limitations with the programme of research that has been conducted and presented within this thesis. These will be outlined in chronological order, starting with study 1. The first limitation with study 1, is the method for achieving saturation when compiling the five datasets. The method was that each dataset retrieved articles by using the following date as a start point – 31/12/2013. Then, working backwards from this date articles that were relevant were included in the datasets until including more articles did not add new elements to the dataset. This was possible for the researcher to determine because of their familiarity with the articles being included as the datasets were constructed. It may have been more appropriate, to search throughout the entire archive available and randomly select articles for inclusion independent of date until including

more articles did not add new elements. This would have insured that the datasets were not dominated by events that occurred at a specific point in time. The decision to determine saturation using the method that was chosen, was because the online archives of different newspapers varied in relation to how far back in time the archives went, meaning the same period could not be sampled for each newspaper. Furthermore, randomly selecting articles from the full archive would have made it difficult to ensure that perspectives on news events were balanced in relation to reports coming from tabloid versus broadsheet newspapers. It is therefore possible, that using the alternative method would have resulted in some of the news events being more sensationalised, as discussed in the "Chapter 4: Discussion". Hopefully the limitation of using the method for determining saturation is somewhat offset by continuing to look through newspaper archives after saturation was reached, until the time period sampled from resembled a whole year (or two whole years, or three whole years etc.). This meant that even once saturation was felt to be met by the researcher, articles were still examined and included when relevant. If during this period new elements were discovered, then data collection continued beyond the original end point until again it was felt that saturation had been met.

Another limitation with study 1 is the search words used to retrieve the newspaper articles that were then placed into the five datasets. The search words used were philanthropy, chivalry, humanitarian, magnanimity and public-spirit. These words were selected as the search words after consulting with the oxford English dictionary and thesaurus.com to determine whether these words had distinct elements to their definitions (see Appendix 2). Words that were synonymous with the search words selected, often did not differ in terms of the definitions, so it was decided that the search words were representative of elements/aspects of altruistic behaviour. The limitation with choosing this method for selecting the search words is that other synonymous words may have been used more or less frequently within newspaper articles. Furthermore, the qualitative content analyses were of altruistic content, but altruism itself was not used as a search word for retrieving newspaper articles. The limitation does not impact upon the validity of the findings presented in study 1, because of the interpretative nature of qualitative research. However, it needs to be acknowledged that these findings could have been different if alternative search words had been used, as alternative search words may have retrieved different altruistic behaviours. However, the purpose of study 1 was to provide an exploratory starting point for examining the differences and similarities of a variety of altruistic behaviours. The method used for selecting articles allowed for this to occur and

testable hypotheses were developed because of study 1. Furthermore, some additional altruistic behaviours not included in the newspaper articles that were examined in study 1, were included in study 2, to insure that these were looked at within the programme of research as a whole.

A limitation with study 2, is that the altruistic behaviours included within the altruistic intentions questionnaire (see Appendix 4) varied in the extent to which they had specific targets or not. For example, running into the street to pull an *elderly pedestrian* to safety has a much more specific target compared with running into a burning building to rescue *someone* trapped inside This could have been a confounding issue that impacted upon how participants responded to these items. However, neither of the stable components includes all of the items that specifically named a target, suggesting this did not determine how participants responded to the questionnaire. A related issue is that whilst not all of the behaviours on the original altruistic intentions questionnaire fit into the two component solution. This means that some altruistic behaviours are not represented throughout the rest of the research programme – like delivering aid to a war-torn country or donating an organ to a stranger whilst still alive. It might be that within a quantitative study, participants did not have the opportunity to respond in a nuanced way when considering complex behaviours.

A second limitation with study 2, is that the predictor variables within the regression models created for considerate and heroic altruistic intentions respectively, are not an exhaustive list of predictors. The variables selected (see chapter 5) were chosen as previous literature suggested that it was important to consider egoistic and altruistic mechanisms for motivating helping. The variables selected had previously been examined in relation to altruism as an entire concept, so when distinguishing between two categories of altruism, it was important to see what the relationship between these variables and the categories was. However, many other variables, specifically ones linked with altruistic personality, could have been measured. But given the sample size, including more variables in the model would have likely resulted in a model that would not be replicable outside of the sample used in study 2. The same limitation can also be suggested for the predictor models in study 5, where predictor variables were selected for inclusion based on the interesting findings of study 2 within the thesis, rather than the wider literature outside of this programme of research.

Another limitation of study 5, which was mentioned in the overview of findings section above, is that considerate altruistic intentions were not predictive of the considerate

altruistic behaviour of adding more time to a maths test to reduce the pain/distress of another participant. Given that the altruistic intentions questionnaire was validated in study 3, this may suggest that the operationalisation of considerate altruism in study 5 lacked internal validity. However, the altruistic intentions questionnaire was validated using historical behaviours, whilst the behaviour in study 5 needed to be carried out there and then. This means that many other situational elements could have impacted upon participant's decisions – like how much time they had, their mood, how they had slept the night before, what their next appointment was and how important it was to them. Therefore, the lack of a predictive relationship between considerate altruistic intentions and the considerate altruism behaviour could reflect that altruism in the real world is determined by numerous factors.

Specific limitations of studies 6 through 10, have been addressed throughout chapter 7. But a more general limitation is that these studies, apart from study 8, all focus on female participant's desirability of considerate and heroic altruism as carried out by males. Given that males become more choosey the more committed they become, it is important to examine the extent to which these categories of altruism are desirable to men. Especially since when men were included in study 8, a significant finding was found, where they had a preference for heroic altruists in long-term romantic contexts, but considerate altruists in short-term sexual relationships. It is unclear given the previous literature why this finding occurred, so more research needs to be conducted to examine this. Furthermore, research consistently demonstrates that women are more likely to volunteer or donate money than men (Einolf, 2011; Manning, 2010; Mesch, Brown, Moore, & Hayat, 2011; Piper & Schnepf, 2008; Rotolo & Wilson, 2007; Taniguchi, 2006), if women are burdening themselves with the cost of altruism more frequently than men, it is important to understand the ultimate function of altruism in relation to both sexes. Also, previous research has had males rate other males as desirable partners for non-romantic contexts (Barclay, 2010; McAndrew & Perilloux, 2012). The results showed that altruism was more desirable, demonstrating that men recognise that altruistic men have increased value as a friend/cooperative partner. The exclusion of men has meant that this could not be examined in relation to the two identified categories of altruism, to see if one is valued more by males when considering other males as non-romantic partners.

A second general limitation of the research throughout chapter 7, is that the focus has been on the desirability ratings given by observers. This has enabled an examination of the desirability of considerate and heroic altruism. But it has not examined whether or not

males or females will increase their altruistic behaviour when observed by others, when romantically primed, or if there are differences depending on the behavioural form altruism takes.

One specific limitation that warrants discussion here is the operationalisation of considerate and heroic altruism in study 9. Study 9 found that there was a significant preference for heroic altruism rather than considerate altruism. However, each type of altruism was not operationalised using a behaviour, but was instead inferred from attributes believed to represent each behaviour. The attributes described may have been too ambiguous to fully reflect considerate and heroic altruism, allowing for some forms of considerate altruism to be represented within the heroic attribute descriptions. This is the only finding that showed a significant difference between the desirability of considerate and heroic altruists and it should be considered with caution given this limitation.

Finally, in study 10, the list of characteristics/attributes provided to participants for them to rank order from most to least associated with specific behaviours was not exhaustive. It was compiled using traits/attributes that have previously been found to be desirable, but it may have been better to allow free responses from participants when examining which characteristics participants attribute to considerate vs heroic altruists. Given the limited research carried out into this area, this could have provided further insight to explain what the underlying quality signalled by considerate vs heroic altruism is. In addition, the 15 attributes/characteristics provided to participants in study 10, have all been interpreted as being positive characteristics for an individual to hold. However, it is possible that someone could be too easy going or too competitive. Providing participants with the opportunity to expand upon their reasoning would have prevented any ambiguity around these responses. Furthermore, no clearly negatively worded attributes were included. It would have been interesting to also examine whether either altruist was perceived as boring or dangerous.

In addition to the above limitations, there is one broader issue that relates to the psychological altruism element of this thesis. As discussed in chapter 3, there are two critiques that draw doubt on whether true altruism exists. One of these is that the testing of the empathy-altruism hypothesis as not been rigorous enough, as Batson and colleagues regularly only test one egoistic alternative to the empathy altruism hypothesis at a time (Cialdini, 1991; Maner et al., 2002; Neuberg et al., 1997; Sober & Wilson, 1999; Sorrentino, 1991). These results have been used to demonstrate that true altruism exists and empathic concern is the mechanism that motivates other orientated helping. This thesis

has addressed this criticism by producing predictor models that included multiple egoistic and altruistic motivators within them whilst examining considerate and heroic altruistic intentions (study 2) and considerate and heroic altruistic behaviours (study 5), even if not all possible explanations were examined. However, the second criticism outlined by Sober and Wilson (1999) is that it can never be stated that true altruism exists, as true altruism relies on the knowledge that helping was carried out because it was an ultimate goal to improve the welfare of another individual. This always has to be inferred – this thesis has not addressed this criticism. Therefore, whilst study 2 and study 5 provide consistent findings that emotional reactivity and empathic concern are predictive of considerate altruistic intentions and considerate altruistic behaviour respectively – this does not mean that considerate altruism is true altruism until a definitive method for determining whether an unconscious other orientated ultimate goal motivates considerate altruistic behaviour.

Future Directions

This thesis has generated numerous future avenues for research. A primary aim of this thesis was to examine whether there were differences in the way that altruistic operationalisations are perceived. Two broad categories of altruism, considerate altruism and heroic altruism have been examined in relation to their motivations, the desirability of the individuals who carry them out and the characteristics associated with people who carry them out. However, these two categories do not represent exhaustively all behaviour that can be defined as altruism. More qualitative research could be conducted to examine some of the more nuanced operationalisations, to help explain behaviours like blood donation, living organ donation, participating in aid convoys and examples of magnanimity. By taking a qualitative approach to examining such behaviours, further insight could be gained into whether costly signalling theory can account for the evolution of these behaviours and whether the underlying motivations of these behaviours are best explained by egoism or pluralism.

Furthermore, whilst predictor models have been created that associate the other-orientated variables of empathy and agreeableness with considerate altruistic intentions/behaviour and heroic altruistic intentions respectively, the variables included were not exhaustive. Psychological neuroscience may provide an alternative method other than inference for determining whether an underlying motive is ultimate or instrumental. If this is not possible however, then a systematic review of the literature could establish all

theorised egoistic and altruistic mechanisms for motivating helping behaviour. These could then all be empirically tested within the same study, to more conclusively demonstrate whether or not an ultimate goal is other orientated. Furthermore, whilst underlying motivations may be unconscious, it does not mean that humans do not attribute motivations to others. Qualitative research where participants are asked to provide explanations for the motivations of different altruistic behaviours could help to develop hypotheses that could then be quantitatively examined.

Furthermore, the majority of the research examining desirability and altruism in this thesis, has focused on female participants. But in long-term romantic contexts, where males have increased parental care, males become more choosey (Johnstone et al., 1996). Therefore, altruistic behaviour carried out by females could be a quality signal for males. Study 8, which included male participants found that heroic females were perceived as more desirable in long-term romantic relationships whilst considerate females were more desirable in short-term sexual relationships. Further research could explore whether this finding is consistent and explore what qualities males associate with considerate vs heroic altruism. Evolutionary altruism research tends to focus on males carrying out this behaviour. However, research evidence demonstrates consistently that females are more likely than males to donate money and volunteer (Einolf, 2011; Manning, 2010; Mesch et al., 2011; Piper & Schnepf, 2008; Rotolo & Wilson, 2007; Taniguchi, 2006). Therefore, to explain how altruism has evolved, there needs to be a thorough examination of how the cost of altruism is offset for women as well as men.

To fully test the predictions of costly signalling theory (CST) in relation to considerate and heroic altruism, future research should explore how male participants rate altruistic males in non-romantic contexts and how female participants rate altruistic females in non-romantic contexts. CST suggests that costly signals can indicate to members of the same sex that an individual has an underlying quality, to help them to determine whether that individual is a worthy cooperative partner or a rival they should avoid competition with (Zahavi, 1975, 1977). Whilst study 6 did examine the desirability of considerate and heroic altruists in non-romantic contexts, only female participants were recruited to rate male altruists. It is possible that different altruistic behaviours signal different underlying qualities, and these qualities vary in desirability as determined by the observer and/or context. In addition, whilst altruistic intentions were examined in study 2, these were hypothetical. To see whether men and women use considerate and heroic altruism as defined within this thesis as a mating strategy it should be examined whether

each behaviour is more likely to occur in the presence of a member of the opposite sex compared with a member of the same sex.

Study 10 provided insights into the underlying qualities signalled by considerate and heroic altruism by asking participants to rank order characteristics/attributes that they perceived as most to least associated with an altruist carrying out each type of behaviour. Future research should explore this further, by allowing participants to freely respond as to what their perceptions are. Also, not only positive characteristics should be examined, but also negative characteristics too. This may appear counter intuitive to the predictions of costly signalling theory, but it is unlikely that everything an altruist does is well received, so this should be examined in case it highlights important implications for the field of study. Furthermore, whilst the mixed findings on whether considerate or heroic altruism is more desirable to perspective mates can be explained by the results of study 10, where different desirable qualities were attributed to considerate altruists compared to heroic altruists, this requires further exploration. For example, future research could examine a specific sample where demographic information is controlled for, to see whether a group of individuals who find themselves in a similar circumstance find one type of altruism more desirable – i.e. would single mothers find considerate altruists more desirable than heroic altruists, as considerate altruism is a better indicator of ability to be a good parent? Also, if as suggested by study 10, different altruistic behaviours signal different underlying qualities and CST states that altruism is an honest signal of an underlying quality (Zahavi, 1975, 1977) and altruism is used as mating strategy (Bhogal, Galbraith, & Manktelow, 2016; Griskevicius et al., 2007; McAndrew & Perilloux, 2012) then adaptability is an important avenue of research. For example, if an individual displays a preference for behaving heroically, rather than considerately, this suggests that they may be better equipped to carry the cost of heroic altruism. But what if the situation calls for considerate altruism, can the individual adapt their mating strategy to meet the needs of the situation? Or will they have to back out as they cannot afford the cost?

A broader avenue of future research relates to the unification of evolutionary and psychological altruism. Previous researchers and theorists have demonstrated that evolutionary and psychological altruism are conceptually distinct (Clavien & Chapuisat, 2013; Ramsey, 2016; Stich, 2016), but suggest that they can be unified through empirical study as they do not compete with one another (Sober & Wilson, 1999). It is suggested here that not only do these perspectives not compete with one another, but that the costly signalling explanation for the evolution of altruism actually allows for motivations to have

a place within evolutionary theory. This is because the suggestion is that altruism evolved as a costly signal of an underlying desirable quality, it requires observers to witness altruism to know the underlying quality is present (Zahavi, 1975, 1977). This could mean that observers infer motivations when they witness an altruistic behaviour, and these motivations impact upon desirability. Therefore, more research into what motivations are associated by participants to considerate and heroic altruism is required.

There is currently debate within the field of evolutionary psychology, which relates to the modern synthesis, whereby emphasis on evolution is placed on genetic inheritance and the extended evolutionary synthesis (EES) which allows for other modes of evolution beyond (but not excluding) genetics. The EES school of thought allows for inclusive inheritance, where genes are one mode of inheritance but so are environmental factors like ecological inheritance, cultural inheritance and social transmission (Laland et al., 2015). Theories of cultural evolution for altruism towards non-kin have been proposed (Boyd & Richerson, 1982, 2009; Richerson & Boyd, 1984) which suggest that social behaviours like altruism can be culturally transmitted by conformist-based imitation, where members of a group follow the behaviour of a majority of their group members similar to social learning (André & Morin, 2011). Much evolutionary research into altruism, does not acknowledge whether altruism is passively inherited via genes or actively encouraged via social norms. Future research could examine the predictions of costly signalling theory through the eye of cultural evolution. For example, if women and men recognise that altruism is attractive as suggested by study 6 within this thesis (where altruism was more desirable than a neutral individual) and other researchers (Barclay, 2010; Farrelly et al., 2016; Farrelly et al., 2007; Margana et al., 2019) then we should examine whether parents actively encourage altruism within their offspring and whether this impacts on altruism in adulthood. This should be examined with consideration for considerate and heroic forms of altruism, as there will likely be differences, where parents weigh up the benefits of increased attractiveness that altruism will bring to their offspring with the risks associated with altruistic behaviours. This may mean that considerate altruism is encouraged to a greater extent than heroic altruism.

Finally, the implications of this programme of research, which demonstrates that newspapers differentiate between altruistic behaviours, that participants show intra-individual variation in their altruistic intentions, that different aspects of personality are predictive of considerate and heroic altruism and that participants attribute different qualities to considerate versus heroic altruists means future research should carefully

consider how they operationalise altruism. This is true whether the research is from an evolutionary or psychological perspective. Furthermore, when generalising the results of altruistic research, researchers should take into consideration whether a range of altruistic behaviours have been operationalised, to insure consistency across empirical studies.

Conclusion

The research conducted within this thesis therefore demonstrates that some altruistic behaviours are perceived differently to others, with two broad categories of behaviour encompassing many altruistic acts, these are considerate altruism and heroic altruism. Participants show intra-individual variation in their intentions to perform considerate and heroic altruism. Furthermore, different facets of personality are predictive of each category of altruism. In relation to empathy-induced helping, this thesis suggests that considerate but not heroic behaviour, is more likely to be motivated by feelings of empathic concern. Whilst there are inconsistent results in relation to which of these behaviours is more desirable in romantic contexts, there is evidence to suggest that considerate behaviours signal different underlying qualities to heroic behaviours. Whilst these qualities are different, all of them can be seen as desirable, therefore this may explain why there is not a clear cut preference for one type of altruism over the other. It could be that situational differences impact upon which behaviour is most desirable to an observer.

Furthermore, not only do people differentiate between altruistic behaviours by displaying different intentions to carry them out, but individuals who display intentions to be considerate have distinct personality attributes that could be predictive of considerate altruism but not heroic altruism, and vice versa. Furthermore, considerate altruism has been shown to be associated with empathic concern to a greater extent than heroic altruism, which may suggest that considerate altruism is more likely to be motivated my selfless ultimate desires.

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Appendix 1: Five Qualitative Content Analyses

Qualitative Content Analysis: Chivalry

The dataset was made up of 63 newspaper articles which related to acts of chivalry, these were read and content that related to characteristics of chivalry, reasons for chivalry and consequences of chivalry were coded for analysis. It is necessary to highlight that different types of chivalry appeared in the dataset, these were labelled; everyday chivalry, romantic chivalry, heroic chivalry and war-time chivalry. The analysis will be organised to demonstrate how newspaper articles present these different types of chivalry.

It is important to note that throughout, the term “un-chivalry” is used to refer to behaviour that is not chivalrous. For example, helping a woman up who has tripped and fallen would be described as chivalrous, whereas walking past her and not offering help would be un-chivalrous.

Everyday Chivalry

Everyday chivalry refers to behaviour such as opening doors for strangers. This is the most common type of chivalry within the dataset, with 58 examples provided by the newspaper articles.

Everyday chivalry and gender. There are 33 references to acts of everyday chivalry which are carried out by men and 6 which are carried out by women. Also, when the gender of the recipients of everyday chivalry was referred to, the recipients were identified as women. Everyday chivalry is therefore depicted as being carried out by men, towards women.

Some articles go out of their way to depict everyday chivalry in this way. For example, Emily Maitlis, wrote an article for Radio Times, claiming chivalry has been modernised, and that she is "constantly impressed by how much time [her] colleagues will give [her] to sort out a computer glitch or a misdirected printer" and that "Sure, [doors] sometimes bang in your face, but more often [her] heart is lifted by a stranger's security card clicked to help [her] through a fortress when they see [her] laden with 16 lattes" (Hajibagheri, 2011). These extracts do not depict chivalry as a male dominant behaviour – instead her comments are gender neutral. However, these extracts are quoted within an article written by another reporter, who states at the beginning of the article that "Emily Maitlis has come to the defence of men by declaring that chivalry is not dead" (Hajibagheri, 2011), which then relates the behaviours described by Maitlis to men. Another article paraphrases Maitlis, saying "Emily Maitlis…claim[s] that gallantry [is] alive and well and that men may no longer open doors, but they are swift to assist damsels in distress sobbing over an HTTP Error 500 message flashing on their computer screen" (Woods, 2011). This demonstrates how the authors of articles present everyday acts of chivalry as being carried out by men towards women which aligns this behaviour to the gender roles prescribed to men and women within society (Eagley & Crowley, 1986).

Everyday chivalry and characteristics. The dominant characteristics used to describe everyday chivalrous behaviour are considerate characteristics, which are referred to 44 times. Moral and charitable characteristics are also used in association with everyday chivalry, with 13 and 8 references respectively. When these are examined in context it can be seen that there are 2 main ways that newspaper articles use these characteristics. Firstly, characteristics are used to praise everyday chivalrous behaviour, or to shame individuals

for a lack of it, for example “James Forsyth…wrote on Twitter: ‘Quite remarkable that no MP has offered Jo Swinson, who is seven months pregnant, a seat. Really shocking lack of manners and decency’” (Chorely & Chapman, 2013). Secondly, characteristics are used to highlight the rarity of everyday chivalry, for example “Style gurus claim 'standards have slipped' in the way men conduct themselves so women are 'suspicious' of gestures once thought to be polite or kind” (Daily Mail Reporter, 2013).

Considerate characteristics are also used to normalise everyday chivalrous behaviour, for example, “None of us should feel obligated to shift our backsides at the sight of a ‘Baby on Board’ badge, but basic human compassion surely demands the recognition that a pregnant person is probably feeling rougher than you today” (Battersby, 2013) and “Mr Cameron would consider it a common courtesy to surrender his seat to a heavily pregnant woman, an elderly person or someone with several children” (Deputy Political Editor, 2013). Which suggests that anyone who is considerate would think nothing of carrying out acts of everyday chivalry, which implies that this behaviour is expected because of social norms. However, the data suggests there is disagreement about whether everyday chivalry should be a social norm, for example “A survey claims most women striving for independence do not expect token acts of kindness like giving up a seat on a packed bus or carrying shopping bags” (Telegraph Reporters, 2013). This suggests that woman do not expect everyday chivalry towards them to be a social norm, which mirrors cultural change, as research demonstrates that women are becoming ambivalent towards chivalry since the women’s movement (Eagley & Crowley, 1988). Newspaper articles that mention woman not desiring acts of everyday chivalry, depict the women as irrational by using positive characteristics to describe chivalry, for example, "Does an offer of goodwill have to be taken the wrong way?” (Telegraph Reporters, 2013) and “Women are suspicious of kind men who open doors for them or offer a coat on a cold day” (Daily Mail Reporter, 2013). This makes it appear as if women are rejecting “kindness”, rather than the gender role prescribed to them by their culture during socialisation (Ickes, 1993).

Motivation behind everyday chivalry. In the case of everyday chivalry, the most reported motivation is linked to the altruist’s sense of morality, with individuals explaining that everyday chivalry is ‘the right thing to do’. For instance, a widow delivering her late husband’s eulogy is quoted as saying “Dustin was the most chivalrous person…There wasn’t a bag anyone ever carried that Dustin didn’t help with. Dustin always did the right thing” (Mccormack, 2013). However, there were numerous explanations provided for why

everyday chivalry was perceived as the right thing to, including religion, guilt avoidance and traditional values. However, perhaps the most relevant motivation can be seen in the following extract:

> The main motivation to show kindness was revealed as a "natural reaction to help others", with more than half doing so in the hope that someone will do it for them, and 41 per cent hoping to gain "karma points" through their good deeds. (Knowles, 2013)

This suggests that individuals behave in a chivalrous way in the hope that their altruism will be rewarded through reciprocation.

The reasons why individuals may choose to avoid behaving with chivalry are associated to the discussion earlier, about whether or not everyday chivalry towards women should be the social norm. For instance, one newspaper says "the 'knight in shining armour' persona is an unwanted fantasy now that women strive to be strong and independent" (Daily Mail Reporter, 2013), which indicates that as society changes, the notion of everyday chivalry becomes unnecessary. Because of this, individuals who act with chivalry may be seen to be "Promoting the myth of feminine weakness" (Battersby, 2013).

Consequences and Everyday Chivalry. The motivations for avoiding chivalry noted above relate to the most frequently cited negative consequence associated to everyday chivalry, which is that offers of everyday chivalry are rejected. Suspicion was discussed earlier in relation to characteristics associated with everyday chivalry and is revisited here as a consequence of the behaviour, for example, "Men's standards have slipped so far over recent years that any offer of chivalry from a gentleman knocks a woman off their guard and is viewed with outright suspicion (Telegraph Reporter, 2013). Essentially, because everyday chivalry is somewhat rare, when it does occur, it is met with suspicion, so an act that is offered with good intentions, is rejected.

Furthermore, newspaper articles also indicate there is a chance that everyday chivalrous acts can cause offense to recipients, for example, the following quote is in response to people shaming men for not offering a pregnant MP a seat;

> The suggestion somehow that people should be outraged on her behalf is ridiculous. The idea that just because she is seven months pregnant she has lost all

> ability to stand on her two feet or fend for herself is quite sexist (Chorley & Chapman, 2013).

Another reporter, when referring to this incident states that "Nobody likes to be patronised, and the age of chivalry – which promotes the myth of feminine weakness – is thankfully dead" (Battersby, 2013). This suggests that when men act in an everyday chivalrous way towards women, it may be perceived as carrying the underlying implication that women are not capable because the traditional chivalric code dictates that men should target women because they are "weak and oppressed" (Eagly & Crowley, 1986). This again challenges the idea that everyday chivalry should be the social norm in relation to woman in our current society.

Fear of causing offense could explain why everyday chivalrous behaviour is now depicted as rare, as men no longer know whether it is a desirable quality or not. The data also suggests a reversal of roles is occurring, where women are becoming more chivalrous than men. For example, one headline reads "Men stand aside as women become the chivalrous sex" (2013). But such articles represent a small part of the dataset. Data also suggests that women are more equipped at times to carry out everyday chivalrous acts, for example "In the early stages of my pregnancy it was definitely women who were the more helpful — I think men were afraid to offend in case they thought I just had a bit of a belly!" (Morgan & Harrison, 2013).

Whilst there is positive consequences present within the data, i.e. altruists being praised for chivalry or recipients of chivalry being saved from embarrassment, there is no real pattern that can be formed using the data in relation to these.

Conclusion. Newspaper articles seem to suggest that everyday chivalry is a considerate, charitable and moral behaviour to carry out. However, in our current society, there is discord surrounding such a male dominant behaviour when it is targeted towards women. Whilst some men are motivated to behave in a chivalrous way because they believe it to be the moral thing to do, others avoid the behaviour for fear of causing offense. Because of the decline in everyday chivalrous behaviour, newspaper articles not only use the positive characteristics attributed to the act to praise those who partake, but to shame others who do not. Whilst there are some positive consequences for behaving in a chivalrous manner, the most common consequence is a negative one – which is that chivalry is rejected, treated with suspicion and/or causes offense to the recipient.

Romantic Chivalry

Romantic chivalry can be thought of as similar to everyday chivalry, but is distinct from this form as it is carried out towards a romantic interest, for example offering your coat to a date on a cold night. This form of chivalry is cited less often, with 27 references to this type being found within the dataset.

Romantic chivalry and gender. Romantic chivalry is carried out by men 14 times within the dataset and 5 times by women. Romantic chivalry within the dataset is always carried out towards individuals of the opposite sex.

Whilst there are 5 examples of women carrying out romantic acts of chivalry, these are often not referred to as chivalrous within the newspaper articles. For example, if a man hears a bump in the night and tells his wife to stay in bed while he investigates, he is chivalrous. But when a woman does the same for her husband, this is not referred to as chivalrous. Instead the article focuses on the decline of chivalry by saying “so much for chivalry” and also depicts the behaviour as occurring because the wife is instructed to by her husband, i.e. “one in five men…send their wife downstairs to investigate” (Pleasance, 2013). This may occur because of the roles that are inherently attached to someone who is a woman and/or wife (Eagley & Crowley, 1988)

Romantic chivalry and characteristics. Romantic characteristics are the most frequently associated characteristics to acts of romantic chivalry and are referred to 8 times in 6 different sources. Considerate, heroic and charitable characteristics are also used and are referenced 7, 3 and 2 times respectively. All of these characteristics are used in a similar way, with articles using quotes rather than inserting the characteristics themselves. For example, a man who ran “to make sure he opened the car door” for his wife is described by her as “kind, generous, giving, smart, loving, loyal, just the best person you ever met” (McCormack & Associated Press Reported, 2013) and a man who assisted his fiancé with her suitcases when they first met was said to be “charming… funny… handsome, smart and he keeps me on my toes” (Cooke, 2011). These extracts demonstrate how romantic chivalry can create a positive impression of the altruist in the eyes of a romantic interest, in this case the target of altruism, which is supported by previous research which shows that altruists are desirable as both short and long-term mates for woman (Barclay, 2010).

Quotes from romantic interests are however not the only ones used by newspaper articles. For example, a high school student who serenaded a girl at school, was called “the cutest thing ever” and was complimented on his “bravery” by friends (Faberov, 2013). Furthermore, Cameron Diaz was quoted as saying Colin Firth was the “perfect Englishman” who is “totally charming and engaging to [a point] where he makes you feel special” whilst alluding to his “sense of chivalry” (Hall, 2012). This demonstrates that romantic chivalry also creates positive impressions of the altruist in the eyes of their peers and not just in the eyes of people who are the recipients of romantic chivalry.

Considerate characteristics are also used by newspaper articles to demonstrate the expectations that are placed on men. For example, “the iCarly star is hoping to find a well-mannered boyfriend when she heads off to college… since she's sick of funding romances” (NA, 2012). This demonstrates how a man is expected to act within in the confines of a romantic relationship. Furthermore, when men do not act with romantic chivalry, they are expected to be punished for it – for example, when Prince William did not allow his wife to win a boat race an onlooker said “That wasn’t very gentlemanly. He might think it’s funny now but wait until they get home” (Mackay, 2011). Conversely, when men act with good intentions, newspaper articles suggest they will be rewarded, for example, when a man offers to carry his girlfriend through a flood “but before he manages to find dry ground, an invisible hole under the water swallows them whole” (Olson, 2013) his girlfriend “can be seen laughing as she comforts her well-intentioned knight” (NA, 2013). These extracts demonstrate that a man is expected to fulfil a certain role within romantic relationships, when he fulfils this role he is rewarded and when he does not, he is expected to be punished.

The last article quoted from also demonstrates a fairy tale element to romantic chivalry, which is demonstrated further by the following extract; “Romantic stories of men gallantly throwing their coats over puddles of water to spare their beloved's feet from getting wet are not just medieval fairy tales” (Olson, 2013). By making this fairy tale connection to a real life romantic encounter, newspapers may suggest to women that a real life “prince charming” is attainable. This means that men are being encouraged to act with romantic chivalry by newspaper articles and women are being told they can expect it.

Motivation behind romantic chivalry. Romantic chivalry most often occurs to provide assistance to a romantic interest. Therefore, the motivation behind such chivalry appears to be the initiation or continuation of a romantic relationship. When asked why he

behaved with chivalry – assisting an unknown woman with her suitcase – one man stated "I don't know why my chivalry kicked in. Rachel was extremely charming and a little flustered'", the use of charming infers attraction, which therefore suggests he was motivated to pursue his attraction.

There are mixed reasons for why men may not behave in a way consistent with romantic chivalry, for example, Prince William claims there is "no chivalry" in sport when he beats his wife in a boat race and the article suggests both he and Kate Middleton are equally competitive (Low, 2011). Another article, which claims that 1 in 5 men send their wives to investigate when there is a "bump in the night" claims this occurs because "a fifth of chaps readily admit their wives are braver than they are" (Pleasance, 2013). These examples demonstrate that the couples are equal to one another (in terms of competitiveness) or that the woman out ranks the man (in terms of bravery) and therefore suggests that romantic chivalry does not occur because it is not necessary. Eagley and Crowley (1988) state that the chivalric code dictates to men that they should protect women whom are oppressed and weak, but in the examples above, this is not the case. However, by using lines within these articles such as "so much for chivalry" (Pleasance, 2013) and "As a prince of the realm, Prince William might have been expected gallantly to allow his wife to win" (Rayner, 2011) the articles are once again suggesting that men have expectations placed upon them within the confines of romantic relationships which are not being met when they do not adhere to a chivalric code. These extracts also demonstrate that there is an element of shame attached to men who are not meeting these expectations.

Another reason for chivalry not occurring is because women no longer expect romantic chivalry. For example, one article refers to the results of a survey which claims "82 per cent of women preferred to pay for their dinner on a first date and 52 per cent claimed they would happily pay the entire bill" (Telegraph Reporters, 2013). The article also links romantic chivalry and social change, with an assistant professor in Psychology quoted as saying;

> Some gendered practices are more resistant to change than others. For example, the acceptance of women in the workplace versus holding on to traditional notions of chivalry…the deep-rooted courtship ritual around who pays is changing, as people of all ages reject the idea that the man is the sole breadwinner (Roots, 2013).

This demonstrates how women are happy to not be recipients of romantic chivalry, if the trade-off is equality within other social realms.

Consequences and romantic chivalry. A commonly reported positive consequence of romantic chivalry is the development of new relationships. For example, “Love was in the bag after suitcase meeting” (Cooke, 2011) is the headline of one article talking about the engagement of a couple who first met when he offered to assist her with her suitcase. The headline clearly insinuates that love was a consequence of the chivalrous act. The initiation of romantic relationships was also found to be a motivator for men to carry out acts of romantic chivalry, suggesting a clear narrative within the data.

The consequences for individuals who fail to act with chivalry, is that they evoke a negative response from their romantic partners.

Gallant Baseball fan jumps out of the way of speeding ball…and lets it hit his furious girlfriend…The ball struck her painfully on the elbow and she was clearly unimpressed with her boyfriend and vented her frustration in front of the crowd (Mail Foreign Service, 2010)

The above extract demonstrates how romantic un-chivalry can lead to negative consequences, in this case an angry girlfriend and embarrassment in front of a large audience. However, a positive consequence for the un-chivalrous individual is that he avoided injury by moving out of the way of the ball, however, this is not highlighted by the newspaper. The focus on the negative consequence suggests that newspaper articles are highlighting the punishment that occurs when men fail to meet the expectations of those with whom they are romantically involved.

Conclusions. Romantic chivalry is carried out by men towards women to a greater extent than by women towards men. Individuals who carry out acts of romantic chivalry are depicted as romantic, considerate, heroic and charitable. These characteristics are attributed to them by their partners and peers suggesting that this type of behaviour has real world value in relation to creating an attractive perception of oneself. There is also a clear narrative that runs through all three categories, with characteristics, motivations and consequences all being used to show what is expected of men within romantic relationships and that rewards will occur for men who meet these expectations, whilst those who do not will be punished. Also, it is suggested that partaking in this behaviour can be a successful way of initiating a romantic relationship. There are once again references to social change, indicating that this form of chivalry may no longer be relevant within society. However, whilst this is referred to more explicitly in relation to romantic

chivalry, it is discussed by proportionately fewer articles in comparison to everyday chivalry.

Heroic Chivalry

Heroic chivalry is when chivalry occurs in dangerous situations, for instance intervening when a pregnant woman is being sexually harassed on a bus. Within the dataset, this type of chivalry is referenced 37 times, from 13 different newspaper articles, with the most common examples relating to acts of heroic chivalry on board the titanic – this is most likely due to the 100th anniversary of the sinking of the titanic occurring within the time frame from which articles were selected.

Heroic chivalry and gender. Newspaper articles provide the gender of the altruist in relation to 14 cases of heroic chivalry – in all of these cases, the altruist is male. Furthermore, women or women and children are listed as recipients of this type of chivalry in all 14 examples. This suggests that heroic chivalry is a male dominant behaviour carried out to assist women.

Heroic chivalry characteristics. Heroic characteristics are associated with heroic chivalry to a greater extent than any other characteristics, they are referred to 10 times in 4 different sources. Considerate, moral and charitable characteristics are also used to describe this type of chivalry and are referenced 7, 4 and 3 times respectively. Whilst heroic characteristics are used more frequently, the analysis demonstrates that all characteristics are used in a similar way. Firstly, characteristics are used to create the impression of 2 types of men in situations when heroic chivalry is called for. The contrasting of these 2 types of male character is summed up perfectly with the following extract; "Titanic witnessed mankind at its selfish worst – and its very best" (Parsons, 2012b). Men who carry out acts of heroic chivalry are portrayed positively, for example "As torrents of freezing water gushed onto the Titanic, its male passengers selflessly shepherded women and children to the few available lifeboats" (Collins, 2012). Conversely, men who do not act with chivalry are portrayed negatively, for example, "Bruce Ismay…slipped into a lifeboat when there were still women and children on board…he was scorned as a coward for the remaining 25 years of his life" (Parsons, 2012b).

Newspaper articles also create two different time frames when they discuss heroic

chivalry. For example, “One age ended with the Titanic – an age of chivalry, honour and men of all classes trying to behave like gentlemen. And another age began – the age of every man for himself, looking after number one and cold-hearted pragmatism” (Parsons, 2012a). The 2 types of people that newspapers are creating an impression of map onto these 2 time periods. With heroically chivalrous men existing prior to the titanic and cowardly self-serving men after. The titanic incident is used as the catalyst for this change. Whilst the pre-titanic class of gentleman is referred to positively throughout most of the articles, there is one important point made, which is in relation to social change; “we may have lost the age of chivalry with Titanic, but we also lost the age of deference, and serfs who were content with their lot, who would cheerfully tug their forelocks while they died and their superiors lived” (Parsons, 2012b) which suggests the “dying” of heroic chivalry with the titanic could lead to a better quality of life for those who were considered to be part of the lower class in society.

However, there are also references within the dataset to the “heroic moral code” being “a myth” (Brady, 2012). This is because a research study found that “the situation on board the Titanic, where female survivors outnumbered men three to one, was something of an exception” (Collins, 2012) and that “according to [the study] of 18 maritime disasters…the prevailing attitude is best summarised as every man for himself” (Connor, 2012). This suggests that the Titanic disaster has been romanticised by the media which chooses to associate heroic chivalry to a lost age and a different class of mankind.

Motivation behind heroic chivalry. When it comes to the motivations behind heroic chivalry there are two contradictory explanations, both of which relate to heroic chivalry on board the titanic. Firstly, it is said that men “said goodbye to their families, lit cigarettes and waited for death, true to the old code of honour, ‘women and children first’” (Parsons, 2012), which suggests heroic chivalry occurs because of an individual’s morality. However, other newspapers report on the results of a study on maritime disasters, which explains the survival of women and children on board the Titanic and Birkenhead as occurring because “In both cases, the captains told men to stand back and used the threat of violence to enforce their orders” (Kinchen, 2012). Therefore, it is possible that in these specialised incidents, men behaved with chivalry, because it was pointed out to them by an authoritative person that they should behave with honour, and this was reinforced with the threat of violence.

The above idea is further reinforced when looking at the reasons why individuals

do not act in a chivalrous way. The most common explanation is that "an everyman for himself" instinct kicks in (Kinchen, 2012) with one article stating that "When helping substantially increases the risk of dying, it would be rational for most individuals to save themselves" (Brady, 2012). This suggests that the rational action is to behave without chivalry, unless there is an outside pressure – such as the threat of violence – persuading you to do so.

Consequences and heroic chivalry. The consequences which relate to heroic chivalry, are all interconnected, independent of whether they are referring to chivalry or un-chivalry, or are positive or negative. This is because there is a harm/protection trade off in situations where heroic chivalry occurs. For example, on-board sinking ships, if a man does not allow woman and children to leave the boat prior to him, he is un-chivalrous, but he survives (a positive consequence for him) but the survival chances of women and children decreases (a negative consequence for "would be" recipients of chivalry). However, a counteracting negative consequence is that the un-chivalrous man may be harmed as a result of his decision to protect himself, for example "On the Titanic there were reports that shots were fired at men who tried to climb into the lifeboats" (Brady, 2012). Therefore, the consequences surrounding heroic chivalry is that someone will be protected and someone will be harmed, whom, in the case of the titanic depends on whether men choose to act chivalrously or not.

The same was found to be true for an example of heroic chivalry that did not relate to the titanic. In this case, a man assists a "pregnant nursing student being harassed by [a] bus pervert" which leads to the man suffering from "a broken nose and ribs, as well as a partially collapsed lung" after he is "viciously attacked" for providing help (Gorman, 2013). This demonstrates that outside of the examples of heroic chivalry on-board the titanic, there is still a cycle of harm/protection involved. In this instance, of heroic chivalry had not occurred, the woman may have been harmed – instead she was protected and the harm was aimed at the altruist instead.

Conclusions. Heroic chivalry is depicted as a behaviour carried out by men, towards women. Heroic characteristics are the dominant ones used to describe individuals who behave with heroic chivalry. There is disagreement within the dataset as to the motivations for heroic chivalry, which may have been moral or may have occurred because of the threat of violence. The consequence of heroic chivalry, is that the altruist is likely to

experience harm. This same consequence may occur for people who are unassisted by chivalry and for individuals who choose not to act chivalrously.

War-Time Chivalry

War-time chivalry relates to when individuals within the military act in a lenient way towards their enemy, for example, not shooting down an enemy pilot who is parachuting to safety. This type of chivalry is referenced by newspapers 19 times in 9 different articles.

War-time chivalry and gender. There are 8 examples of war-time chivalry where the gender of the altruist is provided, in all 8 cases the altruist is male. However, war-time chivalry differs from the other 3 types of chivalry because men are more often than women, the recipients of this type of chivalry, with 7 acts of war-time chivalry assisting men and 1 assisting women.

War-time chivalry characteristics. The most dominant characteristics used in association with war-time chivalry are considerate characteristics, which are referenced 8 times in 4 sources. These are used to highlight the consideration soldiers had towards enemy soldiers during war. Furthermore, the characteristics are attached to the altruist, rather than being described as inherent in the act they are partaking in. For example, “The story of Oswald Boelcke’s gallantry made front-page news…[he] landed alongside an… aircraft he had just shot down to check that its crew was all right” (Bruxelles, 2012), Boelcke goes on to deliver a letter over enemy lines so the family of one crew member would know he was alive, leading him to be described as a “gentlemen of the skies” (Reynolds, 2012). This demonstrates how rather than the act being gallant, the gallantry is attached to the altruist – suggesting that being considerate is an innate part of him.

Remarkable characteristics are also associated with this type of chivalry and are referenced 7 times in 3 different sources. They are used to highlight how unexpected it is that enemies assist each other in times of war and how rare the behaviour is. For example, in relation to an article about a British prisoner of war being allowed to leave to visit his dying mother on the condition that he return (which he did) “Historian Richard van Emden, who discovered the incredible incident, said such an act of chivalry was rare even a century ago” and that the “amazing story” is a “unique example” (Daily Mail Reporter, 2013).

Moral characteristics are also associated with war-time chivalry and are referenced

4 times. They are used as a reason for war-time chivalry. For example, a man who helped an enemy plane to safety was said to see "himself as an honourable man, a knight of the skies — not an assassin" and was told by an officer he admired that "A man may be tempted to fight dirty to survive, but honour is everything. You follow the rules of war for you, not for your enemy. You fight by rules to keep your humanity" (Rennell, 2013) and the prisoner of war who was granted leave to visit his dying mother as long as he returned was said to have done so because he "made a promise on his honour to go back" (Daily Mail Reporter, 2013).

Motivation behind war-time chivalry. As discussed above, moral characteristics are used to explain the reasons for the occurrence of war-time chivalry. In particular, individuals who act in chivalrous ways were concerned with honour – for example, "he made a promise on his honour to go back" (Daily Mail Reporter, 2013) and "Stigler [the altruist] saw himself as an honourable man" (Rennell, 2013). This suggests the altruist's sense of morality motivates their behaviour.

Other explanations are given, but these tend to be unique to one particular act rather than common features of war-time chivalry. For example, the Christmas day truce during world war 1, where the German and British troops did not fire at their enemy trenches, occurred because an agreement was reached between the 2 sides when "A messenger come over from German lines and said that if (our side) did not fire, they (the Germans) wouldn't in the morning (Xmas day)… A German looked over the trench – no shots – our men did the same" (Stretch, 2012). Whilst this shows that the chivalry occurred because it was negotiated, this motivation was unique to just one instance of war-time chivalry within the dataset.

Consequences and war-time chivalry. The positive consequences reported are nearly always in relation to the recipients of chivalry, with the most common positive consequence of war-time chivalry being that recipients are assisted to survive. For instance, one article talking about an apache helicopter attacking Gaddafi's troops states that "The pilot allows the terrified soldiers to flee before blowing their pick-up trucks to smithereens with Hellfire missiles. All the troops are thought to have survived the strike" (Hughes, 2011). This demonstrates that despite the soldiers on the ground being enemies of the pilot, their survival is assisted by an act of chivalry.

In contrast, it is usually the altruist who incurs negative consequences for carrying out acts of war-time chivalry. The consequence most frequently cited is that behaving with

chivalry creates a risk of harm for the altruist. For example; “Stigler [the altruist] knew he now faced a different danger. There were witnesses to his actions. If word got back that he had helped an enemy bomber to escape, he faced a court martial and a firing squad for treason” (Rennell, 2013). Furthermore, the enemy pilot who’s survival was assisted “ordered the one remaining gun turret to be swung towards Stigler” because he had misunderstood the chivalrous intentions of the altruist (Rennell, 2013). This demonstrates that the chivalrous act resulted in a situation where the potential for harm for the altruist, from his peers and his enemy was increased.

Conclusions. Considerate, remarkable and moral characteristics are all used by newspapers which discuss acts of war-time chivalry. However, they are all used in different ways. With considerate characteristics being attributed to the altruist and remarkable characteristics being used to describe the act. Furthermore, moral characteristics are used as an explanation for why the act occurs. Consequences associated with this type of chivalry have been found to be positive in relation to recipients of altruism, because they are assisted to survive, and negative in relation to the altruist because the act creates a situation where they expose themselves to an increased risk of harm.

Common Reasons for Chivalry Shared by All Types

One common explanation for why chivalry occurs is that it creates a “level playing field”, stopping some individuals from being advantaged over others. There are examples of this occurring in relation to all 4 types of chivalry mentioned above. For example, one article says “expectant mothers are more likely to be tired - they are carrying around another person after all - and will appreciate the option of sitting down” (Chorley & Chapman, 2013), which highlights that pregnant women are disadvantaged when combatting tiredness in comparison to men and non-pregnant women. An act of every-day chivalry, such as offering a pregnant woman a seat on public transport, would go some way to “levelling the playing field” compared to if the pregnant woman stands whilst a man sits – which would increase his ability to combat tiredness whilst disadvantaging her even more.

The same is true for war time chivalry, as shown in the following extract which describes what a German pilot saw when he was sent to shoot down an enemy plane:

> The lone Allied bomber was a sitting duck. Holed all over by flak and bullets and down to a single good engine, it struggled simply to stay in the air over Germany, let alone make it the 300 miles back to England (Rennell, 2013)

This highlights that there was not a level playing field as the damaged plane was not able to fight off his enemy, which motivated the enemy pilot to act with chivalry.

Qualitative Content Analysis: Philanthropy

The dataset was made up of 65 newspaper articles that related to acts of philanthropy. Content that was related to the characteristics of philanthropy and philanthropists, the reasoning for philanthropy and the consequences of philanthropy were coded for analysis.

Two types of philanthropy were interpreted in the dataset, these are; Institutional philanthropy and Humanitarian philanthropy. Institutional philanthropy is when a donation is made to religious, educational, political or arts organisations. Humanitarian philanthropy is when money is donated to better human welfare, for example by donating to a fund set up to eradicate polio. However, numerous articles depicted philanthropists who had carried out both of these types of philanthropy, making it difficult to separate data between the 2 types. Also, it was sometimes ambiguous as to whether an act was institutional or humanitarian, i.e. donating to a university to fund a scholarship programme for low income students. Because of this, the results relate to philanthropy as a whole.

Philanthropy

Philanthropy and gender. Of the 65 sources within the dataset, 41 of them discuss philanthropy carried out by men, compared to 22 that discuss philanthropy carried out by women. This suggests that philanthropy is more often carried out by men. Furthermore, when women are referred to, it is often as an afterthought or their behaviour is still associated to men. For example;

> Vladimir Potanin, a Russian mining oligarch and software entrepreneurs Azim Premji of India and Hasso Plattner of Germany are among the tycoons who, along with their spouses, have signed up to the Giving Pledge, which commits the world's wealthiest to donate the majority of their wealth to philanthropy (Sherwin, 2013)

The above extract shows how the male philanthropists are named and their occupations are given, whilst the female philanthropists are simply grouped together and labelled "their spouses", which makes them appear less relevant to the philanthropy than their husbands. This may occur because the philanthropic act is being carried out by the men, and the women are only mentioned because they are married to a philanthropist. However, even when the philanthropist is clearly female, the philanthropic act is often associated to a male, for instance, the headline of one article reads "Steve Jobs' widow tiptoeing out of

shadows into public sphere with philanthropic work" (Golgowski, 2013). This quote demonstrates that even though the article is about a female and her philanthropy, her name does not make the headline, but that of her husband does. Furthermore, the article, at times refers to the philanthropist as "Mrs Jobs" rather than by her name. This demonstrates that philanthropy is presented by newspaper articles as a male dominant act, even when carried out by females. This is likely because of the roles attached to men and women in western society (West & Zimmerman, 1987).

Characteristics and philanthropy. Personality traits and wealth were both found to be characteristics associated with philanthropy. Of the 65 articles in the dataset, 37 of them refer to wealth, with 24 of the articles referencing billionaire philanthropists and 13 articles referencing millionaire philanthropists. The use of wealth in articles that discuss philanthropy suggests that wealth is a prerequisite for philanthropy. Wealth has also been associated to resource acquisition in numerous studies on attraction, which find that women to a greater extent than men, desire a mate who have characteristics that indicate their ability to acquire resources (Buss, 1989). If altruism is sexually selected for, philanthropy could lead to an increased mate value for altruists, because of its association to wealth.

Articles discussing philanthropists also regularly discuss the philanthropist's source of wealth – which is most often their occupation. For example, "Microsoft's Bill Gates makes vow to give away most of his fortune" (Rossington, 2013). This extract demonstrates the relationship between occupation, wealth and philanthropy – i.e. working in the technology industry creates wealth which enables an individual to act philanthropically. Within the dataset, 53 articles mention occupation, with over half of the philanthropists working in the technology industry (16 references) or in investments (13 references). The dataset therefore creates a picture which suggests individuals within these industries have a high potential for resource acquisition. With research showing that women desire men with a "reliable future career" (Buss, 1994), the associations made by newspapers between occupation, wealth and philanthropy could lead to certain professions being seen as more attractive.

From the characteristic groups created using characteristics from all of the altruistic datasets, it was found that attention-avoidance characteristics are most frequently associated with philanthropy, being referenced 23 times across 11 articles. These suggest that philanthropic individuals are private, quiet and shy. These characteristics are

associated to philanthropists in one of two ways. Firstly, philanthropists may try to avoid attention for their acts of philanthropy – for example, “An Irish-American billionaire who kept his philanthropy secret for 15 years has given away $7.5billion (£4.9billion) - and plans for it all to go to charity before his dies” (Lawson, 2013), which demonstrates how an altruist avoids drawing attention to their philanthropy. Secondly, attention-avoidance characteristics are associated to philanthropic individuals in general (i.e. they are private in all aspects of their lives), for example, speaking about her neighbour who donated $20million dollars to charity, one woman said “she led a quiet, modest life…you never would have known [about her wealth]… she was very secretive about it all” (Daily Mail Reporter, 2013). Conversely, the numerous philanthropists who publicise their behaviour are not referred to as attention-seeking, which suggests the use of attention-avoidance characteristics may reflect the rarity with which philanthropists are usually associated to such traits.

Charitable, moral and considerate characteristics are also all used by newspaper articles in relation to philanthropy and are referenced 15, 5 and 4 times respectively. These characteristics are depicted as being inherent in the altruist’s nature, for example, when Jennifer Hudson was given an award for her philanthropy the recording academy president said;

> We are elated to recognize Jennifer Hudson…as an extraordinary humanitarian who has selflessly contributed her time and talent to numerous worthwhile causes. She is one of the industry's most enduring, giving and gifted women, and we are privileged to be honoring her artistry, her commitment and her generosity (NA, 2013).

This shows how the characteristics are seen as belonging to the altruist, rather than as a component of the philanthropic behaviour – i.e. referring to her as giving, instead of calling it a generous act.

Charitable characteristics are also used to highlight the altruist’s success. For example, an article about philanthropist Harold Simmons quoted one of his friends as saying “Simmons shared his success with the state he dearly loved, giving generously to make advancements in healthcare and to improve higher education” (Associated Press Reporter, 2013). This demonstrates how the philanthropist was successful, and because of this he was able to be philanthropic – which benefits others.

Philanthropists are also reported as modest individuals. Modesty is associated with philanthropists in 12 articles in the dataset. For example;

> Ms Mera's life was a classic rags-to-riches story. Her family were so poor she had to leave school at 11 to work as a seamstress, but when she died of a stroke on Thursday night while holidaying with her daughter Sandra in Menorca, she was Spain's richest woman. Her fortune was estimated at €4.7bn (Roberts, 2013).

The extract demonstrates what are referred to by some newspaper as "humble beginnings". Other references to a modest lifestyle, relate to how individuals live after accruing wealth, for instance an article about a philanthropic millionaire heiress stated that she "preferred track suits over designer frocks and didn't care much for expensive jewels" (Daily Mail Reporter, 2013). This shows that despite philanthropists being depicted as wealthy, their lifestyle is reported as modest and it is insinuated that their wealth is instead reserved for philanthropy.

Philanthropists are also characterised as being well-educated, there are 10 articles that discuss the educational background of the philanthropist. Of these, 8 philanthropists are described as having a university education. Furthermore, Bill Gates is described as a "college drop-out" (Rossington, 2013) in one article, but in the other 10 article in which he appears, his educational history is not mentioned, which may demonstrate that newspapers purposely omit educational background when it does not support the idea that being well-educated is linked to philanthropy. This may relate to the class structure within society, as one article says "tutoring has had a reputation for helping the privileged buy advantage" (Garner, 2013), which suggests a good education is attributed to the privileged. As vast amounts of wealth are being discussed alongside philanthropy, newspaper articles may want it to appear that these are attainable only for the privileged or well-educated in society.

Motivation behind Philanthropy. Most explanations for why philanthropy occurs comes from the philanthropists themselves and these are quite varied. For example, they may be motivated by personal interests such as Madonna, who says "I love Malawi. I am committed to help end poverty here" (Jefferies, 2013), which suggests her love for country motivates why her philanthropy. Philanthropy may also occur because philanthropists feel a sense of responsibility such as Bill Gates, who was motivated by the following advice from his mother; "For those to whom much is given, much is expected" (Hendry, 2013). Philanthropists may also want to help disadvantaged people, for example "tutoring has had

a reputation for helping the privileged buy advantage…We believe that tutoring should be for all, so the Tutorfair Foundation arranges free tuition for children who can't afford it" (Garner, 2013).

Whilst the above motivations are varied and quite personalised they all link back to the fact that the individual's wealth allows them to behave philanthropically. For example, Bill Gates says "My wife and I had a long dialogue about how we were going to take the wealth that we're lucky enough to have and give it back in a way that's most impactful to the world" (Rossington, 2013). This demonstrates how philanthropists are motivated to both give back to society and to see their wealth used to help others. The connection between motivations and wealth is also highlighted by philanthropist Chuck Feeney who said "people who have money have an obligation…to use it wisely" (Lawson, 2013) and Vladimir Potanin who said "I genuinely believe that wealth should work for the public good" (Sherwin, 2013). Furthermore, Bill Gates said "he has no need for money any more as he is well taken care of" (Rossington, 2013). These extracts once again suggest wealth is a prerequisite for philanthropy – if the philanthropy is intended to make an impact. This is further supported by an article which discusses charitable donations from households in the UK, with people saying they would "probably donate more [to charities] if there was more evidence given for the impact of their work and more detail on how donations are used" (Robinson, 2013). Because average households are not donating billions to charities, they therefore rely on charities to demonstrate the collective impact of donations – because this is not done to the extent they would like, people are discouraged from behaving philanthropically. Conversely, large donations from people who are able to set up their own charitable foundations have much greater visibility of where their money is going and the impact it has. It appears that philanthropists are motivated by being able to see the impact they make. Visible impact has been linked to personal satisfaction – i.e. "I became convinced that there was greater satisfaction from giving my money away and seeing something come out of the ground, like a hospital or a university…I guess I'm happy when what I'm doing is helping people" (Lawson, 2013). Therefore, whilst there are varied individualistic reasons for why philanthropy occurs, an underlying motivation may be personal satisfaction, which is only achieved when individuals can see the impact their donation makes, which appears to be easier for philanthropists who are wealthy.

In addition to the explanations given by philanthropists themselves, there are also motivations for philanthropy alluded to by the authors of newspaper articles. Nearly all of these suggest the philanthropist is motivated to make personal gains. For example, Mark

Zuckerberg's "donation was tainted with cynicism as it came around the same time as the film The Social Network which portrayed him in a somewhat negative light" (Keneally, 2013), which suggests that the altruist's philanthropy occurred so he would receive positive publicity to counteract the negative press he was receiving. Furthermore, David Beckham, who donated his salary from a French football club to charity is criticised because "the French have a 75 per cent tax on anyone earning more than a million Euros a year" and suggest he was not expecting to keep hold of much of his salary anyway, they also say that "football is not how he makes money. The football is just the enjoyable way he advertises the things which makes him money" and also they point out that "you can get a tax cut for making charity donations" (Fleet StreeFox, 2013). This suggests that the he gave away money in order to receive tax breaks on a larger sum of money.

Consequences and philanthropy. Content that is related to consequences of philanthropy within the dataset demonstrates that positive consequences are associated to philanthropy to a greater extent than negative consequences, with 41 sources citing positive consequences and 5 sources citing negative consequences. The most frequently cited positive consequence for philanthropists is that they are honoured with an award or recognised for their philanthropy by the institution they donate. For example, "the exhibition galleries on Level 3 East will be named the Eyal Ofer Galleries" (Clark & Dex, 2013) after the Tate Modern received a donation from the Eyal Ofer Foundation. This shows that in exchange for the philanthropic act, the philanthropist is recognised and honoured. This could also be seen as assisting the philanthropist in building a legacy and a positive public image. Other awards include being knighted or receiving a philanthropic award. For example, "Bennett was handed the Samsung Hope for Children Lifetime Ambassador Award for his work with Exploring the Arts, a nonprofit organisation founded by the singer" (Unknown, 2013), which demonstrates that his act is rewarded with recognition and a physical award.

Another positive consequence for philanthropists is that they are praised by their peers. This is sometimes in relation to defending them against critics. For example, after retelling a story of how Harry Styles spent $3000 on pizza for the homeless, Ed Sheeran said "people write about Harry in a negative way because of his love life but he does stuff like that a lot. He's a pretty genuine guy. He's really generous" (Rainbird, 2013). Using philanthropy as a way to detract from negative behaviour shows again how philanthropy can help to build a good public image. Previous research in public goods scenarios shows

that a good reputation can attract co-operators as allies (Fehr & Fischbacher, 2003) – this is mirrored within newspaper articles which show how philanthropy is used to create a good public image (i.e. good reputation).

The last positive outcome for altruists is that the cost of philanthropy is offset by gaining something in return. This is most often a monetary reward, either from gaining profits from their philanthropic behaviour or receiving a tax break. One non-monetary gain is provided as an example below, and relates to Madonna;

> They waived strict rules that state non-Malawians have to be resident in the country for at least 18 months before adopting. A blind eye was turned because of the star's promise to build the 400-bed Academy for Girls through her Raising Malawi charity (Scott, 2013).

This shows how rules were waived, as a direct result of Madonna's philanthropy, to allow her to adapt children from Malawi.

The most commonly cited positive consequence for recipients of philanthropy is that philanthropy does what it aims to do, i.e. assist low income households with education or fund more gallery space at the Tate Modern. For example, a spokesperson for Tutorfair, an organisation which provides free tuition to students from poorer backgrounds says a consequence of philanthropy is that "Never again will tutoring just be the preserve of the privileged few" (Garner, 2013). This consequence demonstrates to altruists that their philanthropy does make a difference. Seeing the impact of philanthropy was found to motivate philanthropists, so this consequence could explain why many of the philanthropists in the dataset carry out numerous acts of philanthropy.

Whilst the majority of consequences are positive, there is one negative consequence for philanthropists, which is that their behaviour may invite criticism. This criticism comes in various forms, for example, their character may be questioned, like Chuck Feeney, who is reported to have given away most of his money to good causes is also said to have "avoided as much tax as possible during his career, setting up companies in tax havens under the name of his French first wife, Danielle" (Lawson, 2013), which demonstrates how is behaviour is suspect in relation to his financial activities. Furthermore, whilst some philanthropy leads to a good public image, other philanthropists are accused of "exploiting [their] work for personal publicity" (Scott, 2013). Also some philanthropists are criticised for not solving the underlying problems that lead to disadvantage, for example;

> Bill Gates has today criticized Google's plan to bring Internet to the Third

World with the use of giant balloons, remarking: 'When you're dying of malaria, I suppose you'll look up and see that balloon, and I'm not sure how it'll help you.' (Boyle, 2013).

This demonstrates how this act of philanthropy is criticised as an inappropriate solution to the main humanitarian crisis – disease – in the third world. Furthermore, in response to how Google are delivering philanthropy in line with their expertise Bill Gates says “the actors who just do their core thing are not going to uplift the poor” (Boyle, 2013). Which suggests that where humanitarian philanthropy is concerned there are basic underlying problems that need to be addressed in order to end poverty, before other acts should be undertaken. This also links to another criticism, which relates to money not being spent in the best possible ways, for example, one newspaper article which claims a further $5.5bn is required to eradicate polio says “more lives might be saved by spending the money on other projects, such as improving sanitation. The Hindustan Times reported this week that 1,000 children a day are dying in India from diseases caused by water contaminated with sewage” (Laurance, 2013). Finally, one article criticises the whole notion of philanthropy, saying “as more lives and communities are destroyed by the system that creates vast amounts of wealth for the few, the more heroic it sounds to ‘give back.’ It’s what I would call ‘conscience laundering’” (Kumar, 2013). Which suggests the economic system of capitalism needs to change, so that the poor can help themselves, rather than relying on capitalists.

Another consequence of philanthropy specifically relates to children of the philanthropist. For example, one newspaper says;

> Bill and Melinda’s children are Jennifer, 16, Rory, 13, and Phoebe, ten. But Bill has denied them his billions. He said recently: “I will give them some money but not a meaningful percentage. It wouldn’t be good for them or society.” (Hendry, 2013)

Which demonstrates how a consequence of Bill Gates’ philanthropy, is that his children are “denied” their father’s wealth. The concern that children may not receive wealth they are seen as being entitled to, because of philanthropy, is often not stated as a consequence, but instead is hinted at, for example “Feeney's children worked as maids, waiters and cashiers throughout college but shared $140million of the money from his company Duty Free Shoppers, so have certainly not been cut adrift” (Lawson, 2013). This seems to have been included within the article to show that despite his philanthropy, he is still taking care of

his children. Therefore, it appears that a potential negative outcome of philanthropy could be that children do not receive the inheritance that others would argue they are entitled to.

Conclusions. Characteristics are associated to both the altruist and the altruistic act in the case of philanthropy. With philanthropists being depicted as modest, avoiding-attention, charitable, moral and considerate and the act of philanthropy being associated to wealth, occupation and success. Furthermore, whilst there are individual explanations for the motivations behind philanthropy, the main explanation appears to be that people want to make an impact with their generosity to increase personal satisfaction – which has been demonstrated to be much easier for wealthy, successful people to achieve. The consequences of philanthropy were mainly positive and related to both the altruist and recipients of altruism, but perhaps importantly, philanthropy enables the altruist to develop a good reputation.

Qualitative Content Analysis: Humanitarian

The dataset consisted of 104 newspaper articles which related to humanitarianism, content which was reported as characteristics of humanitarian acts, motivations of humanitarians and consequences of the behaviour were coded for analysis. Prior to discussing the results of the analysis it is necessary to highlight that 4 types of humanitarian appeared within the dataset, these were labelled as follows; hands-on humanitarians, humanitarian reformers, founders of humanitarian foundations and humanitarian endorsers. The results will be organised to demonstrate how these 4 types of humanitarians were depicted by the data.

Hands-on Humanitarianism

Hands-on humanitarianism refers to humanitarians who are directly assisting people impacted by a humanitarian crisis, for example, doctors who volunteer to work in countries after a natural disaster has occurred. This is the most common form of humanitarianism within the dataset, with 58 articles referring to such acts.

Hands-on humanitarianism and gender. There are more male hands-on humanitarians within the dataset than female, with 39 articles relating to men and 19 articles relating to women behaving in this way, suggesting such behaviour is more common for males. The genders of recipients of hands-on humanitarianism are not mentioned within the dataset, with recipients either not being specified or referred to as "civilians" or "wounded" (Pitel, 2013). However, 14 of the 39 articles about men, are discussing an individual who's behaviour has been reported elsewhere, for example, Dr Abbas Khan who was assisting with the humanitarian crisis in Syria is discussed in 8 different articles. Of the 19 articles that relate to women, only 4 of them are discussing an individual who has already been mentioned elsewhere. This suggests the hands-on humanitarian behaviour of men is more likely to be discussed by multiple newspapers or the same newspaper on several occasions than the hands-on humanitarian behaviour of women.

Hands-on humanitarianism and characteristics. This section will discuss characteristics of individual altruists and characteristics of the acts.

Firstly, humanitarians are characterised within the dataset as either being everyday people or celebrities. Hands-on humanitarianism is most often carried out by everyday people, with 45 references associating this behaviour to them. In comparison, there are only 3 references that demonstrate celebrities carrying out hands-on humanitarianism. This is thought to occur because of risk and status. The data shows that risk is a characteristic of hands-on humanitarianism, for example "nine health workers were shot dead in a string of attacks as militants targeted a nation-wide polio vaccination campaign, underlining the deadly risks faced by humanitarian groups" (Crilly, 2013). In contrast, the other types of humanitarian behaviour are much less likely to carry the same element of risk. Celebrities, being in the public eye, have status that everyday people do not. Therefore they can avoid the risks of hands-on humanitarianism and instead endorse humanitarian charities, raising awareness and publicity, use their status to influence humanitarian reforms or their wealth and status to start humanitarian foundations. Everyday people lack this status and therefore

hands-on humanitarian behaviour is the most accessible to them.

Hands-on humanitarians were associated with heroic, charitable, considerate and remarkable characteristics, which are referenced 12, 9 8 and 6 times respectively. One of the consequences of hands-on humanitarian behaviour is death, and so many of these characteristics are associated to individuals who have died whilst behaving in an altruistic way, which leads to them being eulogised by their friends, families and reporters. For example, a friend of a doctor who died whilst assisting in a humanitarian crisis said "I was very close to Dr Isa… he was one of the bravest and most dedicated people I have met" (Cooper, 2013), which demonstrates how heroic characteristics are used to remember hands-on humanitarians. Furthermore, "Faddy Sahloul, the founder of Hand in Hand for Syria, said that Dr Abdur Rahman was a kind, generous man who 'loved to help people from the bottom of his heart'" (Pitel, 2013) which shows how considerate and charitable characteristics are also used to remember hands-on humanitarians.

Heroic characteristics are also used to highlight how an individual is better than an average human being, for example, "He is an example of heroism, compassion and humanity ... which has hardly ever been equalled" (Barrowclough, 2013) and "My brother is my hero. He didn't die in a normal way, he died trying to make a difference" (McKittrick, 2013). By eulogising hands-on humanitarians, their altruistic behaviour is presented as the act that defines them, ensuring that they are remembered by the characteristics associated to their behaviour and also as a better class of person. The element of risk that has been associated with hands-on humanitarianism and the consequence of death that occurs for some individuals also leads to these altruists being seen as a kind of humanitarian martyr.

Motivations behind hands-on humanitarianism. Within the dataset, there are 19 references which suggest the reason for hands-on humanitarian behaviour is because the altruistic individual wants to help others or make a difference. For example, speaking of Dr Abdur Rahman, who was killed on a humanitarian mission, the founder of Hand-in-Hand for Syria said "He wanted to make a difference. He believed that, as a doctor, this was where he was needed — to help the wounded rather than sitting in England with everyone else, earning money" (Pitel, 2013). This suggests that hands-on humanitarian behaviour may be motivated by the individual feeling they can help others or wanting to use their skills to try and make a difference.

Another explanation within the dataset for hands-on Humanitarian behaviour, is

that the altruist is motivated by their emotions, with a number of the altruists described as being “moved”. Furthermore, some humanitarians are motivated by a sense of responsibility, leading them to act in a way that benefits the welfare of others. For example, one hands-on humanitarian, was described by his family in the following way; "Isa was a real humanitarian. He ardently felt the pain of others as though it was his own. He felt that as a Muslim it was his responsibility to help others, irrespective of the dangers that he faced" (Cooper, 2013). This quote demonstrates how motivations for this type of humanitarianism may be emotional or related to a sense of responsibility. Furthermore, it also suggests that hands-on humanitarians are aware of the risks associated to their behaviour, but choose to act in spite of the risks. This further supports the concept of the humanitarian martyr as these individuals would rather act in a way that follows their beliefs and risk death, than avoid the risks and forsake their beliefs, for example the family of one doctor who died in Syria said they were “proud that he died doing something he believed in and helping people who were in desperate need" (Best, 2013).

Consequences and hands-on humanitarianism. Hands-on humanitarianism is most often associated with negative consequences. The negative consequences occur for the altruist, rather than recipients of altruism or others. Death is the most frequently referenced negative consequence, and is cited by 8 sources. For example, Pitel (2013) reports that “A young British doctor has been killed in Syria in an attack on a field hospital where he was treating civilians”, which demonstrates how newspapers report death as a consequence of hands-on humanitarianism. Physical, sexual or mental harm, is the next most frequent negative consequence to occur, cited by 7 sources. For example, the following is a quote from the Libyan prime minister, in relation to two British women who were attacked whilst trying to provide humanitarian aid to people in Gaza; “I visited the rape victims. They are in a very bad psychological state. They were raped in front of others, in front of their father. This is a heinous crime… the women… were attacked and robbed” (Sherlock, 2013). This shows how hands-on humanitarians may experience physical, sexual or mental harm or all 3, because of their hands-on humanitarianism. Two other negative consequences that also show the risk associated to hands-on humanitarian activity are being arrested and being kidnapped, which are cited by 5 and 4 sources respectively. One final negative consequence is that hands-on humanitarians may face criticism for their behaviour, for example, Dr Abbas Khan’s behaviour is questioned, despite being reported to have gone “to Syria to save wounded children” it is also said that “there may have been

more to Abbas's trip than meets the eye, amid reports of dozens of so-called British jihadis flocking to join the war" the article goes on to say "[this] may be true, but I have found not a shred of evidence to support this view" (Malone & Bird, 2013). This calls the humanitarians behaviour into question despite there being a lack of evidence to suggest the doctor was in Syria for anything other than a humanitarian mission.

Positive consequences are less frequently associated to hands-on humanitarians, but there are 6 references within the dataset that show how the humanitarian may receive recognition for their behaviour, for example, the friends of a doctor killed in Syria "set up an online fundraising page in his honour, which has raised nearly £72,000" the money will be used "to build a field hospital in memory of Dr Rahman in Homs, Syria" (Cooper, 2013).

There are also positive consequences for the recipients of hands-on humanitarianism. The most common of which is that the recipients get help which without they likely would not survive, this is referenced 13 times within the dataset. For example, "Raoul Wallenberg, who was posted to Budapest in July 1944 when the city was under Nazi occupation, is believed to have saved tens of thousands of Jews by providing them with false Swedish identity papers and setting up safe houses" (Barrowclough, 2013). Wallenbourg himself "was placed under arrest and died in a Moscow prison" (Barrowclough, 2013) which demonstrates how he was impacted negatively by his behaviour, however this example shows how the cost of his liberty is offset by the survival of tens of thousands of others.

Conclusions. Hands-on humanitarianism is portrayed as being predominantly carried out by men rather than women and by every-day people rather than celebrities. Risk is repeatedly associated to this type of humanitarianism, and is underlined by the characteristics associated to such altruists – which are often done after death – and the negative consequences associated to this behaviour – such as death, harm, arrest and kidnap. However, the positive consequences for the recipients of hands-on humanitarians show how these negative consequences for the altruist can be offset by assisting many more people to survive. The motivations of hands-on humanitarians appear to relate to them wanting to make a difference and to helping others, which may occur because they are emotionally moved or feel a sense of responsibility to assist others.

Humanitarian Reformer[2] Behaviour

The second type of humanitarian is the reformer, this refers to individuals who work for reform in relation to practices that compromise the welfare of others. This type of humanitarian act is cited by 18 newspaper articles.

Reformers and gender. Within the dataset there are more articles about female reformers than males, with 15 and 7 references to each respectively. This suggests the behaviour is more common for females. However, as with hands-on humanitarianism, some articles are discussing the same individual/behaviour. In the case of reformers, the behaviour of women is more likely to be discussed repeatedly than men, with 7 and 1 articles, discussing the same individuals respectively for each sex.

In relation to the gender of recipients of this type of behaviour, gender is often not referred to, but when it is, the recipients are depicted as female. For example, Joyce Banda "participated in a protest march against attacks on women by men for dressing in miniskirts" (Gumede, 2013) and Malala Yousafzai "has come to global attention, campaigning for female education in [Pakistan], in the face of violent fundamentalism" (Legge, 2013). This suggests that women as a group are more likely to require reform to improve their human rights.

Reformers and characteristics. Within the dataset, there are 10 and 7 references to celebrity and everyday reformers respectively, suggesting that this behaviour is more characteristic of celebrity humanitarians. Furthermore, 5 of the 7 references associating everyday people to humanitarian reform are discussing the same individual, meaning there are only 3 different examples of everyday humanitarian reformers within the dataset. As discussed earlier, celebrities are in the public eye and can therefore draw attention to human rights violations which can help to encourage reform, whereas everyday people, who lack the status and public platform that celebrities have, would find this more difficult.

Humanitarian reformers are most frequently associated with heroic characteristics which are used to highlight the bravery it takes to speak up for something you believe in, for example, "Supporters see her as a brave truth-teller" (Associated Press Reporter, 2013) and "In far too many places, students like Malala and their teachers are threatened, assaulted, even killed. Nowhere in the world should it be an act of bravery for an adult to teach or a girl to go to school" (Yusufzai & Alexander, 2013). The use of heroic

[2] Within chapter 4, Humanitarian Reformers, Founders and Endorsers are referred to using the collective term "Status Humanitarians".

characteristics also relates to risk – which has been associated to this form of humanitarianism, although to a lesser extent than it is to hands-on humanitarian behaviour. For example,

> Malala had from the age of 11 written a blog, under a pseudonym, for the BBC about her life in the Taliban-controlled area, where education for women was at times outlawed. She had also made a documentary for the *New York Times* about schooling for girls in Pakistan. Her fame drew her international admirers – and also dangerous local enemies. (Peshawar & Alexander, 2013).

This demonstrates how being a reformer has risks attached, these are always incurred within the dataset for everyday reformers rather than celebrity reformers. This can be linked back to the idea that reformers require a public platform – this was offered to her, via a blog for the BBC, but being an everyday person, there was greater risks for her, living within the environment she is trying to reform, compared to celebrities who often campaign from outside of the environment they are attempting to alter. The risk leads to heroic characteristics being associated to humanitarian reformers and can also create a public platform.

Motivations behind reformers behaviour. The most common explanation, which is cited 5 times within the dataset, suggests humanitarian reform occurs because reformers want disadvantaged people in society to have the same advantages as others. For example, Malawi President Joyce Banda explains that she tried to reform women's rights because the country is deeply conservative and woman are second class citizens (Gumede, 2013). Which demonstrates how she wants to create equality between men and women. When humanitarian reformers are everyday people, their behaviour often is related to reforming human welfare policies which impacted upon their own lives, for example, Malala campaigning for girls education in Pakistan (Unknown, DEX, 2013) or Edith Windsor, who married her girlfriend in Canada because it was not legal in the U.S, campaigning for gay marriage (Associated Press, 2013). This suggests that an element of wanting to create balance within society occurs because reformers do not want others to go through what they had to endure.

Consequences and humanitarian reformers. There are 5 negative consequences within the dataset which occur for humanitarian reformers, these relate to risk and also to the nature of what it means to be a reformer. When picking a cause to stand up for, the humanitarian may face opponents who disagree with them. For example, in the article

discussing Edith Windsor who campaigns for gay rights, one individual says as a consequence of Windsor's activism that there has been "more real progress in the past three years than the two decades of activism before it" but that "hate crimes, discrimination and family rejection loom in our lives still" (Associated Press, 2013). This suggests that whilst reform may occur, it can take time for general public opinion to catch up to it, creating a risk of discrimination within society, despite changes to policies. One other negative consequence is that reformers may face criticism for their behaviour, for example, Bono, whilst working for the drop the debt campaign, was accused of "whitewash[ing] the complexities of African development policies" (Coyle, 2013).

There are however, more positive consequences for humanitarian reformers than negative ones. The most common, which is referenced 13 times within the dataset, refers to reformers gaining awards or recognition for their behaviour. For example, "Angelina Jolie receives an Oscar for dealing with reality of refugee crisis" (Blakely, 2013). The recognition can also come in the form of gaining a public platform, for example, "Malala Yousafazi [will] address the UN as friends in Swat Valley listen with pride" (Ashfaq Yusufzai & Alexander, 2013). Malala, was shot in the head by the Taliban for her behaviour, which is obviously a negative consequence, but she survived and gained recognition because of this, which provided her with a public platform that was previously not available to her, meaning her beliefs related to the education of girls in Pakistan are now heard by a far greater audience than before.

There are also positive consequences for the recipients of this type of altruism, the most frequent of which is that the individuals whose cause is being fought, benefit. For example, Bono's advocacy of the Drop the Debt campaign, to relieve the poorest countries in the world of their debt is said to have resulted in "huge progress" and "20m more children going to school in sub-Saharan Africa" (Coyle, 2013). This demonstrates how the behaviour of humanitarian reformers can have a real impact on the lives of individuals they are attempting to advantage.

Conclusion. Humanitarian reformers are depicted as being female more often than male, and as celebrities more often than everyday people. When recipients of this behaviour are mentioned, their gender is referred to as female, suggesting there are greater humanitarian concerns for women, than men in the world. Heroic characteristics are attached to humanitarian reformers to demonstrate the bravery it takes to fight for something they believe in. Their bravery is supported by the fact that a negative

consequence is that reformers may face opponents who disagree with their beliefs. However, reformers are motivated to stop disadvantaged people from being disadvantaged, and in the case of everyday reformers, they do not want people to endure what they have endured. Furthermore, reformers may gain awards, recognition or a public platform because of their behaviour and there is evidence that their behaviour benefits the people it is intended to benefit.

Founders of Humanitarian Foundations

The third type of humanitarian is foundation humanitarian, which refers to individuals who set up charitable foundations which are concerned with bettering the lives of others. There are 17 newspaper articles which relate to foundation humanitarians.

Founders and gender. Within the dataset, there are a similar number of articles discussing male and female founders, with 6 and 7 articles relating to each respectively. However, 4 of the articles that relate to female founders are discussing the same individuals/behaviour. The foundations that are present in the dataset are set up to assist both men and women, for example, "the Charlize Theron Africa Outreach Project" which was set up to help eradicate AIDS (Unknown, DEX, 2013). However, there is one example of a foundation where only women are assisted; "[Joyce Banda] started the National Association of Business Women, which raised cash for women to start small businesses" (Gumede, 2013). This suggests that foundations are more likely to be concerned with improving the lives of women, when just one gender is being assisted. This idea is supported by the finding that women, rather than men, are specified as being the recipients of reformers behaviour, as the data suggests there is more concern about human rights violations of women, compared to men.

Founders and characteristics. Foundations are more commonly associated with celebrities than everyday people, with 9 and 2 references associating this behaviour to each respectively. This is likely because celebrities have the wealth required to set up a foundation. It could also be seen as a way of creating a positive public image. There is only one example of a characteristic being linked to a founder, and this is a remarkable characteristic, where a footballer is called "Marvellous Marvin" because he "created his own Marvin Sordell Foundation…to highlight the sickening trade of human [trafficking]" (Walters, 2013). The actual context of the article seems to use this characteristic to

highlight how the humanitarian's behaviour differs vastly from other footballers, for example "Do not adjust your sets, do not rub your eyes. Yes, it's a footballer whose first refuge is not the tattoo parlour or a fast-car showroom" (Walters, 2013). This may explain why there are not more characteristics consistently linked to founders, because it is not the fact that he is a humanitarian that is remarkable, but the fact that he is both a footballer and a humanitarian.

Motivations behind founder's behaviour. There are 8 references within the dataset which suggest founder's behaviour can be explained by reasons personal to the humanitarian, all of these reasons are individualistic – i.e. feeling a sense of responsibility, their personal life experiences, being encouraged by their family or because they are inspired by others. For example, the founder of Hand-in-Hand for Syria, explains he phoned his father in Syria to say he was coming back to help but "his father told him to stay and generate help from Britain". Furthermore, the founder said "Syrians are sacrificing their lives. I'm sacrificing my standard of living. At least I have a roof and feel safe when I go to bed. At least I won't die of hunger or cold" (Times Staff, 2013). This demonstrates that he was motivated by his family and also by the troubles of others.

The second reason for starting a humanitarian foundation relates to the aims of the foundation. This reason is referenced twice within the dataset. For example, one member of a Mormon foundation, says it is not storing food in preparation for a natural disaster, but to help "all of us individually to get through these bumps that occur in our lives" (AP Reporter, 2013). This shows how the aims of a foundation are used within newspaper articles to explain the reasons for this type of humanitarianism.

Consequences of founder's behaviour. Within the dataset there are not many consequences associated to the behaviour of founders. Those that are cited are quite individualistic. For example, the founder of Hand in Hand for Syria says that "He has lost the income with which he supported his wife and three children" (Times Staff, 2013). This extract demonstrates negative consequences that occur for both the humanitarian and for others – in this case, his family. The loss of income can be seen as a cost of his altruism, as can the impact this loss has on his wife and children.

In relation to positive consequences, there is only one article that provides an example for this type of humanitarianism;

> [Bon Jovi was] presented the Centrepoint Great Britain Youth Inspiration Award… for his humanitarian work. The singer founded Soul Foundation in 2006 which aims to break the cycle of people falling into poverty and homelessness by helping them to gain access to food and affordable housing along with job training programmes (Low & Booth, 2013).

This extract provides two positive consequences. Firstly, the humanitarian receives an award for his behaviour. Secondly, the recipients – i.e. the people the foundation was set up to help – are shown to benefit from the foundation, as it provides homeless people with access to food, housing and work programmes.

One final negative consequence is that founder's behaviour is criticised, for example, Mother Theresa who set up numerous missionaries for the sick and whose foundations received millions of pounds worth of donations is criticised for offering "prayers and medallions of the Virgin Mary but no direct or monetary aid" (May, 2013) to victims in India after several natural disasters.

Conclusion. Within the dataset there are more male founders than female, and founders are more often celebrities rather than everyday people. Compared to hands-on and reform humanitarians there is a lack of characteristics and consequences associated to this type of humanitarian. There is also a lack of consistency between the motivations given for starting a foundation with numerous individualistic explanations being given.

Humanitarians Endorsers

Humanitarian endorsers are individuals who endorse a charity that is assisting people who are victims of a humanitarian crisis or of human rights violations or that is trying to better human welfare. For example, endorsing "Save the Future campaign to fight child labour in the fashion industry" (Drainey, 2013). There are 14 articles which refer to this type of humanitarian.

Endorsers and gender. There are more articles about male endorsers than female, with 17 and 7 references relating to each respectively, suggesting this humanitarian behaviour is more commonly carried out by men. Gender is not related to the recipients of endorser's behaviour within the dataset, as recipients are always referred to as humanitarian organisations, for example, "[Prince] Harry is patron of MapAction, which helps in relief efforts during disasters" (Webb, 2013). Therefore, the endorser's behaviour

does not directly impact upon individuals who require humanitarian assistance, but is part of a chain of events, as the charity that is endorsed helps these individuals.

Endorsers and characteristics. This form of humanitarian behaviour is only carried out by celebrities within the dataset. This is likely because everyday people do not have the public platform required to raise awareness for a humanitarian cause like celebrities do.

There are very few characteristics associated to endorsers. There are 2 examples of charitable characteristics being used, for example Victoria and David Beckham, are called “generous” for donating clothes to the British Red Cross to help the charity raise money and awareness of the humanitarian crisis that resulted after Typhoon Haiyan hit the Philippines (Hawkins, 2013) and Princess Diana is referred to as a “great humanitarian” because of her endorsement of numerous humanitarian causes. Other than this, there are no characteristics used to depict endorsers. Therefore, whilst there is little risk for celebrities who carry out this type of behaviour, they are not depicted using positive characteristics like hands-on humanitarians and humanitarian reformers. This may be because celebrities are regularly in the media so their characters are already thought to be known to the public.

Motivations behind endorser’s behaviour. The dominant reason given for endorser’s behaviour is that they want to highlight the cause to a wider audience. Because endorsers are characterised as being celebrities, they are able to use their status for this purpose. For example, “LEADING UK celebrities have come together to produce a video to make the UK public open their eyes to the humanitarian crisis in Syria” (Rawle, 2013). Some celebrities have also provided individual reasons for why they are motivated to draw attention to a specific cause, for example, Ewan McGregor said he participated in the UNICEF campaign because his “heart truly goes out to the millions of Syrian children who have lost everything: their families, friends and homes… [he worries] that the world is starting to shut its eyes to the Syrian crisis” (Rawle, 2013). This extract demonstrates that he feels the cause needs to be brought to the public’s attention but it also shows that he is driven by his emotions. This type of reason is repeated within the dataset, for example, One Direction's Liam Payne said: "The pictures I have seen of little children in between the ruins made my heart break… we're asking the public to continue to be as generous as they possibly can” (Jeffries & Coelho, 2013) in relation to the humanitarian crisis which occurred after a typhoon hit the Philippines. The above extracts not only provide an explanation for endorser’s behaviour, but also goes some way to characterise the individuals, as the emotional explanation given shows compassion and consideration.

Consequences of endorser's behaviour. There are very few consequences related to endorser's behaviour. The only positive consequence is that humanitarians may be honoured with awards/recognition. For example, "Ms Cole, 25, received an honorary degree of Doctor of Letters from the university for her environmental and humanitarian work" (Drainey, 2013) – there are 2 examples of this within the dataset. The only negative consequence relates to the same individual, who says "I…feel like the work they are acknowledging has taken more energy than my degree did" (Drainey, 2013) which suggests the cost to the altruist is energy.

There is one other positive consequence for endorsers, which is that their altruism is not criticised. Within the dataset, there are examples which demonstrate how the other 3 types of humanitarian behaviour lead to criticism. But there is no examples of criticism for endorsers. This suggests that for celebrities, endorsing humanitarian causes is a safe way to build a positive public image.

Conclusions. All of the humanitarian endorsers within the dataset are celebrities, also the majority of them are male. Everyday people are likely not relevant to this type of humanitarianism because they lack the public platform which enables celebrities to make an impact to the charities they endorse. There are very few characteristics used to describe endorsers, instead, their emotions that motivate their behaviour demonstrates how they are considerate. Furthermore, endorsers can be seen as motivated to raise awareness of a humanitarian crisis to a wider audience. There is a lack of consequences associated to endorser's behaviour, which may be because there is also little risk associated with these humanitarian acts.

Qualitative Content Analysis: Magnanimity

The dataset was made up of 48 newspaper articles which depicted magnanimous behaviour. Content that related to characteristics of magnanimous individuals, motivations for magnanimity and consequences of magnanimity were coded for analysis.

Magnanimity

Fields within which Magnanimity occurs. The dataset contained examples of magnanimity occurring in a variety of different contexts – i.e. within the field of politics, within sporting competitions, during war or towards colleagues within the entertainment industry. The data did not allow for a reliable or consistent pattern to be created in relation to the characteristics, motivations or consequences of magnanimity within these different contexts. However, it is still important to note that a large number of the magnanimous acts are associated to politics, with 22 of the 48 articles within the dataset associating the two. For example, once Nelson Mandela became president "he continued to show extraordinary magnanimity. He invited his prosecutor to lunch, visited the widow of Hendrik Verwoerd, the high priest of apartheid, and appointed one of his old prison chiefs Ambassador to Austria" (Fletcher, 2013). Because magnanimity and politics are linked within the dataset, it may be that artefacts of political systems lead to certain assumptions about magnanimous behaviour or individuals. This will be highlighted throughout when deemed relevant.

Magnanimity and gender. There were 39 sources which gave the gender of the individual who was behaving magnanimously, 30 of these articles discussed men who were magnanimous, with the remainder referring to women. This suggests that magnanimity is predominantly a male behaviour. There are also 25 references which relate gender to an individual who is the target of magnanimity, 18 of these recipients are male and 7 are female. In other situations, gender is not specified or an organisation or group is referred to as the recipient of magnanimity.

The examples of magnanimity within the dataset are most likely dominated by men because magnanimity often occurs in association with politics within the dataset. Within the UK there are 459 male MPs and 191 female MPs (Parliament UK, 2015). This suggests there is significantly less females than males within the field of politics, which creates less opportunity for them to behave magnanimously within this field and/or for such behaviour

to be reported by newspapers. This is reflected within the dataset, with just 3 of the 22 sources which associate magnanimity to politics referring to female political figures.

Magnanimity and characteristics. Heroic, considerate, kingly, charitable and moral characteristics are used to describe magnanimous individuals. However, it is pre-dominantly heroic, considerate and kingly characteristics that are used, with 13, 11 and 10 references to each respectively. Characteristics are used in newspaper articles within quotes, which provides an authenticity to their use, as this suggests the characteristics have been witnessed by the people being quoted. For example, a Judge said of a mother who forgave the driver of a car that caused her daughter's death that she was "brave" and "showed great dignity and composure" (Daily Mail Reporter, 2010). Furthermore, at times when individuals are quoted as describing an individual as having certain characteristics, they can also be seen to be aligning themselves with the magnanimous individual. For example, Bob Geldof wrote of Nelson Mandela that "the overwhelming impression that Nelson Mandela - my friend! - leaves trailing behind him is kindness, generosity, fun, humility, forgiveness, dignity, intelligence and intense moral courage and physical bravery" (Geldof, 2013) which shows how he describes Nelson Mandela using considerate, charitable, kingly, heroic and moral characteristics, but also makes people aware that such a person was his friend. This suggests that magnanimous individuals are valued in society and can assist someone in gaining allies (Fehr & Fischbacher, 2003).

Characteristics are also used to suggest magnanimous behaviour occurs because an individual has certain characteristics which allow them to be magnanimous. For example, a "Widow's extraordinary compassion" is said to have led to her forgiving the men who murdered her husband (Bromfield, 2013) and Mandela's "humility, his self-sacrifice, his compassion and his sense of forgiveness" are said to have "offered the model which transformed a society of racial division and oppression into an open democracy" (NA, 2013), also, Mandela "impressed them with his dignity, and won their respect" (Fletcher, 2013). These extracts show how magnanimous behaviour is a result of individuals having certain characteristics.

Motivations behind magnanimity. There were 55 references which provided explanations for why magnanimity occurs. The most common explanation is that altruists are motivated by others, for example, "Mr Bamu said he must forgive his son's killers for the sake of his family" stating that "to put our lives back into sync we must forgive" (Taylor, 2012) and the mother who forgave the woman who killed her daughter in a car

accident said “Charlotte [her daughter] was a very forgiving girl and she would not want me to feel bitter” (Daily Mail Reporter, 2010). Not only does this demonstrate how people are motivated to behave magnanimously because of others, but it also shows how magnanimity can help the altruist as the data suggests that magnanimity can lead to closure, for example one altruist said that she “Hopes the [magnanimous] gesture can heal wounds not only at a personal level but perhaps even between two countries” (Buncombe, 2011). People may also be motivated by others, specifically friends or family, because that is who they are being magnanimous towards. For example, when David Miliband was not elected as leader of the labour party, but his brother was, he “walked away from Labour's front bench because he feared his presence in the shadow cabinet would prove a distraction for his brother Ed” (Unknown, 2010). This suggests that his magnanimity in defeat was motivated because his brother was the recipient.

Further explanations are provided by the altruist themselves, with many demonstrating that their personal beliefs, values or understanding motivates their magnanimity, for example, a daughter whose father was shot down whilst flying a commercial plane magnanimously accepted the apology of the Pakistani fighter pilot who pulled the trigger, stating that “In all the struggles that followed, we never, not for one moment, bore bitterness or hatred for the person who actually pulled the trigger…We are all pawns in this terrible game of war and peace” (Buncombe, 2011). This suggests that this individual’s understanding of the situation - that the pilot was simply a pawn - enabled her to behave magnanimously. Other examples from the dataset, such as "My religion teaches me that forgiveness is always better than vengeance” (Ireland, 2011) and “Treat those who you have vanquished with the respect and humility that you would expect in your own hour of defeat” (Laing, 2011), demonstrate how personal beliefs and values can also influence magnanimous behaviour.

There are 5 references within the dataset which appear to reflect selfish motivations for behaving with magnanimity. These motivations were classed as selfish because the magnanimous individual is aware that they would benefit from their behaviour. For example, Graham Norton was described as magnanimous because he offered to take a pay cut during the recession, but when questioned about his motives he said “I wouldn’t say I was loyal to the BBC – I just want to do my job, so I do my job on whatever channel that is” and “I could be tempted by an offer from ITV” (Walker, 2011). This suggests that the reason for his magnanimity was so that he could remain employed, furthermore, his

magnanimity was not a demonstration of loyalty. This demonstrates how individuals may be magnanimous to benefit themselves.

Another explanation is that magnanimity can benefit wider society, for example, one article discussing a royal wedding in Scotland, where the street will be closed for security purposes, quotes a business owner who is inconvenienced by the road closure as saying “It’s brilliant, both because it’s a nice event and for the benefits it will bring to the area, if we don’t have any customers, we’ll go and watch” (McIntosh, 2011). This shows that despite the inconvenience for the business owner on one specific street, they recognise the wider benefits for the area. Another benefit for society relates to conflict resolution, for example, Mr Bhuiyan, who was shot because of a hate crime after the 9/11 attacks, by a man who killed 2 other individuals, is campaigning against the death penalty for the offender, because he “believes executing Stroman [the offender] will kill any chance he might have of turning fellow supremacists away from hate” (Ireland, 2011). This shows that Mr Bhuiyan, believes his magnanimity could resolve conflicts between two groups of people at a time when relations between them are tenuous. Such a conflict resolution could lead to wider benefits for society.

As mentioned above, many of the examples of magnanimity within this dataset relate to political scenarios, because of this, some magnanimous behaviour can be seen to be motivated by political strategy, but this explanation only relates to examples that have a political context. For example, David Miliband, when resigning from frontline politics said that if he remained he feared “perpetual, distracting and destructive attempts to find division where none exists, and splits where they don’t exist, all to the detriment of the party” (Boden, 2010). Which shows that he has concerns for the labour party should he remain present in frontline politics, therefore, by behaving magnanimously he is acting strategically to avoid damage to the party as a whole.

Consequences and magnanimous behaviour. There are 35 references to the consequences of magnanimous behaviour. The overwhelming majority of these are positive consequences, which are referenced 32 times, compared to just 3 references to negative consequences. The most commonly cited positive consequence for magnanimous individuals is that they gain status. For example, Tariq Jahan, whose son was killed during the 2011 august riots, made a televised speech calling for calm, as a consequence “He was pictured standing next to a newlywed Prince William and Kate, and the image of him holding a photograph of his young son adorned papers around the world” (Sutcliffe, 2011).

Another positive consequence for magnanimous individuals is that they receive awards. For example, Tariq Jahan mentioned above received a pride of Britain award (Sutcliffe, 2011) and Nelson Mandela who behaved magnanimously upon his release from prison “was inundated with awards, including the Nobel Peace Prize” (Fletcher, 2013).

There were also references to magnanimous individuals gaining personally as a consequence of their magnanimity. For example, because of his decision to resign from frontline politics, David Miliband has “the opportunity to spend more time with his wife and children” (Unknown, 2010). This positive consequence relates to contexts outside of politics as well, for example, talking about being magnanimous when losing at sports, cricketer Andrew Strauss says "Cricket is about playing the game hard and trying to win — but doing it fairly…you can cut corners and cheat or bad-mouth your opposition but ultimately you don't get as much satisfaction as doing it the right way" (Grant, 2011). Which shows how magnanimity can lead to the altruist gaining personal satisfaction.

Positive consequences also occurred for people who were not the ones behaving magnanimously, but these were varied. The most common is that an individual’s magnanimity can lead to the resolution of conflict, which as discussed above has benefits for wider society. For example, in reference to Nelson Mandela’s magnanimity upon release from jail, one source states “his clear intelligence, generosity and, yes, sympathy for his defeated foes' plight ensured the smooth continuation of the dismantlement of the loathed Apartheid regime” (Geldof, 2013).

Whilst there are only 3 negative consequences, they all relate to the same thing, which is that magnanimity does not lead to closure. This is in opposition to what the data demonstrated earlier. But this may be because the individuals who cite this as a negative consequence have not embraced magnanimity. For example, in one article where Desmond Tutu says the way to bring about lasting peace is to help people forgive there enemies, a woman “who lost 50 members of her family in the [Rwandan] genocide, said ‘forgiveness [is] difficult when so many perpetrators of the Rwandan violence have yet to be held to account for their actions’” (Taylor, 2010). This demonstrates how some people doubt that magnanimity will lead to closure and are therefore resistant to it.

Conclusions. Magnanimity is more often associated to men than women, this may occur because the dataset contains many examples of magnanimity within a political context, which has been demonstrated as a male dominant arena. Heroic, considerate and kingly characteristics are most often used to depict magnanimous individuals, and these are

used within quotes, suggesting such characteristics have been witnessed. Furthermore, positive characteristics are used by people who wish to align themselves with magnanimous individuals and it is alluded to that it is because the altruist has certain characteristics that they are able to act magnanimously. Individuals are motivated to behave magnanimously because magnanimity will bring closure help them and others affected to move on. Other motivations include political strategy, personal beliefs/understanding, the anticipation of benefits for wider society, because the recipient of magnanimity is a friend or family member or because the individual expects to gain from behaving magnanimously. Finally, the consequences of magnanimity are overwhelmingly positive, with altruists gaining in status because of their magnanimity and/or receiving awards. Also wider society can be seen to benefit, as magnanimity leads to conflict resolution.

Qualitative Content Analysis: Public-Spirit

The dataset was made up of a total of 56 newspaper articles. These contained content that related to public-spirited behaviour. Public-spirited behaviour is when people act in a way that helps the wider community. As with previous datasets, data associated to characteristics, motivations and consequences were all coded for analysis. Four types of public-spirited behaviour were identified during the analysis, these are; 1) public-spirited crime fighting, 2) public-spirited fixing, 3) public-spirited protecting and 4) public-spirited monetary donations.

Public-Spirited Crime Fighting

Public-spirited crime fighting refers to when people intervene when a crime is taking place within their community. For example, "chasing after and catching a man who [stole] £10 from a woman" (Gye, 2013) or pouncing "on [a] pervert taking indecent pictures of children in Sainsbury's" (Mcqueeney, 2012). This is the most common type of public-spirited behaviour within the dataset, with 20 newspaper articles referring to this behaviour.

Gender and public-spirited crime fighting. Within the articles which relate to crime fighting behaviour, there is 23 references to the gender of the public-spirited individual. Of these 23 references, 17 refer to men with the remaining 6 referring to women. This suggests that crime fighting behaviour is more often carried out by men. However, there are not actually 17 different men who behave in this way, there are 10, with the remaining references referring to one of the same men but in a different newspaper article. For example, Piotr Mikiewicz, a street cleaner who stopped a burglar with his broom is the subject of 5 different newspaper articles. This does not happen to the same extent with female crime fighters, with only 2 of the 6 references referring to the same woman. This suggests that the way newspapers report this behaviour is biased, with men's behaviour being repeatedly discussed, whilst women's is not.

Furthermore, there is evidence that the role of females is 'down-played' in relation to this altruistic behaviour. For example, a couple behaved in a public-spirited way when they came forward to testify at trial about a violent crime they witnessed. The judge at trial is quoted as saying "The first thing I would like to say is that Mr Tsang and his girlfriend were extremely public-spirited in coming forward to help the police in their inquiries" (Dixon, 2012). This shows that both members of the couple are praised for their public-spirited behaviour, but only the male is named. Furthermore, earlier in the article Mr

Tsang's girlfriend is named in the following extract; "One witness, Weng Tsang, watched events unfold as his girlfriend Diana Frutos Perez recorded the scene on her mobile phone" (Dixon, 2012) which still shows her as being labelled as the witness's girlfriend, when in fact she collected the evidence by recording the incident on her mobile phone – which suggests she fits the definition of being a public-spirited crime fighter more so than her boyfriend. This shows how women's public-spirited behaviour is down played in comparison to men's, suggesting articles may be structured in a way that depicts men and woman as conforming to traditional gender roles (Eagley & Crowley, 1986).

Characteristics and public-spirited crime fighting. Heroic characteristics are referenced 45 times in relation to this behaviour, making them the most frequently associated characteristic to crime fighters. Heroic characteristics are used in two ways, they are either used to describe the act or they are used to describe the actor. For example, "Thomas Dolan was praised by a judge at Gloucester Crown Court last month for his selfless act of bravery" (Gye, 2013), which shows how the act is depicted using heroic characteristics. Alternatively, and more frequently, heroic characteristics are attached to the actor, for example, a street cleaner who tried to stop a burglar with his broom is described as a "Hero street cleaner", "a brave street cleaner", "a brave man" and "[his wife] said her husband was a brave and selfless man" (Edwards, 2013). All of these extracts describe the actor as heroic rather than the behaviour as heroic, despite the act being the way in which the actor's heroism is displayed. This suggests that said individual would behave with heroism in various situations because he is innately heroic.

Moral and remarkable characteristics are also referred to, with 12, and 8 references to each respectively. Moral characteristics are used to illustrate that the act of altruism is an expression of an individual's morality, that the decision to act altruistically is made because of the individual's morality and furthermore, that the individual's morality guided many aspects of the individual's life. For example, the street cleaner who tried to stop a burglar is described as "someone who represented everything that is good about decent people and was prepared to fight for what was right" (Edwards, 2013) and it was said that "Anyone who knew Piotr [the street cleaner] knew he was a truly good and honest person. He had a strong sense of what was right and wrong" (Evans, 2013). These extracts demonstrate how moral characteristics are not just linked to the actor because of the act, but are instead suggested to be embedded in the individual's nature.

Remarkable characteristics are used to highlight that an individual has done

something unique, special or unusual. But in relation to crime-fighting public-spirited acts they also highlight how an individual is an asset to their community. For example, the following was said about a woman who “pounced” on a man she saw taking pictures of children in a supermarket; “Mrs Gothard’s actions were remarkable and the local community should be very grateful that she acted in such a courageous way” (Mcqueeny, 2012) after it turned out the man was guilty of 32 counts of taking indecent images of children. The street cleaner mentioned above was also described using remarkable characteristics and was said to be a “valued member of his community” (Edwards, 2013). This shows that there actions are not just remarkable, but valuable to society.

Motivations behind public-spirited crime fighting. There were 11 sources and 22 references to the reasons underlying this type of public-spirited behaviour. These were sorted into 2 categories, which are; 1) In response to a crime and 2) personal beliefs.

Public-spirited behaviour may occur as a response to a crime. This may be described as an instantaneous response. For example, Alf Thompson, who disarmed a knife wielding burglar who was robbing a shop explained that the robber “became aggressive towards me” and that “something snapped and I thought I was 20 again” (Narain, 2012) and the street cleaner who tried to stop a burglar was also said to have “acted on pure instinct to right a wrong” (Evans, 2013). These examples demonstrate that their public-spirited behaviour occurs as an instantaneous response. Whereas, “Toby Cronshaw was disgusted when he… saw three yobs shouting and kicking down wooden crosses honouring the war dead”, which led to him trying to “stop them urinating on a war memorial” (Woledge, 2013) and a lady who apprehended a man in a supermarket who she saw taking pictures of children on his mobile phone was described as being “entirely motivated to protect those around her” (Mcqueeny, 2012). This demonstrates how this type of public-spirited behaviour may occur as a reaction to the crime, but is not described as instantaneous.

Individuals may also behave in a public-spirited crime fighting way because of their beliefs. For example, the street cleaner who was killed when he attempted to stop a burglar was described by his wife as a "brave and selfless man who wasn't frightened to stand up for what he believed was right" (Evans, 2013). The same man was described by the prosecutor at the killer’s trial as having a “laudable sense of civic duty and right and wrong” (Syson, 2013). These data extracts demonstrate how an individual’s personal beliefs can motivate their public-spirited behaviour. This links back to moral characteristic

which are used to demonstrate that crime fighter's actions are an expression of their morality.

Consequences and public-spirited crime fighting. There are 49 positive and 47 negative consequences associated to crime fighting behaviour within the dataset. Of the 49 positive consequences, 33 relate to consequences for the altruist, with the dominant positive consequence being that the crime fighter receives an award or praise for their behaviour. For example, Alf Thompson, who disarmed a robber in a shop, impressed police chiefs who "awarded him the Police Public Bravery Award" (Narain, 2012) and "a grandmother [was] given a £250 reward by a judge after she locked a burglar in her garden shed" (Duell, 2013).

The remaining 16 positive consequences relate to how the wider community benefits from crime fighter's behaviour, with the most common consequence referred to relating to criminals being apprehended, for example, "Thief John Kirk, who has more than 200 previous convictions, was jailed for burglary" after Andrew Taylor chased him down the street and assisted in stopping his escape (Sims, 2012). The arrest of this criminal benefits the wider community because he has been removed from the community, stopping him from committing more crimes. Furthermore, "Mrs Gothard's actions opened a huge can of worms" when she apprehended a man in Sainsbury's who was taking pictures of children, as the police investigation that followed "uncovered numerous offences against children" and led to the criminal being charged "with 32 separate offences relating to indecent images of children", the detective constable that investigated the case said "Without Mrs Gothard's action I dread to think what this man may be doing today. As it is, he is behind bars and authorities can keep tabs on him for the rest of his life" (Mcqueeney, 2012). This demonstrates that a direct positive consequence of the altruist's behaviour is that the criminal was arrested and will be monitored throughout his life, prohibiting him from committing more crimes, which benefits the wider community.

The 47 negative consequences are all incurred by the altruist, with the most common negative consequence being that their behaviour results in injury or death. For example, Andrew Taylor's "feet were shredded when he chased a career criminal for a mile" and he had to "undergo physiotherapy in order to walk again" (Sims, 2012) and street cleaner "Piotr Mikiewicz… was stabbed through his heart as he tackled Roger Buckingham, who was trying to flee a house with a stolen laptop" (Edwards, 2013a/b?).

These extracts demonstrate the risk associated with crime fighting behaviour and the negative consequences that altruists may experience.

Conclusion. Public-spirited crime fighters are more often depicted within the dataset as males, however there is evidence that the role of woman is down played, as when they carry out acts that fight crime, they are not repeatedly discussed by numerous sources, whereas acts by men are. Furthermore, newspapers appear to structure reports to depict men and women in a way that conforms to gender roles. Heroic characteristics are attributed to the altruist to a greater extent than they are the act, suggesting crime fighters are innately heroic. Moral characteristics are used to suggest crime fighters have a strong sense of morality which dictates their behaviour, whilst remarkable characteristics are used to show how crime fighters are valued members of society. The reason for this behaviour is that altruists are motivated to act in response to a crime or because of their beliefs/sense of morality. There are positive consequences for the altruist (awards) and the wider community (less crime), but negative consequences are only associated to the altruist, with the most common being injury or death occurring because of their public-spirited crime fighting.

Public-Spirited Fixing

Public-spirited fixing refers to when individuals try to fix problems within their community. For example, cleaning up litter off "60 miles of beaches" (Faulkner, 2012) or planting shrubs on verges to stop them being "churned up into a muddy mess by residents and visitors to a nearby GP surgery" (Levy, 2012). This type of public-spirited behaviour is referred to by 17 different sources.

Gender and public-spirited fixing. There are 11 sources which relate fixing behaviour to men and 1 source relating it to women. This suggests the behaviour is more likely to be carried out by men than women. However, like with crime fighting behaviour, many of the sources refer to the same individuals, they are just published within a different newspaper. For example, "Five men [who] were spotted fixing a bike rack on CCTV while on a night out" are discussed within 6 different articles. This again suggests that newspapers are much more likely to promote this behaviour when it is carried out by men as opposed to women.

Characteristics and public-spirited fixing. Remarkable and moral characteristics are most frequently associated to this behaviour, with 8 and 7 references to each characteristic group respectively. However, the characteristics are related to the same individuals, who are discussed within several articles, for example, a group of men who fixed a bike rack on their way home from a night out, led to a council member saying "Young people often get a bad press and this shows there are some who want to contribute to their society and do the right thing" they are also said to demonstrate a "good and responsible attitude" (Wynick, 2013), and their behaviour is called "remarkable" and "impressive" (Times Staff, 2013). These examples demonstrate how the men's behaviour is moral and remarkable, but outside of this group of men, there is no other association between the behaviour of fixer's and these characteristics. Remarkable characteristics may be repeatedly used not because the act in itself is seen as remarkable, but because of the age of the individuals carrying out the act – as they are repeatedly referred to as "young men" (Russell, 2013) or "young people" (Wynick, 2013). Associating positive characteristics to this group helps to combat stereotypes of young men, with one reporter saying their behaviour shows that "young people are the most public-spirited, most considerate, most responsible, best educated and all-round finest that this country has ever raised" (Rentoul, 2013).

Motivations behind public-spirited fixing. The reasons for why this type of public-spirited behaviour occurs fit into the following 3 categories, fixers were either; 1) motivated by others, 2) motivated to benefit the community or were 3) counteracting the negative behaviour of others. There were 13, 7 and 5 references to these explanations for behaviour respectively. Fixers were motivated by others out of concern for others, to enable or assist others or because they were encouraged by others. For example, a man who filled in potholes along a path that led to his scout groups club house was said to have done this "so children would not injure themselves when walking to his evening activity centre in the dark" (Blake, 2012). This demonstrates how he was motivated out of concern for others. The same man also said "disabled youngsters have found it increasingly difficult to make the perilous journey up the lane to the hut" (Blake, 2012), which shows he was also motivated to enable others. Fixers were also motivated by others via encouragement, for example, CCTV footage showed that "at first two lads had a go and then encouraged others to help" (Unknown, 2013) fix the bike rack. Furthermore, one of these men were quoted as saying "people were cheering us on saying go that way or this way and we all high-fived and hugged at the end" (Edwards, 2013a), which shows their behaviour was also encouraged/approved of by onlookers which motivated their behaviour.

Fixers may also have been motivated to act altruistically because they wanted to benefit the community. For example, one article about a resident who put up signs saying there was no access to dog walkers via a certain route because dog walkers were failing to clean up dog mess is said to have done so because:

> The houses are neat, the streets and pavements are kept clean and even the flowers in the gardens are a picture of regimented orderliness. And it appears residents on the upmarket estate close to a river intend to keep it that way (Narain, 2013).

This suggests the act, which discourages dog walkers, is benefitting the community by stopping it from becoming disorderly. Individuals may also benefit their community by contributing towards it, which is reinforced by a public-spirited fixer who explains that "we like to do our bit here and there" (Edwards, 2013a).

Individuals may also be motivated to be public-spirited fixers because they want to counteract the negative consequences of other people's behaviour. For example, in an article about people volunteering to collect litter off of local beaches, the huge number of volunteers was said to reflect "the level of public concern about the unacceptable amounts of litter on our beaches" (Faulkner, 2012). Which suggests this public-spirited behaviour

occurred because individuals wanted to erase the negative consequences of other people's actions.

Consequences and public-spirited fixing. There are 42 references to positive and 24 references to negative consequences which are associated with public-spirited fixing behaviour. Of the 42 positive consequences, 27 are seen as being positive for the altruist, with the most common positive consequence being that the public-spirited individual receives praise or an award, for example, when "Residents transform[ed] a dingy back alley into a glorious secret garden…North Tyneside Council honoured them for their work…[with] multiple awards" (Bentley, 2013). The remaining 15 positive consequences, are reported as being positive for the wider community, this is usually because the public-spirited behaviour leads to a problem being fixed, for example, in relation to the "dingy back alley" that was transformed, residents said "It has improved the area, which used to suffer from anti-social behaviour" (Bentley, 2013).

The negative consequences are always reported as being incurred by the public-spirited individual and are most often related to interference from the council in response to the public-spirited behaviour. For example, a "pensioner who filled in dangerous potholes" so that disabled children can safely get to their scout groups club hut "is warned he faces prosecution for FLY-TIPPING" by council officials because he filled in the potholes (Blake, 2012) and the doctor who beautified muddy verges using her own money was accused by the council of "breaking the law" and told she had to pay an £84 fee for a "license to cultivate" (Levy, 2012).

Conclusions. Public-spirited fixers are most often depicted as being men, however, there is once again evidence that the behaviour of men is more likely to be frequently promoted by numerous sources, whilst women's behaviour is not. There is a lack of characteristics that are consistently related to public-spirited fixers, instead one group of individuals is repeatedly referred to using moral and remarkable characteristics, and these are used to combat stereotypes that are often applied to young members of society. The reasons given for why this behaviour occurs are that altruists are motivated by others, motivated to benefit their community or they are motivated to counteract the negative behaviour of others. In relation to consequences, the altruist is positively rewarded with praise and/or awards and the wider community is benefitted by having a nicer place to live in. However, the altruists may be negatively impacted because of local councils issuing fines or undoing the results of public-spirited fixing.

Public-Spirited Protecting

This behaviour refers to when individuals behave in a way to protect others within their community from harm. For example, a "passing motorist stopp[ing] and us[ing] his fire extinguisher to put out the flames" when a mosque was set on fire (Unknown, DMAIL, 2013). This behaviour is referred to within 14 newspaper articles.

Gender and public-spirited protecting. Within the dataset there are 11 sources which relate public-spirited protecting to men, and none which relate this behaviour to women. However, the extent to which men carry out this behaviour is somewhat exaggerated because several of the sources discuss the same individual. For example, Leslie Austin, who "escorted a distressed elderly woman past the trouble… and removed debris from around a bus so the driver could continue on his journey" (Shaw, 2013) during the London riots in 2011, is discussed in 4 different newspaper articles.

Characteristics and public-spirited protecting. Heroic and charitable characteristics are used in relation to public-spirited protectors, with 8 and 6 references to each respectively. Most of the characteristics used in relation to this type of public-spirited behaviour are in relation to Leslie Austin – mentioned above - and his behaviour during the London riots, with 4 references naming him the "Riots hero" (Sears, 2013) or "Hero of London Riots" (Shaw, 2013) or similar. However, his bravery and the bravery of other public-spirited protectors is also referred to, for example; "Judge Warner commended the bravery of two gas engineers, a police officer and a member of the public" (Parry, 2013) who assisted residents of a block of flats that was set on fire. This demonstrates that heroic characteristics are related consistently to this behaviour and they are attributed to the public-spirited individual rather than the act.

However, charitable characteristics are only related to Leslie Austin, with him being referred to as a "good Samaritan" (Gye, 2013) by several different sources. Whilst this does not allow for charitable characteristics to be generalised to all public-spirited protectors it does show that one public-spirited protector is perceived in the same way by several different sources, suggesting this individual's behaviour is consistently interpreted as charitable.

Motivations behind public-spirited protecting. The most prevalent explanation for this type of behaviour is that altruists are acting out of concern for other people's welfare. For example, 2 men who carried some disused shells away from a beach done so, "fearing

that children might play with them" (Parrie, 2013) and people who volunteered throughout the 2012 summer Olympics were said to have done so in line with the "great tradition" of "[devoting] themselves to keeping others safe, supported and comforted" (Tomlinson, 2012).

The only other motivation for public-spirited protecting is that people are encouraged by an authoritative body to behave in this way. For example;

> Public-spirited postmen and milkmen were asked today to help keep an eye on the elderly and vulnerable during the cold snap. The Local Government Association said "all community-spirited residents" were being urged to help support council workers and spot if people are in danger (Wilcock, 2013).

This shows how an individual's public-spirited behaviour may be motivated by an external figure of authority. This also demonstrates how such behaviour is seen as desirable, because if not it would not be encouraged.

Consequences and public-spirited protecting. There are 27 references to positive consequences and 42 references to negative consequences associated with public-spirited protecting. Fifteen of the 27 positive consequences are seen as being received by the protector, with the consequence always relating to the altruist receiving either praise or rewards for their behaviour. For example, when "two gas engineers, a police officer and a member of the public" assisted residents of a block of flats which was set on fire, a judge commended their bravery and said "On behalf of the community they deserve commendation for their actions that night" (Cockerton, 2013) and in relation to a man who extinguished a fire at a mosque, a judge said "it was a great shame he had not been found to be thanked and rewarded for his public spirited actions" (Unknown, DMAIL, 2013).

When positive consequences are related to the recipients of altruism, the same consequence is always given, which is that people who are at risk are helped, for example, Leslie Austin "led an elderly woman to safety" (Sears, 2013) "ensuring she got home" (Shaw, 2013) and postmen and milkmen who check on elderly residents "can make all the difference" and "help save lives" (Wilcock, 2013).

All of the negative consequences are incurred by the altruist. One common consequence is that the protector's behaviour can lead to them being perceived as criminal. Many of the references to this consequence are in relation to Leslie Austin, because the "[Metropolitan police] published his picture suggesting he was a suspected criminal" (Gye,

2013), and this is discussed within multiple newspapers. However, two men who removed tank shells from a beach out of concern for children's safety were "prosecuted by the Ministry of Defence" and "charged with possession of a projectile and removing it from the danger area without lawful authority under local bylaws" (Stretch, 2013), suggesting this could be a common negative consequence.

Conclusions. Public-spirited protecting is depicted as being carried out by men, with no references to this act being displayed by women. Heroic characteristics are related to this behaviour, with bravery being attributed to the altruists, rather than the act. Charitable characteristics are also referred to, but only in relation to one individual, meaning they may not be consistently related to public-spirited protectors. Altruists are motivated to act in this way out of concern for the welfare of others and one of the positive consequences is that people who are at risk benefit – i.e. they are assisted and therefore avoid harm. The altruist may receive praise or an award for their behaviour. But there is also the negative consequence that they may end up being depicted as a criminal because of their actions.

Public-Spirited Monetary Donations

Public-spirited monetary donations refers to when people donate money to benefit wider society, for example, people leaving money in their will to the state to help clear the national debt (Chorley, 2012). This type of behaviour is referred to in 4 newspaper articles.

Gender and public-spirited monetary donations. Within the dataset there are 7 and 4 references to men and women respectively, who are public-spirited monetary donors. All these references come from just 4 articles, as this is the least talked about type of public-spirit within the dataset.

Characteristics and public-spirited monetary donations. This public-spirited behaviour is most often associated with charitable characteristics, specifically, individuals who behave in this way are described as generous (Chorley, 2012; Chorley, Greenhill, Martin & Salkeld, 2013). This is similar to what was found for the philanthropy content analysis, where charitable characteristics were frequently used to describe philanthropic individuals. It is likely that public-spirited monetary donations, is a sub-type of philanthropy, which did not occur within the philanthropy dataset as it is defined within articles as public giving, rather than philanthropy.

Motivations behind public-spirited monetary donations. There are just 2 sources

which contain 4 references to reasons for public-spirited monetary donations, these provide the same reason, which is that; people want to do something good. For example, the money left by a woman to the government upon her death was described as “a gift intended for the public good” (Chorley, Greenhill, Martin & Salkeld, 2013) with a neighbour suggesting “she would have wanted the Government to do something good with her money” (Chorley et al, 2013). Which suggests that this type of public-spirited behaviour occurs because the individual intends for it to have positive consequences. However, both sources that offer an explanation for philanthropic public-spirited behaviour are referring to the same individual which may limit the scope of this explanation.

Consequences and public-spirited monetary donations. There are 9 positive consequences and 2 negative consequences associated to public-spirited monetary donations. All of the positive consequences given are the same, with public-spirited monetary donations “[helping] to pay down the national debt” (Greenhill & Martin, 2013). These consequences are therefore positive for the wider community, because everyone would benefit from a reduction in the national debt.

There is just one negative consequence given, and this is the opposite of the above consequence, for example, “with the debt mountain topping £1trillion and rising, officials admit the bequests in 2010-11 are a drop in the ocean, accounting for 0.0000054 per cent of the total bill” (Chorley, 2012). This demonstrates how these public-spirited donations do not have much impact or benefit for wider society.

Conclusions. Public-spirited monetary donations is carried out by men more frequently than women within this dataset. Similar to philanthropy, altruists are depicted using charitable characteristics, with no characteristics distinguishing philanthropy and public-spirited monetary donations, which suggests the latter is likely a sub-type of the former. Individuals are motivated to act in this way because they want to do something good and the most frequently cited positive consequence is that the national debt is reduced. However, this is disputed in one article, which claims donations to the treasury are not having much impact.

Appendix 2: Definitions of Altruistic Terms

Definitions from the Oxford English Dictionary of words that relate to altruism

Philanthropy: Love of mankind; the disposition or active effort to promote the happiness and well-being of others; practical benevolence, now esp. as expressed by the generous donation of money to good causes – **unique element:** specifically about donating money.

Chivalry: The brave, honourable, and courteous character attributed to the ideal knight; disinterested bravery, honour, and courtesy; chivalrousness. (Chivalry is only a name for that general spirit or state of mind which disposes men to heroic and generous actions.) – **unique element:** behaviours that are heroic, and behaviours carried out by men towards women.

Humanitarian: A person concerned with human welfare as a primary or pre-eminent good; *esp.* a person who seeks to promote human welfare and advocates action on this basis rather than for pragmatic or strategic reasons; a philanthropist – **Unique element:** seeking to promote human welfare.

Magnanimous: Showing magnanimity; generous in feeling or conduct; superior to petty resentment or jealousy – **unique element:** linked to not kicking a person while they are down, opposite of spite.

Public-spirited: Motivated by a desire to promote the public good or best interests of the community; characterized by public spirit or an absence of private interest – **unique element:** altruism in community settings.

The above phrases were chosen as search words, because whilst they all reflect altruistic qualities, they also have distinct aspects of their definitions that differentiate them from each other, as highlighted above. Other words (see below) were not selected, as they were synonymous with the above words and appeared to have no unique element to their definitions:

Altruism: Disinterested or selfless concern for the well-being of others, esp. as a principle of action. Opposed to selfishness, egoism, or (in early use) egotism.

Beneficent: Doing good, performing kind deeds, characterized by beneficence.

Benevolence: Disposition to do good, desire to promote the happiness of others, kindness, generosity, charitable feeling (as a general state or disposition towards mankind at large).

Charitable: Full of active charity to others; esp. liberal in almsgiving to the poor.

Compassion: The feeling or emotion, when a person is moved by the suffering or distress of another, and by the desire to relieve it; pity that inclines one to spare or to succour.

Complaisance: The action or habit of making oneself agreeable; desire and care to please; compliance with, or deference to, the wishes of others; obligingness, courtesy, politeness.

Considerate: Showing consideration for the circumstances, feelings, well being, etc. of others; thoughtful for others. Now the chief sense.

Cooperation: The action of co-operating, i.e. of working together towards the same end, purpose, or effect; joint operation.

Courteous: Having such manners as befit the court of a prince; having the bearing of a courtly gentleman in intercourse with others; graciously polite and respectful of the position and feelings of others; kind and complaisant in conduct to others.

Generous: Of a person: that shows a readiness to give more of something, esp. money, than is strictly necessary or expected; open-handed, charitable, liberal, bountiful.

Helpful: Full of help; having the quality of rendering or affording help; useful, serviceable, profitable.

Humane: Originally: civil, courteous, or obliging towards others (obsolete). In later use: characterized by sympathy with and consideration for others; feeling or showing compassion towards humans or animals; benevolent, kind.

Kind: Having or showing a benevolent, friendly, or warm-hearted nature or disposition; ready to assist, or show consideration for, others; sympathetic, obliging, considerate.

Kind-hearted: Having a kind nature; warm-hearted, sympathetic, compassionate.

Self-sacrifice: To give up one's interests, happiness, etc., in order to help others or to advance a cause.

Reference: Oxford English Dictionary. (2019). *OED Online*. Oxford University Press

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Appendix 4: Altruistic Intentions Questionnaire (Version 1)

Participants respond to the below statements using a 7 point likert scale; (1) Strongly disagree, (2) Disagree, (3) Somewhat disagree, (4) Neither agree nor disagree, (5) Somewhat agree, (6) Agree and (7) Strongly agree.

1. I would run into a burning building to try and rescue someone trapped inside.
2. I would travel to a conflict area in a war-torn country to help distribute humanitarian aid to injured civilians.
3. I would participate in a fun run to raise money for charity.
4. I would bid on items I didn’t need at a charity auction because the money would be going to a good cause.
5. I would run into the street and pull an elderly pedestrian to safety if I saw them stepping out in front of a bus.
6. I would give money to a stranger who couldn’t afford a bus ticket
7. I would dive into the ocean to try and rescue someone who fell overboard.
8. I would volunteer to help an elderly neighbour with errands they find difficult.
9. I would give money to a homeless person I pass on the street
10. I would give my seat on a lifeboat to a disabled person if I were on board a sinking ship.
11. I would sponsor a colleague/acquaintance I didn’t know all that well if the money was going to a good cause.
12. I would donate money to provide humanitarian aid for civilians who are injured in war-torn countries.
13. I would help a pregnant lady struggling with a suitcase carry it up the stairs at a train station.
14. I would volunteer to help teach underprivileged children to read.
15. I would donate money to help protect the habitats of endangered species.
16. I would commit to regularly donating blood.
17. I would leave money in my will, to the government to help pay off the national debt.
18. I would donate money to help victims of a natural disaster.
19. I would volunteer to help at a children’s hospital.

20. I would donate items to a charity auction to help raise money for victims of natural disasters.
21. I would volunteer to clean up litter at my local park or beach.
22. I would campaign for better human rights for citizens in countries where human rights violations are high.
23. I would try and distract an aggressive dog that I saw attacking someone.
24. I would hand in extra money to the bank, if a cash machine gave me more than I asked for.
25. I would rush ahead to hold the door open for someone I saw had their hands full.
26. I would donate money to help fund more priority seating for disabled people on public transport.
27. I would chain myself to a tree to prevent a forest being cut down.
28. I would donate money to fund security cameras within my community to help combat burglaries.
29. I would donate an organ to someone in need.
30. I would place spare change in a charity collection bucket as I exit a supermarket.
31. I would take a thermos of tea to a homeless person sleeping on the street.
32. I would give up my seat on public transport to those who are less able.
33. I would try and help a woman fight off an attacker if I saw her being assaulted.
34. I would travel to a country hit by a natural disaster to help search through debris for survivors.
35. I would send essential items that I could spare to occupants of refugee camps.
36. I would chase after a burglar if I saw them fleeing my neighbour’s house.
37. I would donate money to a charity which provides counselling to victims of assault.
38. I would forgive and forget if a stranger who I asked to take my photograph accidentally dropped and broke my camera.

Appendix 5: Recruitment Advert for Study 2

Helping Behaviours Questionnaire

Dear potential participant,

Researchers at the University of East Anglia are looking for people to complete an online questionnaire which relates to helping behaviours. You will see a series of statements and will need to rate the extent to which you agree or disagree with them using the scale provided within the questionnaire. There are some additional questionnaires that will be used to gather information about you, these will also require you to use a scale, or to answer true or false to each item. The information collected will not relate to your identity as all responses will be anonymous. You are free to withdraw from the study at any time by abandoning the questionnaire as participation is completely voluntary.

The questionnaire should take between 15-20 minutes to complete and you will be compensated for your time with a payment of $2[3].

The questionnaire is not anticipated to cause distress, however some of the items do relate to health risks. Therefore if you feel like you are likely to be upset by descriptions of health risks, it is best if you do not participate.

If you would like to participate, please follow the link to the online questionnaire.

[3] Please note that if participants are recruited via SONA, this part of the advertisement will read “you will receive 1 SONA credit for your participation”.

Appendix 6: Information Sheet Used for Study 2

'*Questionnaire on helping behaviours'*

Participant Information Sheet

Thank you for your interest in this study. Before you decide whether to take part, please read the following information carefully. You may contact me to ask any questions if you would like more information. To participate in this study you need to be at least 18 years old.

What is this research looking at?
We are looking at whether people would consider participating in a range of helping behaviours or whether they believe others should participate in a range of helping behaviours.

Do I have to take part?
It is up to you to decide to join the study. If you agree to take part, we will then ask you to read a consent form. Your completion of the questionnaires will be taken as your consent to participate. However, you are free to withdraw at any time, without giving a reason. If you wish to the exit the study, please close your browser and any information already provided by you will not be saved. This would not affect you in any way. Once all the questions have been answered, you will still be presented with the opportunity to withdraw your answers at the end of the questionnaire.

What will happen if I agree to take part?
Firstly you will be asked to provide some demographic information (i.e. age, gender). Then you will proceed to the helping behaviours questionnaire where you will indicate the extent to which you agree or disagree with a series of statements using a scale which will be provided. Finally, there will be some additional questionnaires to complete which will collect information that relates to you, these again will require you to answer based on a scale provided or by answering true or false. The whole procedure should take around 15-20 minutes to complete.

Are there any problems with taking part?
The questions asked are not particularly distressing in nature, but some do relate to potential health risks which could cause upset. Therefore, if you feel like you may be upset by descriptions of health risks then it may be best if you do not participate. If you do choose to participate and feel uncomfortable at any time, you are free to stop immediately and abandon the questionnaire.

Will it help me if I take part?
There is an incentive for participation, you will receive 1 SONA credit upon completion of the questionnaire. Other than this, there are no direct benefits to you, but your participation will benefit the programme of research.

How will you store the information that I give you?
All information which you provide during the study will be stored in accordance with the 1998 Data Protection Act and kept strictly confidential. The chief investigator will be the custodian of the anonymous research data. No identifiable data will be collected from you, but if it were standard procedure dictates that it would be stored separately in a password protected file and then securely disposed of as soon as it is no longer required, and within 5 years. All anonymized results will be stored indefinitely in order to comply with open practice standards. The electronic data will be stored on a password protected computer. If it is necessary to create paper copies of the data, these will be stored in a locked filing cabinet in the researcher's office. Only the chief investigator and members of the research team related to this project will have access to the data.

How will the data be used?
The data will be written up and presented as part of my PhD Thesis and might be presented in journals or at research conferences. However, please be assured that group data will be presented in this way and that a single individual's responses will not be identifiable.

What happens if I agree to take part, but change my mind later?
You have the right to withdraw at any time during the study. All you need to do is abandon the questionnaire and the data you provided up to the point of abandonment will not be used. However, because data is being collected anonymously, if you complete the questionnaire, it will not be possible to remove your data at a later point in time, because it will not be possible to identify your exact data.

How do I know that this research is safe for me to take part in?
All research in the University is looked at by an independent group of people, called a Research Ethics Committee, to protect your safety, rights, wellbeing and dignity. This research was approved by the Psychology Research Ethics Committee at the University of East Anglia on 02/03/2016.

By answering the questions that follow it is assumed that you consent to take part and for your data to be used in academic research and for publications. Once all questions have been answered, there will still be an **opportunity for you to withdraw your data from the research at the end of the questionnaire.**

We are interested in your genuine responses so please take the questions at face value and give your personal opinion. If you have any questions about this study please contact the researchers.

You are under no obligation to agree to take part in this research.

If you do agree you can **withdraw at any time without giving a reason.**

Contact details:
Lead investigator: i.norman@uea.ac.uk
Research supervisor: p.fleming@uea.ac.uk

Do also contact us if you have any worries or concerns about this research.

School of Psychology Ethics Committee:
ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry:
k.coventry@uea.ac.uk; Phone 01603 597145

Appendix 7: Participant Debrief for Study 2

Thank you very much for taking part.

The purpose of this questionnaire was to identify whether or not different types of altruistic behaviour are distinguished between, which would be demonstrated by willingness to participate in certain helping behaviours and not others. Furthermore, it is of interest to the researcher whether or not there is a correlation between altruism in general (or altruistic types should they appear) and different aspects of personality.

If you have any concerns in relation to the health issues raised within this research then please contact your doctor.

If you want to know more about this study please get in touch with i.norman@uea.ac.uk who can provide more information once the study is complete. This research is supervised by p.fleming@uea.ac.uk.

Do also contact us if you have any worries or concerns.

School of Psychology Ethics Committee:

ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry:

k.coventry@uea.ac.uk; Phone 01603 597145

Appendix 8: Refined 18 Item Altruistic Intentions Questionnaire

Participants will respond to these statements using a 7 point likert scale; (1) Strongly disagree, (2) Disagree, (3) Somewhat disagree, (4) Neither agree nor disagree, (5) Somewhat agree, (6) Agree and (7) Strongly agree.

1) I would run into a burning building to try and rescue someone trapped inside.
2) I would dive into the ocean to try and rescue someone who fell overboard.
3) I would sponsor a colleague/acquaintance I didn't know all that well if the money was going to a good cause.
4) I would donate money to provide humanitarian aid for civilians who are injured in war-torn countries.
5) I would give my seat on a lifeboat to a disabled person if I were on board a sinking ship.
6) I would volunteer to help teach underprivileged children to read.
7) I would donate money to help victims of a natural disaster.
8) I would run into the street and pull an elderly pedestrian to safety if I saw them stepping out in front of a bus.
9) I would volunteer to help at a children's hospital.
10) I would donate items to a charity auction to help raise money for victims of natural disasters.
11) I would campaign for better human rights for citizens in countries where human rights violations are high.
12) I would try and distract an aggressive dog that I saw attacking someone.
13) I would place spare change in a charity collection bucket as I exit a supermarket.
14) I would take a thermos of tea to a homeless person sleeping on the street.
15) I would try and help a woman fight off an attacker if I saw her being assaulted.
16) I would send essential items that I could spare to occupants of refugee camps.
17) I would chase after a burglar if I saw them fleeing my neighbour's house.
18) I would donate money to a charity which provides counselling to victims of assault.

Items 1, 2, 5, 8, 12, 15 and 17 measure Heroic altruistic intentions

Items 3, 4, 6, 7, 9, 10, 11, 13, 14, 16 and 18 measure Considerate altruistic intentions

Appendix 9: Information Sheet Used for Study 3, Part 1

School of Psychology

'*Personality and behaviours'*

Participant Information Sheet

Thank you for your interest in this study. Before you decide whether to take part, please read the following information carefully. You may contact me to ask any questions if you would like more information. To participate in this study you need to be at least 18 years old.

What is this research looking at?
We are looking at different aspects of personality and a range of behavioural intentions. We are also interested in behaviours you have previously carried out.

Do I have to take part?
It is up to you to decide to join the study. If you agree to take part, we will then ask you to read a consent form. Your completion of the questionnaire will be taken as your consent to participate. However, you are free to withdraw at any time, without giving a reason. If you wish to exit the study, please close your browser and any information already provided by you will not be saved. This would not affect you in any way. Once all the questions have been answered, you will still be presented with the opportunity to withdraw your answers at the end of the questionnaire.

What will happen if I agree to take part?
Firstly you will be asked to complete a questionnaire, where you will indicate the extent to which you agree or disagree with a series of statements using a scale which will be provided. Finally, you will be asked to provide some demographic information, such as age and gender. You will also be asked to provide your email address. The online questionnaire should take no more than 15 minutes. After completing the questionnaire and indicating that you are happy for your data to be used, you will be contacted to complete another online questionnaire in 2 weeks. This questionnaire will ask you to indicate whether or not you have previously carried out certain behaviours and the frequency with which you have done so. You will also be asked to provide some examples of behaviours you carried out. This second questionnaire should take no more than 15 minutes to complete.

Are there any problems with taking part?
The questions asked are not particularly distressing in nature, but some do relate to potential health risks which could cause upset. Therefore, if you feel like you may be upset by descriptions of health risks then it may be best if you do not participate. If you do choose to participate and feel uncomfortable at any time, you are free to stop immediately and abandon the questionnaire.

Will it help me if I take part?
There is an incentive for participation, as you will receive 2 SONA credits upon completing the ***second*** *questionnaire. Other than this, there are no direct benefits to you, but your participation will benefit the programme of research.*

How will you store the information that I give you?
All information which you provide during the study will be stored in accordance with the 1998 Data Protection Act and kept strictly confidential. The chief investigator will be the custodian of the research data. Any identifiable data will be stored in a password protected file and will be securely disposed of as soon as it is no longer necessary, and within 5 years. All anonymized results will be stored indefinitely in order to comply with open practice standards. The electronic data will be stored on a password protected computer. Any information collected from you on paper will be stored in a locked filing cabinet in the researcher's office. Only the chief investigator and members of the research team related to this project will have access to the data.

How will the data be used?
The data will be written up and presented as part of my PhD Thesis and might be presented in journals or at research conferences. However, please be assured that only group data will be presented in this way and that a single individual's responses will not be identifiable.

What happens if I agree to take part, but change my mind later?
You have the right to withdraw at any time during the study. All you need to do is abandon the questionnaire. Any data you provided up to the point of abandonment will not be used. However, the last point of withdrawal will be at the end of the second questionnaire, please make sure you indicate whether you are happy for your data to be used at the end of the questionnaire.

How do I know that this research is safe for me to take part in?
All research in the University is looked at by an independent group of people, called a Research Ethics Committee, to protect your safety, rights, wellbeing and dignity. This research was approved by the Psychology Research Ethics Committee at the University of East Anglia on 11/05/2017.

By answering the questions that follow it is assumed that you consent to take part and for your data to be used in academic research and for publications. Once all questions have been answered, there will still be an **opportunity for you to withdraw your data from the research at the end of the questionnaire.**

We are interested in your genuine responses so please take the questions at face value and give your personal opinion. If you have any questions about this study please contact the researchers.

You are under no obligation to agree to take part in this research.

If you do agree you can **withdraw at any time without giving a reason.**

Contact details:
Lead investigator: i.norman@uea.ac.uk
Research supervisor: p.fleming@uea.ac.uk

Do also contact us if you have any worries or concerns about this research.

School of Psychology Ethics Committee:
ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry:

k.coventry@uea.ac.uk; Phone 01603 597145

Appendix 10: Information Sheet for Study 3, Part 2

School of Psychology

'*Personality and behaviours'*

<u>Participant Information Sheet</u>

Thank you for your interest in this study. Please note this is the second part of the Personality and Behaviours study and you will have already completed part 1. Before you decide whether to continue taking part, please read the following information carefully. You may contact me to ask any questions if you would like more information. To participate in this study you need to be at least 18 years old.

What is this research looking at?
We are looking at different aspects of personality and a range of behavioural intentions. We are also interested in behaviours you have previously carried out.

Do I have to take part?
It is up to you to decide to join the study. If you agree to take part, we will then ask you to read a consent form. Your completion of the questionnaire will be taken as your consent to participate. However, you are free to withdraw at any time, without giving a reason. If you wish to exit the study, please close your browser and any information already provided by you will not be saved. This would not affect you in any way. Once all the questions have been answered, you will still be presented with the opportunity to withdraw your answers at the end of the questionnaire.

What will happen if I agree to take part?
You will be asked to complete a questionnaire, which will ask you to indicate whether or not you have previously carried out certain behaviours and the frequency with which you have done so. You will also be asked to provide some examples of behaviours you have carried out. The online questionnaire should take no more than 15 minutes. After completing the questionnaire you will be asked whether you are happy for the information to be included in the study.

Are there any problems with taking part?
The questions asked are not particularly distressing in nature, but some do relate to potential health risks which could cause upset. Therefore, if you feel like you may be upset by descriptions of health risks then it may be best if you do not participate. If you do choose to participate and feel uncomfortable at any time, you are free to stop immediately and abandon the questionnaire.

Will it help me if I take part?
There is an incentive for participation, as you will receive 2 SONA credits upon completing this second questionnaire. Other than this, there are no direct benefits to you, but your participation will benefit the programme of research.

How will you store the information that I give you?
All information which you provide during the study will be stored in accordance with the 1998 Data Protection Act and kept strictly confidential. The chief investigator will be the custodian of the research data. Any identifiable data will be stored in a password protected file and will be securely disposed of as soon as it is no longer necessary, and within 5 years. All anonymized results will be stored indefinitely in order to comply with open practice standards. The electronic data will be stored on a password protected computer. Any information collected from you on paper will be stored in a locked filing cabinet in the researcher's office. Only the chief investigator and members of the research team related to this project will have access to the data.

How will the data be used?
The data will be written up and presented as part of my PhD Thesis and might be presented in journals or at research conferences. However, please be assured that only group data will be presented in this way and that a single individual's responses will not be identifiable.

What happens if I agree to take part, but change my mind later?
You have the right to withdraw at any time during the study. All you need to do is abandon the questionnaire. Any data you provided up to the point of abandonment will not be used. However, the last point of withdrawal will be at the end of the questionnaire, where you will be able to indicate if you do not want your data to be used by the researcher. If you do not want your data to be used, it will be destroyed.

How do I know that this research is safe for me to take part in?
All research in the University is looked at by an independent group of people, called a Research Ethics Committee, to protect your safety, rights, wellbeing and dignity. This research was approved by the Psychology Research Ethics Committee at the University of East Anglia on 11/05/2017.

By answering the questions that follow it is assumed that you consent to take part and for your data to be used in academic research and for publications. Once all questions have been answered, there will still be an **opportunity for you to withdraw your data from the research at the end of the questionnaire.**

We are interested in your genuine responses so please take the questions at face value and give your personal opinion. If you have any questions about this study please contact the researchers.

You are under no obligation to agree to take part in this research.

If you do agree you can **withdraw at any time without giving a reason.**

Contact details:
Lead investigator: i.norman@uea.ac.uk
Research supervisor: p.fleming@uea.ac.uk

Do also contact us if you have any worries or concerns about this research.
School of Psychology Ethics Committee:
ethics.psychology@uea.ac.uk; Phone 01603 597146
Head of School Professor Kenny Coventry:
k.coventry@uea.ac.uk; Phone 01603 597145

Appendix 11: Participant Debrief for Study 3

Thank you very much for taking part. Please don't leave this page without clicking >> to complete the survey.

The purpose of this study was to see whether situations where participants have helped are predictive of future helping intentions. An earlier study used the questionnaire that you were presented with at the start of this study and found that participants demonstrated different intentions for different types of helping. Three categories of helping (or altruistic) behaviours were created. These are considerate altruism, immediate altruism and committed altruism. The researchers are interested in whether actual behaviours participants have performed predict their responses on the helping intentions questionnaire. For example, do people who have donated money to charity show intentions to behave in a considerate altruistic way? Furthermore, the researchers were interested in whether or not individuals who show intentions to behave in a considerate altruistic way chose to "answer questions and donate rice" at the end of the first online questionnaire. It is anticipated that previous altruistic behaviours will predict the intentions that participants demonstrated and that individuals who showed intentions to act in a considerate altruistic way will have been more likely to choose the altruistic option at the end of the first questionnaire.

If you want to know more about this study please get in touch with i.norman@uea.ac.uk who can provide more information once the study is complete. This research is supervised by p.fleming@uea.ac.uk.

Do also contact us if you have any worries or concerns.
School of Psychology Ethics Committee:
ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry:
k.coventry@uea.ac.uk; Phone 01603 597145

Appendix 12: Information Sheet Used for Study 4

School of Psychology

'Personality and behavioural intentions'

Participant Information Sheet

Thank you for your interest in this study. Before you decide whether to take part, please read the following information carefully. You may contact me to ask any questions if you would like more information. To participate in this study you need to be at least 18 years old.

What is this research looking at?
We are looking at different aspects of personality and a range of behavioural intentions.

Do I have to take part?
It is up to you to decide to join the study. If you agree to take part, we will then ask you to read a consent form. Your completion of the questionnaire will be taken as your consent to participate. However, you are free to withdraw at any time, without giving a reason. If you wish to exit the study, please close your browser and any information already provided by you will not be saved. This will not affect you in any way. Once all the questions have been answered, you will still be presented with the opportunity to withdraw your answers at the end of the questionnaire.

What will happen if I agree to take part?
Firstly, you will be asked to complete a questionnaire, where you will indicate the extent to which you agree or disagree with a series of statements using a scale which will be provided. Finally, you will be asked to provide some demographic information, such as age and gender. The online questionnaire will take approximately 5 minutes.

Are there any problems with taking part?
The questions asked are not particularly distressing in nature, but some do relate to potential health risks which could cause upset. Therefore, if you feel like you may be upset by descriptions of health risks then it may be best if you do not participate. If you do choose to participate and feel uncomfortable at any time, you are free to stop immediately and abandon the questionnaire.

Will it help me if I take part?
There is an incentive for participation, as you will be presented with the opportunity to enter a prize draw at the end of the study, where the winners will be gifted a £20 gift voucher. This will require you to enter your email address/contact details. However, please rest assured that your responses to the questionnaire will still be

anonymous, as the contact details you provide will be collected via a different questionnaire, so will not be linked to your responses. Entering the prize draw is completely optional. Other than this, there are no direct benefits to you, but your participation will benefit the programme of research.

How will you store the information that I give you?
All information which you provide during the study will be stored in accordance with the 1998 Data Protection Act and kept strictly confidential. The chief investigator will be the custodian of the research data. Any identifiable data will be stored in a password protected file and will be securely disposed of as soon as it is no longer necessary, and within 5 years. All anonymized results will be stored indefinitely in order to comply with open practice standards. The electronic data will be stored on a password protected computer. Any information collected from you on paper will be stored in a locked filing cabinet in the researcher's office. Only the chief investigator and members of the research team related to this project will have access to the data.

How will the data be used?
The data will be written up and presented as part of my PhD Thesis and might be presented in journals or at research conferences. However, please be assured that only group data will be presented in this way and that a single individual's responses will not be identifiable.

What happens if I agree to take part, but change my mind later?
You have the right to withdraw at any time during the study. All you need to do is abandon the questionnaire. Any data you provided up to the point of abandonment will not be used. However, the last point of withdrawal will be at the end of the questionnaire, please make sure you indicate whether you are happy for your data to be used at the end of the questionnaire.

How do I know that this research is safe for me to take part in?
All research in the University is looked at by an independent group of people, called a Research Ethics Committee, to protect your safety, rights, wellbeing and dignity. This research was approved by the Psychology Research Ethics Committee at the University of East Anglia on 11/05/2017.

By answering the questions that follow it is assumed that you consent to take part and for your data to be used in academic research and for publications. Once all questions have been answered, there will still be an **opportunity for you to withdraw your data from the research at the end of the questionnaire.**

We are interested in your genuine responses so please take the questions at face value and give your personal opinion. If you have any questions about this study please contact the researchers.

You are under no obligation to agree to take part in this research.

If you do agree you can **withdraw at any time without giving a reason.**

Contact details:
Lead investigator: i.norman@uea.ac.uk
Research supervisor: p.fleming@uea.ac.uk

Do also contact us if you have any worries or concerns about this research.

School of Psychology Ethics Committee:
ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry:
k.coventry@uea.ac.uk; Phone 01603 597145

Appendix 13: Participant Debrief for Study 4

Thank you very much for taking part in this study.

The questionnaire you completed is an Altruistic intentions questionnaire, in other words, it measures how likely someone is to participate in a specific type of helping. Previous research has demonstrated that the questionnaire measures "Considerate altruistic intentions" (i.e. likelihood of donating money/items to charity) and "Heroic altruistic intentions" (i.e. likelihood of rescuing someone/intervening in a dangerous situation).

Previous research has shown that people who demonstrate "considerate altruistic intentions" do also participate in considerate helping behaviours. The current research is aiming to confirm that, people who demonstrate "heroic altruistic intentions" also participate in heroic helping behaviours (such as volunteering as part of a search and rescue team). This does not mean that such individuals will not also show considerate altruistic intentions, they may very well display intentions to help across all situations.

If you want to get in touch with the researcher, please email i.norman@uea.ac.uk. This research is supervised by p.fleming@uea.ac.uk.

Do also contact us if you have any worries or concerns.

School of Psychology Ethics Committee:
ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry:
k.coventry@uea.ac.uk; Phone 01603 597145

Appendix 14: The Maths Questions Used in Study 5

1) (562-313) + (12/3) =

2) 355/5 =

3) (12x4) + (43x12) =

4) 16/(502-498) =

5) 25 x ((21/3) + 8) =

6) $8^2 - 13$ =

7) 17% of 140 =

8) 408 x 12 =

9) 26% of 520 =

10) (22x4)/(709-698) =

Appendix 15: Information Sheet Used for Study 5

'Cold Pressor and Maths Test'

Participant Information Sheet

Thank you for your interest in this study. Before you decide whether to take part, please read the following information carefully (this sheet is for you to keep). You may ask me any questions if you would like more information.

What is this research looking at?
The research is investigating participant's tolerance to pain by replicating the feeling of chronic pain by using the cold pressor test, which is essentially a water bath filled with cold water. We are also interested in participants performance on a maths test.

Do I have to take part?
It is up to you to decide to join the study. We will describe the study and go through this information sheet. If you agree to take part, we will then ask you to sign a consent form. You are free to withdraw at any time, without giving a reason. Withdrawing from the study will not affect you in any way.

What will happen if I agree to take part?
First of all you will be asked some questions to ensure that you are eligible to take part in the study. Then if you are eligible you will come to the laboratory. The experiment will involve two participants, so you will attend at the same time as someone else. You will complete some questionnaires about your thoughts and feelings. Then you will complete some example maths questions and a trial of the cold pressor test – you will complete both of these tasks, but the order in which they are completed will vary, because you will do one task while the other participant does the other task. You will then answer some questions about each of the tasks you performed. Then you will be randomly assigned to perform one of these tasks again for the main study before answering some more questions and then completing either more maths questions or more trials on the cold pressor test.

Eligibility criteria.
Prior to the study you will have been sent a list of eligibility criteria. It is important that you re-read these criteria carefully before the study and be honest about whether or not you meet these criteria to ensure that you are not at an increased risk of experiencing pain or harm as a result of this study. If you no longer meet the criteria, please let the researcher know.

Are there any problems with taking part?
It is not anticipated that there will be any problems for you should you take part as long as you have met the eligibility criteria. However, it is possible that you may experience distress during the cold pressor test trial, which will involve you

experiencing some degree of pain. However, you will maintain complete control over the process, so will be able to remove your hand from the cold water at any point which will then stop the pain. Some people may feel distress at the idea of doing the cold pressor test, should you decide you no longer want to participate, you are free to stop the study and no longer participate, at any time.

Will it help me if I take part?
There are no direct benefits to participating in the research, however undergraduate psychology students will be rewarded with 4 SONA credits and your participation will benefit the programme of research.

How will you store the information that I give you?
All information which you provide during the study will be stored in accordance with the 2018 General Data Protection Regulation and kept strictly confidential. The chief investigator will be the custodian of the anonymous research data. Any identifiable data will be stored separately in a password protected file and will be securely disposed of as soon as it is no longer necessary, and within 5 years. All anonymized results will be stored indefinitely in order to comply with open practice standards. The paper versions of the forms you complete will be kept in a locked file cabinet in a secure office. Only the research team will have access to the data.

How will the data be used?
The data will be written up and presented as part of my PhD Thesis and might be presented in journals or at research conferences. However, please be assured that only group data will be presented in this way and that a single individual's responses will not be identifiable.

What happens if I agree to take part, but change my mind later?
You have the right to withdraw at any time during the study. All you need to do is tell the researcher you no longer wish to participate and the study will stop. Any data provided up to this point will not be used. There are no negative consequences for you withdrawing from the research.

How do I know that this research is safe for me to take part in?
All research in the University is looked at by an independent group of people, called a Research Ethics Committee, to protect your safety, rights, wellbeing and dignity. This research was approved by the Psychology Research Ethics Committee at the University of East Anglia on 11/09/2018.

You are under no obligation to agree to take part in this research.

If you do agree you can **withdraw at any time without giving a reason.**

Contact details:

Lead investigator: i.norman@uea.ac.uk
Research supervisor: p.fleming@uea.ac.uk

Do also contact us if you have any worries or concerns about this research.

School of Psychology Ethics Committee:
ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry:
k.coventry@uea.ac.uk; Phone 01603 597145

Appendix 16: Consent Form Used in Study 5

Consent Form

Cold Pressor and Maths Test.

Name of Researcher: Ian Norman

Please initial all boxes

1. I have read and understand the information sheet 'Cold pressor and Maths test' and have had the opportunity to ask questions and have had these answered satisfactorily. ☐
2. My participation is voluntary and I know that I am free to withdraw at any tim without giving any reason and without it affecting me at all ☐
3. I know that no personal information (such as my name) will be shared outsid of the research team or published in the final report(s) from this research ☐
4. I agree to take part in the above study ☐

Participant's signature……………………………………………Date………………………..

Researcher Contact details:

Lead investigator: Ian Norman - i.norman@uea.ac.uk
Supervised by: Dr Piers Fleming – p.fleming@uea.ac.uk; Phone 01603593386

Do also contact us if you have any worries or concerns about this research.

School of Psychology Ethics Committee:
ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry:
k.coventry@uea.ac.uk; Phone 01603 597145

Appendix 17: Participant Debrief for Study 5

University of East Anglia

Debrief

Cold Pressor and Maths test.

Thank you for participating in this study. Your time and efforts are much appreciated.

The purpose of this study is to examine whether empathy is more likely to induce helping in different contexts. An earlier study, categorised helping into 2 different categories, considerate helping and heroic helping. The same study found that emotional reactivity, which is a form of empathy, was only predictive of considerate helping. Therefore, it is predicted that individuals with high empathy scores will be more likely to help in considerate contexts but not heroic contexts. Considerate helping in this study was operationalised as "adding more time to your maths test to reduce the number of cold pressor trials the other participant does". Heroic helping was operationalised as "volunteering to do some of the cold pressor test trials for the other participant". You will have participated in one of these conditions.

Deception was used in this study, because it was important that you believed that if you offered help, this help would occur. Also, you and the other participant were both told that you were allocated to the "maths test condition", to enable the researcher to be consistent across participants and operationalise the two helping behaviours.

If you have any questions regarding this study please feel free to ask or contact the researcher or supervisor of this study now, or at a later date. If you wish to withdraw your data please tell the research now, before leaving.

If this study has made you concerned about your physical or psychological help, then please contact your GP to seek advice in the first instance. The researcher will also give you a piece of paper which has additional sources of support.

If you would like to receive a report of the main findings of the study (or a summary of the findings) when it is completed please contact the researcher, however individual feedback on your results cannot be given.

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Do also contact us if you have any worries or concerns about this research.

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Thank you again for your participation.

Appendix 18: Copy of Manuscript Published in Current Psychology

Title

Perceived Attractiveness of Two Types of Altruist.

Abstract

Empirical evidence has demonstrated that in long-term romantic contexts altruists are favoured over non-altruists. Costly signalling theory suggests that altruism informs observers that cooperating with the altruist is beneficial. This paper distinguishes between types of altruism to investigate if there is a differential effect on desirability across types. Using dating advertisements, participants (observers) received information about a considerate altruist, heroic altruist or neutral character and then rated their attraction to the character in a range of romantic and non-romantic contexts. It was hypothesised that both considerate and heroic characters would be rated by observers as more desirable than the neutral advert in long-term romantic contexts and that there would be a difference in desirability scores between the considerate and heroic characters. The results of study 1 showed that considerate altruists were significantly more desirable than the neutral advert in long-term romantic contexts, but heroic altruists did not differ significantly from neutral or considerate characters. Study 2 did not find the same pattern of results across the whole sample – but younger participants did demonstrate the same preference for considerate altruists over a neutral character in long-term romantic contexts. The findings are discussed in the context of the sex difference in mate preferences where females more than males desire qualities that signal resource acquisition. Overall, these findings suggest that considerate altruism signals good character traits to observers, such as kindness, which could indicate parenting ability and characters who signal these traits will have increased reproductive success because they are more desirable and therefore have access to more/better quality reproductive mates. Furthermore, the results suggest that considerate and heroic altruism may be distinct, and that considerate altruism is the more desirable type of altruism.

Keywords: Costly Signalling, Altruism, Attraction, Heroism, Considerate

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Introduction

Altruism has been described as an evolutionary puzzle (Van Vugt & Van Lange, 2006), because a behaviour that is costly for the survival of the actor, but beneficial for the survival of the recipient should not have evolved, considering the forces of natural selection (Clamp, 2001; Stich, 2016; Trivers, 1985). Altruism towards genetically related individuals can be explained by Hamilton's (1964) theory of inclusive fitness, which explains how altruistic acts carried out towards close relatives are adaptive because the cost is offset by the benefits being bestowed upon an individual with a similar genetic make-up as the altruist, therefore the altruistic gene can pass to future generations despite it negatively impacting on the survival of the altruist, because the relative likely shares the same altruistic gene. Furthermore, Trivers's (1971) theory of reciprocal altruism, offers an explanation for how altruism could have evolved amongst groups of unrelated individuals, as altruistic acts simply need to be reliably and consistently repaid. When humans interact over time, if the benefits of cooperation are greater than the costs, then helping can evolve if reciprocated (Axelrod & Hamilton, 1981). This type of altruism would occur when the cost to the altruist is low but the benefit to the recipient is high, so that when the "investment" is repaid, both parties receive greater benefits than costs (Hampton, 2009). However, as the altruist in this situation is actually trying to maximise pay-offs it is misleading to refer to this form of social-exchange as altruism (Becker, 1976; Khalil, 2004). Therefore, the current puzzling aspect of altruism, is how individuals could have evolved to behave altruistically towards strangers who are unlikely to reciprocate?

Altruism towards strangers can be explained, by reputational gains (Kurzban et al., 2015). These gains then increase fitness benefits from indirect cooperation partners (friends, colleagues, romantic partners), who are encouraged to cooperate (i.e. give up their time/resources to help) because of the altruist's desirable reputation (Nowak & Sigmund, 2005), which indicates that they will be beneficially reimbursed for their cooperation. These increased fitness benefits offset the cost of altruism for the actor (the individual behaving altruistically). Costly signalling theory (CST) formalises these ideas and posits that altruism is a costly signal of a desirable underlying quality, which would otherwise be unknown without altruism (Kafashan et al., 2016; Zahavi, 1975, 1977). Behaving altruistically ultimately increases the fitness of the actor, because the desirable quality attracts more, and higher quality, cooperative partners. Furthermore, CST can be coupled with sexual selection theory, where the cooperative partners would be reproductive mates (Kafashan et al., 2016; Zahavi, 1975). If altruism signals that the actor has an underlying desirable quality, then the actor will attract more mates (or mates of a higher quality), increasing the actor's reproductive success compared to a non-altruist (Miller, 2007). Therefore, the cost of altruism is offset by the increased reproductive benefits. The fact that signalling altruism is costly for the actor ensures that the signal is honest (Zahavi, 1975, 1977) and dishonest signallers would fail to bear the cost of altruism should they try and 'cheat' by signalling high quality when they are actually low quality (Lotem et al., 2003), which would be detrimental to their survival (Barclay, 2010). The act does not in fact, need to be costly to the individual who actually possesses the underlying quality, but punishment must be incurred by dishonest signallers (Getty, 1998; Számadó, 1999, 2011) to maintain the reliability of signalling (Kafashan et al., 2016).

When altruism is observed, the altruist will become more desirable compared to non-altruists in the eyes of observers, according to CST (Zahavi, 1975, 1977). As predicted, men and women are more willing to have friendships with altruists (Barclay, 2010; Bereczkei et al., 2010), lend money to altruists (Barclay, 2010)

and women prefer colleagues who are altruistic (Barclay, 2010) compared with neutral individuals. Bereczkei et al. (2010) also found that individuals who publicly displayed intentions to help strangers, were perceived as more popular, were more likely to be called upon in a crisis and people preferred to spend time with them, compared to those who did not publicly display altruistic intentions. Altruists are more desirable as romantic partners, as expected by CST and sexual selection theory (Barclay, 2010; Farrelly et al., 2016; Farrelly et al., 2007; Margana et al., 2019). This is particularly the case for long-term romantic relationships, as opposed to short-term sexual relationships (Barclay, 2010; Bhogal et al., 2018; Ehlebracht et al., 2018; Farrelly, 2011, 2013; Farrelly et al., 2016; Farrelly & King, 2019; Margana et al., 2019). This suggests that altruism signals good character rather than good genes (Barclay, 2010). A long-term context is necessary to fully benefit from cooperation with an altruist of good character, because repeated interactions multiply the benefits (Barclay, 2010). Either short or long-term contexts would allow an individual to benefit from cooperation with an altruist who was signalling good genes, as benefits would occur via reproduction. Research also shows that men (Farrelly et al., 2007; Griskevicius et al., 2007; Iredale et al., 2008; Van Vugt & Iredale, 2013) and women (Farrelly et al., 2007; Griskevicius et al., 2007), will act altruistically to attract mates in romantic contexts and that members of the same sex recognise that altruistic rivals are viewed as more desirable than non-altruists by potential romantic partners (Barclay, 2010; Kelly & Dunbar, 2001). Furthermore, research shows altruism predicts mating success (Arnocky et al., 2017).

Although the theoretical predictions of costly signalling theory and sexual selection theory have been supported, few studies have compared different helping behaviours to see whether some altruistic acts are more desirable than others. If altruism is a costly signal of a desirable quality, such as good character, different behaviours may signal different qualities or differ in reliability. Griskevicius et al. (2007) did compare different altruistic behaviours and found that when romantically primed, men were more likely than women to publicly volunteer for heroic behaviours, whilst women were more likely than men to display intentions to carry out considerate behaviours, such as “help at a homeless shelter” (Griskevicius et al. 2007, p88). This suggests considerate and heroic altruistic behaviours may be distinct strategies that men and women adopt when attracting a mate.

Kelly and Dunbar (2001) utilised vignettes to compare altruistic, brave and heroic (i.e., altruistic and brave) individuals, to see who was more desirable in short and long-term romantic relationship contexts. They concluded bravery was more desirable than altruism across all relationship contexts, but a brave and altruistic individual was most desirable. Further evidence shows women find brave *and* altruistic men more attractive than risk-avoiders, but did not show bravery without altruism is more desirable, as women demonstrated a preference for risk-avoiders over non-heroic risk-takers (Farthing 2005). Risk-avoiders are only preferred to non-heroic risk-takers when the risk is high, for medium risk situations the non-heroic risk-taker was preferred (Farthing 2007). However, only heroic risk-takers (i.e. those that are brave and altruistic) were perceived as more attractive than risk-avoiders (Farthing 2007). Furthermore, war heroes produce more offspring and are rated as significantly more attractive than regular veterans but the same was not found for heroes in the realms of sport or business (Rusch et al., 2015). The ability-based pathway to risk-taking suggests that individuals carry out risk-taking when they possess the abilities to succeed in a specific risky situation or the situation provides the opportunity to showcase such abilities which have signalling value (Barclay et al., 2018; Mishra et al., 2017). Therefore, ability-based risk-taking is likely to increase the

desirability of the risk-taker (Barclay et al., 2018). More recently, Margana et al. (2019) found that women rated individuals displaying high levels of altruism and heroism as more desirable compared to individuals who displayed low levels of these traits, but found no difference between the desirability of altruism and heroism. While Kelly and Dunbar (2001) conclude that bravery was the most influential variable in determining desirability, it is possible that the descriptive vignettes used were insufficiently comparable between altruistic, brave and heroic conditions. This paper borrows from the Kelly and Dunbar (2001) paradigm, however the profiles created will be matched except for the information which depicts whether the individual is a considerate altruist, heroic altruist or neutral.

The current research examines how desirable considerate altruists, heroic altruists and a neutral individual are perceived to be, in a number of relationship contexts, by implementing an online dating advertisement design. Hypothesis 1 predicts that both considerate and heroic altruists will be more desirable than a neutral individual in long-term relationship contexts but not short-term sexual contexts. Hypothesis 2 predicts that there will be a significant difference between the desirability of considerate and heroic altruists – however, the direction of this prediction is uncertain due to previously mixed findings which suggest that bravery is more influential in determining desirability than altruism (Kelly & Dunbar, 2001), that risk-avoiders are preferred to risk-takers when the risk is not associated to altruism (Farthing 2005) and that there is no difference in desirability between altruists and heroes (Margana et al., 2019). Hypothesis 3 predicts that both considerate and heroic altruists will be more desirable than the neutral individual as friends, colleagues and cooperative partners.

Study 1: Method

Participants

Ninety three heterosexual females who were enrolled on an undergraduate psychology degree at the University of East Anglia were recruited to complete an online dating advertisement study for course credit. The age range of the sample was 18-45 (M = 20.30, SD = 4.09) and 81.7% of the sample self-defined as being White, 8.6% as Asian, 3.2% as Mixed Race, 1.1% as Black and 5.4% listed their ethnicity as other.

Measures

A repeated measures design was implemented and three critical advertisements and seven filler advertisements were produced, of which all 10 were viewed by each participant. The three critical adverts represented the considerate altruist, heroic altruist and neutral individual. Each advert contained a photograph of a man with an open mouthed smile, which was taken from the Chicago Face Database (Ma et al., 2015). A pre-rating study was conducted in order to determine which photographs would be used for the three critical profiles (see figure 1). Twenty seven individuals (18 females and 9 males) rated 15 male faces from the Chicago Face Database (Ma et al., 2015) for attractiveness on a 7 point scale, which ranged from “not at all attractive” to extremely attractive”. The faces were also rated for perceived age. Photo 1 had a mean attractiveness score of 3.04 (SD = 1.43) and a perceived age range of 17-30 (M = 23.48, SD = 3.41). Photo 2 had a mean attractiveness score of 2.96 (SD = 1.32) and a perceived age range of 18-34 (M = 25.07, SD = 3.92). Photo 3 had a mean attractiveness score of 2.93 (SD = 1.30) and a perceived age range of 17-33 (M = 25.23, SD = 3.92) (See figure 1). These three photos were selected as they had similar attractiveness scores which fell towards the middle of the range so as to avoid floor/ceiling effects. Despite the three photographs being closely matched for perceived age and attractiveness, they were still counterbalanced across the three critical profiles. Each photograph was followed by a dating profile, which provided participants with information such as the age, height, body type, education level and hobbies of the person in the dating advert.

To manipulate altruism-type, the last item included in the dating profile was “Thing you are most proud of”, the considerate altruist answered this by saying “I volunteer at a children’s hospital”, the heroic altruist answered by saying “I once helped a woman fight off an attacker when I was walking home after a night out” and the neutral individual answered by saying “Completing my undergraduate degree”. A post-experiment manipulation check was carried out, to insure that the altruistic behaviours were perceived as anticipated by the researchers. The check found that 141 female participants perceived the individual carrying out the heroic behaviour to be more courageous and the individual carrying out the considerate behaviour to be more kind, as anticipated (see supplementary materials: appendix 1). The rest of the information presented for the three critical profiles was identical, apart from the photograph and name, which appeared equally often for each of the three conditions (i.e. in nine combinations, see supplementary materials: appendix 2).

To measure desirability, participants responded to 8 statements, which reflected the extent to which they would want to partner with the individual from the dating advert in 4 different relationship contexts;

long-term romantic relationship, short-term sexual relationship, as a friend, and as a colleague. For example, responses to the statement “I would want to collaborate with Mike in a work environment”, indicate the extent to which participants find Mike a desirable colleague, whilst responses to the statements “Mike does not seem like the type of person I’d want to settle down with” and “If Mike approached me on a night out, I’d go home with him” indicate the extent to which Mike was desirable to participants for long-term romantic and short-term sexual relationships respectively. Additionally, 2 statements were included which measured the extent to which participants would cooperate with the individual depicted in the dating advert (see supplementary materials: appendix 2 for all statements). For example, “If Mike asked me for help, I’d make an excuse as to why I was not able to”. All statements were responded to using a 7 point Likert scale, ranging from strongly disagree to strongly agree and were presented to participants in the same order.

Fig 1. Photographs from the Chicago Face Database (Ma et al. 2015) used for the 3 critical dating profiles, from left to right, photo 1, photo 2 and photo 3.

Procedure

Participants were directed to an online survey which was created in Qualtrics (https://www.qualtrics.com/uk/), where they viewed 10 dating adverts. The adverts were presented in the following order, adverts in positions 1, 2, 4, 5, 7, 8 and 10 were filler adverts and adverts in position 3, 6 and 9 were the critical adverts. The considerate, heroic and neutral adverts were counterbalanced across position 3, 6 and 9. Participants would first see the photograph of a man and then the dating advert beneath. Immediately after each dating advert, participants would respond to the 10 statements which measured desirability and willingness to cooperate, the dating adverts were still visible to participants whilst they responded to these statements. After all dating adverts were viewed, participants were debriefed as to the purpose of the study and were given a final chance to withdraw their data.

Study 1: Results and discussion

A 3 (considerate, heroic, neutral) x 2 (long-term romantic vs short-term sexual) ANOVA was conducted, to explore the desirability of the individuals in the dating adverts for romantic contexts (see figure 2). There was a significant main effect for the type of relationship on ratings of desirability. The mean desirability score for the long-term romantic relationship type was 3.71 (SE = 0.15) and 3.04 (SE = 0.14) for

the short-term sexual relationship type, F (1, 92) = 48.70, $p < .001$, $\eta_p^2 = 0.35$ (large effect), which shows that independent of altruism-type, dating adverts were rated as significantly more desirable in long-term romantic contexts compared to short-term sexual contexts and a large amount of the variance is uniquely explained by relationship type. There was no significant main effect for altruism-type, F (2, 184) = 1.57, $p = .209$, $\eta_p^2 =$ 0.04, (small effect), suggesting that ratings of desirability did not differ for the considerate, heroic or neutral individual.

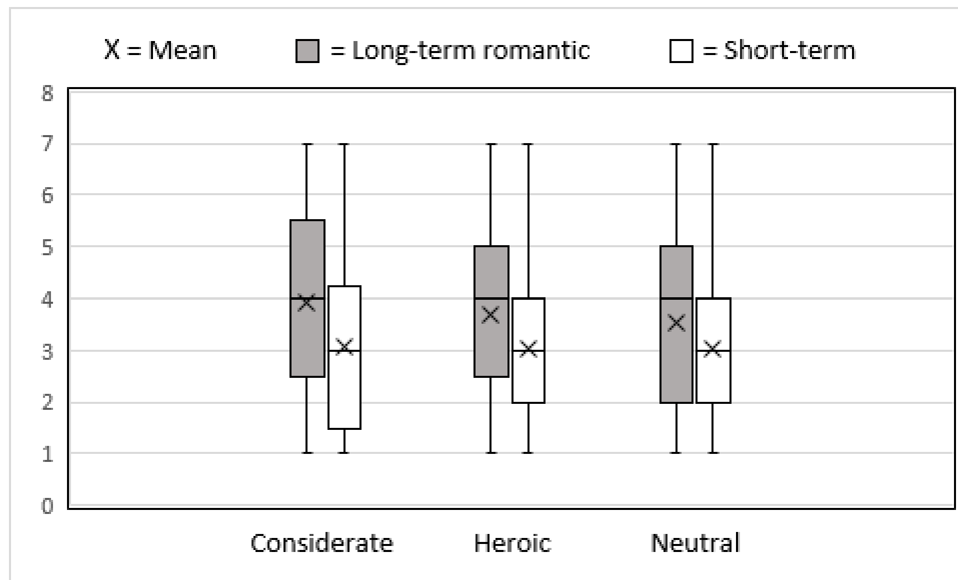

Fig 2. Boxplot displaying the mean, median, range and standard deviation of desirability scores for considerate, heroic and neutral dating adverts for romantic relationship contexts.

There was a significant interaction effect between the altruism-type and the type of relationship depicted, F (2, 184) = 5.09, $p = .007$, $\eta_p^2 = 0.05$ (small effect) (see figure 2). This indicates that altruism-type had different effects on people's ratings of desirability in relation to the type of relationship they were contemplating and that a small amount of the variance in responses can be explained by a combination of altruistic condition and type of relationship. Simple effects analysis revealed that mean desirability scores for long-term romantic relationships were significantly higher for the considerate altruism advert (M = 3.93, SE = 0.17) compared to the mean desirability scores for the neutral advert (M = 3.53, SE = 0.17), $p = .003$. There was no significant difference between the mean desirability scores for the considerate altruism advert and the heroic altruism advert (M = 3.68, SE = 0.16) in long-term relationship contexts, but there was a trend towards significance, $p = .087$. If the effect is in fact true, it would be a small effect. The mean desirability scores for the heroic altruism and neutral adverts in long-term romantic contexts did not differ significantly, $p = .276$. Therefore, there is partial support for hypothesis 1, as the considerate altruist is more desirable than the neutral individual in long-term romantic contexts, but the desirability of the heroic altruist did not differ significantly from the neutral individual in the same context. The findings do not support hypothesis 2, as there is no significant difference between the desirability ratings of the considerate vs heroic altruist in long-term romantic contexts, although the considerate altruist is descriptively more desirable. The mean

desirability scores for considerate altruism (M = 3.07, SE = 0.17), heroic altruism (M = 3.02, SE = 0.16) and the neutral advert (M = 3.03, SE = 0.16) in short-term sexual relationship contexts did not differ significantly from each other.

A 3 (considerate, heroic, neutral) x 3 (friend, colleague, co-operator) ANOVA was conducted to explore the desirability of the individuals in the dating adverts for non-romantic contexts. There was a significant effect for the type of relationship on ratings of desirability. The mean desirability score was 5.45 (SE = 0.08) for the friendship context, 5.45 (SE = 0.09) for the cooperation context and 5.22 (SE = 0.08) for the colleague context, F (2, 184) = 8.03, $p < .001$, $\eta_p^2 = 0.08$ (small-medium effect), which shows that desirability was higher in friendship and cooperation contexts compared with the colleague context and that a small to moderate amount of the variance in participant responses was uniquely explained by the type of relationship. There was no significant main effect for altruism-type, F (2, 184) = 0.90, $p = .408$, $\eta_p^2 = 0.01$ (small effect), suggesting that ratings of desirability did not differ for the considerate, heroic or neutral individual. There was no significant interaction effect between the altruism-type and the type of relationship depicted, F (3.58, 329.55) = 1.005, $p = .400$, $\eta_p^2 = 0.01$ (small effect).

Study 2

To further investigate whether both considerate and heroic altruists are more desirable than a neutral individual in long-term romantic contexts but not short-term sexual contexts (hypothesis 1) and to examine whether there is a significant difference between the desirability of considerate vs heroic altruists (hypothesis 2) study 2 refines the design of study 1, by using an independent measures design. Participants only view one dating advert, which represents either the considerate altruist, the heroic altruist or the neutral individual. This removes any order effects, any effects that occurred because of the filler adverts (such as boredom) and any effects that occurred because of different photos being attached to the dating adverts (despite randomisation). Furthermore, the data was collected using the online participant pool, Prolific academic, which allows for a wider demographic to be sampled.

Study 2: Method

Participants

Two hundred female participants were recruited from prolific (https://prolific.ac) to participate in the study. The age range of the participants was 19-36, with a mean age of 27.96 (SD = 4.44). In relation to ethnicity, 88% of the sample self-defined as being White, 6% as Asian, 2% as Mixed Race, 1.5% as Black and 2.5% listed their ethnicity as other. In relation to level of education, 9.5% of the sample identified as having an education level less than A-level, 24.5% had A-levels or equivalent, 19% had some college education but not a completed degree, 35.5% had completed a bachelor’s degree and 11.5% had completed a graduate degree. Participants were paid £0.50 to complete the 5 minute study online.

Measures

An independent measures design was used in study 2. The same three critical profiles that were used for study 1 were used again for study 2, but because participants would only view one dating advert, there was no need for the filler profiles. Nor were 3 different photos attached, instead ‘photo 3’ from figure 1, was presented alongside all 3 profiles.

Desirability was measured in the same way as in study 1, but this time only desirability for long-term romantic relationships and short-term sexual relationships were measured as this was the area of interest after study 1.

Procedure

The procedure for study 2 was the same as study 1, apart from instead of viewing 9 dating adverts, participants only looked at one dating advert. After looking at the dating advert they then indicated how desirable they found the individual in the dating advert as a long-term romantic or short-term sexual partner.

Study 2: Results and discussion

A 3 (considerate, heroic, neutral) x 2 (long-term romantic vs short-term sexual) mixed ANOVA was conducted. There was a significant main effect for the type of relationship on ratings of desirability. The mean desirability score for the long-term romantic relationship type was 4.14 (SE = 0.16) and 2.98 (SE = 0.10) for the short-term sexual relationship type, F (1, 197) = 132.09, $p < .001$, $\eta_p^2 = 0.40$ (large effect), which shows that independent of altruism-type, profiles were rated as significantly more desirable in long-term romantic contexts compared to short-term sexual contexts and that a large amount of this variance is uniquely explained by relationship type. There was no significant interaction effect between relationship type and altruism-type, F (2, 197) = 1.09, $p = .338$, $\eta_p^2 = 0.01$ (small effect), suggesting that ratings of desirability did not differ for the considerate, heroic or neutral individual. Because of the findings of study 1, where the considerate altruist was significantly more desirable than the neutral individual but not the heroic altruist, in the long-term romantic relationship context, planned comparisons investigated this in study 2, but found no significant difference between the mean desirability score (M = 4.26, SE = 0.19) of the considerate altruist and the mean desirability score (M = 3.90, SE = 0.18) of the neutral individual in the long-term romantic context ($p = .175$). The mean desirability score (M = 4.26, SE = 0.19) given to the heroic altruist in the long-term romantic context was identical to that of the considerate altruist, and therefore also was not significantly different to the neutral individual.

General discussion

The results of study 1 show that a considerate altruist is more desirable than a neutral individual in long-term romantic contexts. This provides partial support for hypothesis 1, which predicted that both considerate and heroic altruists would be more desirable to participants than a neutral individual in long-term but not short-term romantic contexts. In study 1, the heroic altruist did not differ significantly from the neutral individual. However, the results of study 2, found that there was no significant difference between the considerate and neutral dating adverts. Furthermore, neither study 1 nor study 2 found support for hypothesis 2, which predicted that there would be a significant difference between the mean desirability scores of the considerate and heroic altruists. Whilst considerate altruists were rated as more desirable than heroic altruists

in study 1, the difference between them was never significant. These findings are consistent with previous research that found that altruism and heroism were equally desirable (Margana et al., 2019) and inconsistent with Kelly and Dunbar's (2001) finding that bravery is the most significant factor contributing to attractiveness, even in the absence of altruism.

The lack of support for hypothesis 1 (that altruists will be more desirable than non-altruists) is contrary to numerous studies in which an altruistic individual is more desirable than a neutral individual (Barclay, 2010; Bereczkei et al., 2010; Bhogal et al., 2018; Farrelly, 2013; Farrelly et al., 2016; Farrelly et al., 2007; Kelly & Dunbar, 2001; Margana et al., 2019). The materials used in studies 1 and 2 could explain why this robust finding wasn't replicated in the present research. Whilst the neutral dating advert did not depict an altruistic individual, it did highlight the individual's proudest moment as "completing my undergraduate degree", which is a potentially desirable quality. Buss and Barnes (1986) found women desired partners who showed good earning potential and were college educated. There is strong evidence that women desire mates who display qualities linked to resource acquisition (Bech-Sørensen & Pollet, 2016; Buss, 1989; Furnham, 2009; Shackelford et al., 2005; Souza et al., 2016; Sprecher et al., 1994; Wiederman, 1993). Therefore, by highlighting a desirable correlate of earning potential (level of education, Woodhall 1987) in the neutral dating advert, the neutral advert we used may have been as desirable as the altruistic adverts, but for different reasons. Although the two altruistic individuals were reported as having the same level of education, this was reiterated twice in the neutral advert as it was used as the proudest moment.

In study 1, the considerate altruist was still significantly more desirable than the neutral individual. This was not replicated in study 2, where the mean age of participants increased from 20.30 to 27.96. Research on women's mate preferences found that as women get older they become less willing to marry someone that earns less than them (Sprecher et al., 1994). Given that there is a well-established link between educational level and earning potential (Woodhall, 1987) and evidence that women educated to degree level earn less than men educated to the same level (DiPrete & Buchmann, 2006) it might be that older women in our sample are more attracted to the (university educated) neutral individual than younger women, meaning older women's desirability for the neutral and altruistic individuals are more closely matched. Additional data analysis (see supplementary information: appendix 3) revealed that participants aged 19-25 did desire the considerate altruist to a greater extent than the neutral individual in long-term romantic contexts (p = .049), which replicates the finding of study 1. This effect was not found for female participants aged 26-36. For younger women, altruism may have more of an impact on a potential mate's desirability than cues linked to earning potential, whilst for older women, altruism and cues linked to earning potential are seen as equally desirable.

The finding that considerate altruism is more desirable than a neutral individual in long-term romantic contexts but not short-term sexual contexts supports the idea that altruism signals good character to observers (Barclay, 2010; Bhogal et al., 2018; Farrelly, 2011, 2013; Margana et al., 2019). This is because for desirability to increase for a type of altruism, that type of altruism must convey to an observer that cooperating with the altruist will benefit them. Because desirability only increases in long-term romantic contexts, the potential benefits must require repeated interactions. Good character is therefore a likely candidate for what is being signalled to observers via altruistic acts, as if it were good genes alone that altruism signalled, the benefits of cooperating with the altruist could potentially be achieved in a single

interaction. However, what good character refers to is less clear. It has been theorised that the good character signalled by altruism could relate to willingness and ability to be a good parent (Farrelly, 2011, 2013; Griskevicius et al., 2007; Tessman, 1995), cooperativeness (Barclay & Willer, 2007; Bereczkei et al., 2010), kind, helpful and sympathetic personality traits (Farrelly, 2011; Griskevicius et al., 2007; Miller, 2007), trustworthiness (Barclay, 2004; Fehrler & Przepiorka, 2013), competitive ability (Smith & Bird, 2000), and finally, courage (Zahavi & Zahavi, 1999). Based on the current finding that considerate altruists are significantly more desirable than a neutral individual in long-term romantic contexts but heroic altruists are not, it is more likely that prosocial personality characteristics (kindness, helpfulness, cooperativeness etc.) that link to parenting ability are being signalled, rather than courage or competitive ability. Furthermore, research has shown that long-term relationships are rated as more satisfactory based on small acts of kindness rather than grand gestures (Gabb, Klett-Davies, Fink, & Thomae, 2013), which could explain why considerate altruists are viewed as more desirable than a neutral individual in long-term romantic contexts, whilst heroic altruists are not. However, the distinction between considerate and heroic altruism is still unclear.

In relation to the friendship, colleague and general cooperation partner relationship contexts, neither the considerate altruist, heroic altruist nor neutral individual were favoured by participants. This is counter to findings from Barclay (2010) who found that women preferred altruistic individuals over neutral individuals in all of these contexts. Kelly and Dunbar (2001), alternatively found that when women rated altruistic, brave and neutral profiles for attractiveness on short-term sexual, long-term romantic and friendship dimensions, women were much less choosey on the friendship dimension as demonstrated by them rating profiles as more attractive when contemplating friendship. These findings taken into account with the current findings may suggest that altruism is an important quality for potential romantic partners to pay attention to, but in other relationship contexts the importance of altruism is diminished.

There are certain limitations that need to be discussed in relation to the current research. Firstly, the use of dating advertisements was utilised because of the real world link to popular dating apps, which increases ecological validity. However, this may have caused participants to base their ratings primarily on the photograph attached to the profile rather than the content of the dating advertisement; given that the photographs were matched for age and attractiveness and counterbalanced this could explain why there were not consistent significant differences between conditions. Secondly, the altruistic act that represented considerate altruism (volunteering at a children's hospital) may convey greater levels of commitment than the altruistic act that was used to represent heroic altruism (helping a woman fight off an attacker), as it is clear that the heroic act is a one off act, whereas there is ambiguity as to whether the considerate act is a continuous behaviour. Thirdly, the considerate and heroic altruists were represented using only one operationalisation of the behaviour, which could mean that the findings are not generalizable to all considerate and heroic acts, but are instead specific to just the two behaviours used in this study. Further research should be conducted which uses a variety of considerate and heroic behaviours to see if similar findings emerge. Finally, the current research only examined the extent to which female participants desired a considerate, heroic or neutral individual, meaning we are unable to shed light on whether males perceive such individuals as more or less desirable in relation to each other. Future research should examine considerate vs heroic altruism without using dating adverts, in case this paradigm led to participants basing

their ratings predominantly on the photographs attached to the adverts, rather than the content of the advert itself and should include male participants in order to examine this line of enquiry. Additionally, further exploration of how different types of altruism impact upon mate desirability when other desirable factors are present would also increase our understanding of how important altruism is in determining mate value.

To conclude, considerate altruists are shown to be more desirable than a neutral individual in long-term romantic contexts in two studies, however, to determine the robustness of this finding, more research may be required. The preference for considerate altruists over neutral individuals in long-term romantic contexts but not short-term sexual contexts, supports the idea that considerate behaviours signal to observers that the altruist has a good character which increases their attractiveness, however, we do not currently know what these good character traits are and future studies could explore this by asking participants to indicate what characteristics they perceive a considerate or heroic altruist to have. The main finding of this research is that behaving in a considerate manner, such as volunteering, donating or campaigning to help others, increases the desirability of an actor in the eyes of prospective long-term mates significantly more than a neutral individual, but this only occurs consistently for younger females, who place less emphasis on earning potential and more emphasis on altruism when considering a potential mate.

Compliance with Ethical Standards

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent: Informed consent was obtained from all individual participants included in the study.

Data Availability

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Conflict of Interest Statement

On behalf of all authors, the corresponding author states that there is no conflict of interest.

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Appendix 19: Example of Dating Advert Used in Study 6 and 7.

Note: the name presented would be one of the names shown below, the thing most proud of would also be one of the options listed below. The photo displayed alongside the dating advert would be one of the photos from Figure 9. In total, 9 variations of the critical dating advert were created and used in the study.

Name: Josh/Mike/Alex

Sex: Male

Age: 24

Looking for: Relationship, Dating.

Relationship Status: Single (never married)

Children: None.

Education: Bachelor's degree

Height: 5ft 10"

Body type: Slim

Ethnicity: White (British)

Religion: Agnostic

Smoker: No (But it doesn't matter if you do)

Do you participate in any sports? Football and Running.

What do you like to do in your spare time? Dining out, cinema, the outdoors.

Favourite film genre: Comedy, Action, Horror.

Favourite music: Pop, R n B.

Thing you are most proud of?
I Volunteer at a children's hospital (Considerate)
OR
I once helped a woman fight off an attacker when I was walking home after a night out (Heroic)
OR
Completing my undergraduate degree (Neutral)

Appendix 20: Statements Measuring Desirability in Study 6

NOTE: The name varied so that it matched the name of the individual depicted in the dating advert.

The statements below were responded to using a 7 point Likert scale which ranged from strongly disagree to strongly agree.

1) I don’t think Mike and I would get along as friends.
2) If Mike asked me for help, I’d make an excuse as to why I wasn’t able to.
3) Mike is someone I’d be happy to hang out with as a friend.
4) Mike doesn’t seem like he’d be a very good colleague.
5) I would be interested in pursuing a long-term romantic relationship with Mike.
6) If Mike approached me on a night out, I’d go home with him.
7) Mike is the type of person I’d want to help out if he needed a hand.
8) I would want to collaborate with Mike in a work environment.
9) Mike does not seem like the type of person I’d want to settle down with.
10) Mike isn’t the type of guy I’d feel an immediate sexual attraction to.

Desirability as a friend was measured using statements 1 &3, desirability as a colleague was measured using statements 4 & 8, desirability as a long-term romantic partner was measured using items 5 & 9, desirability as a short-term sexual partner was measured using items 6 & 10, and general willingness to cooperate with the individual was measured using items 2 & 7.

Appendix 21: Information Sheet Used for Study 6

'Dating advertisement study'

Participant Information Sheet

Thank you for your interest in this study. Before you decide whether to take part, please read the following information carefully. You may contact me to ask any questions if you would like more information. To participate in this study you need to be at least 18 years old.

What is this research looking at?
We are looking for your honest opinion about the extent to which you agree/disagree with a number of different statements which will be presented to you, after you have read a variety of dating advertisements, to assess your perceptions of the individuals in the dating advertisements.

Do I have to take part?
It is up to you to decide to join the study. If you agree to take part, we will then ask you to read a consent form. Your completion of the questionnaire will be taken as your consent to participate. However, you are free to withdraw at any time, without giving a reason. If you wish to exit the study, please close your browser and any information already provided by you will not be saved. This would not affect you in any way. Once all the questions have been answered, you will still be presented with the opportunity to withdraw your answers at the end of the questionnaire.

What will happen if I agree to take part?
You will complete an online questionnaire. You will be asked questions that relate to some demographic information (Age, Gender, sexuality etc). You will be presented with dating advertisements of individuals who are matched to your sexual orientation. You will then be presented with a number of statements, which you will either agree/disagree with using a Likert scale.

Are there any problems with taking part?
The statements presented for you to agree/disagree with are not particularly distressing in nature, but some do relate to sexual behaviour which could make you uncomfortable. If you feel like you could be uncomfortable responding to these kinds of statements it may be best if you do not participate. If you do choose to participate and feel uncomfortable at any time, you are free to stop immediately and abandon the questionnaire. You are welcome to contact the researcher, on the email address provided, to obtain a copy of the debriefing information even if you do not complete the whole study.

Will it help me if I take part?
There is an incentive for participation, as you will receive 1 SONA credit upon completing the questionnaire. Other than this, there are no direct benefits to you, but your participation will benefit the programme of research.

How will you store the information that I give you?
All information which you provide during the study will be stored in accordance with the 1998 Data Protection Act and kept strictly confidential. The chief investigator will be the custodian of the anonymous research data. No identifiable data will be collected from you, but if it were standard procedure dictates that it would be stored separately in a password protected file and then securely disposed of as soon as it is no longer required, and within 5 years. All anonymized results will be stored indefinitely in order to comply with open practice standards. The electronic data will be stored on a password protected computer. If it is necessary to create paper copies of the data, these will be stored in a locked filing cabinet in the researcher's office. Only the chief investigator and members of the research team related to this project will have access to the data

How will the data be used?
The data will be written up and presented as part of my PhD Thesis and might be presented in journals or at research conferences. However, please be assured that only group data will be presented in this way and that a single individual's responses will not be identifiable.

What happens if I agree to take part, but change my mind later?
You have the right to withdraw at any time during the study. All you need to do is abandon the questionnaire. Any data you provided up to the point of abandonment will not be used. However, the last point of withdrawal will be at the end of the questionnaire, please make sure you indicate whether you are happy for your data to be used at the end of the questionnaire.

How do I know that this research is safe for me to take part in?
All research in the University is looked at by an independent group of people, called a Research Ethics Committee, to protect your safety, rights, wellbeing and dignity. This research was approved by the Psychology Research Ethics Committee at the University of East Anglia on 08.01.2018.

By answering the questions that follow it is assumed that you consent to take part and for your data to be used in academic research and for publications. Once all questions have been answered, there will still be an **opportunity for you to withdraw your data from the research at the end of the questionnaire.**

We are interested in your genuine responses so please take the questions at face value and give your personal opinion. If you have any questions about this study please contact the researchers.

You are under no obligation to agree to take part in this research.

If you do agree you can **withdraw at any time without giving a reason.**

Contact details:
Lead investigator: i.norman@uea.ac.uk
Research supervisor: p.fleming@uea.ac.uk

Do also contact us if you have any worries or concerns about this research.

School of Psychology Ethics Committee:
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Head of School Professor Kenny Coventry:
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Appendix 22: Participant Debrief for Study 6

Thank you very much for taking part.

The purpose of the study was to see whether different types of altruism – self-sacrificial behaviours that benefit someone else – made an individual more attractive. Three of the dating advertisements that you read were matched for information, apart from what the individual in the advert said was "the thing they were most proud of". One of the altruists responded with "I volunteer at a children's hospital", this form of altruism has been labelled considerate. The second altruist responded with "I once helped a woman fight off an attacker when I was walking home after a night out", this form of altruism has been labelled heroic. The final matched advertisement was a control version, where the individual responded with "Completing my undergraduate degree".

Your responses to these 3 dating advertisements will be used to examine whether there are significant differences between considerate altruism, heroic altruism and the control profile in relation to how attractive you perceived them to be as a colleague, friend, long-term romantic partner, short-term sexual partner and general cooperation partner.

If you want to know more about this study please get in touch with i.norman@uea.ac.uk who can provide more information once the study is complete. This research is supervised by p.fleming@uea.ac.uk.

Do also contact us if you have any worries or concerns.

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Appendix 23: Information Sheet Used for Study 7

'*Dating advertisement study'*

<u>Participant Information Sheet</u>

Thank you for your interest in this study. Before you decide whether to take part, please read the following information carefully. You may contact me to ask any questions if you would like more information. To participate in this study you need to be at least 18 years old.

What is this research looking at?
We are looking for your honest opinion about the extent to which you agree/disagree with a number of different statements which will be presented to you, after you have read a dating advertisement, to assess your perceptions of the individual in the dating advertisements.

Do I have to take part?
It is up to you to decide to join the study. If you agree to take part, we will then ask you to read a consent form. Your completion of the questionnaire will be taken as your consent to participate. However, you are free to withdraw at any time, without giving a reason. If you wish to exit the study, please close your browser and any information already provided by you will not be saved. This would not affect you in any way. Once all the questions have been answered, you will still be presented with the opportunity to withdraw your answers at the end of the questionnaire.

What will happen if I agree to take part?
You will complete an online questionnaire. You will be asked questions that relate to some demographic information (Age, Gender, sexuality etc). You will be presented with a dating advertisement of an individual who is matched to your sexual orientation. You will then be presented with a number of statements, which you will agree/disagree with using a Likert scale.

Are there any problems with taking part?
The statements presented for you to agree/disagree with are not particularly distressing in nature, but some do relate to sexual behaviour which could make you uncomfortable. If you feel like you could be uncomfortable responding to these kinds of statements it may be best if you do not participate. If you do choose to participate and feel uncomfortable at any time, you are free to stop immediately and abandon the questionnaire. You are welcome to contact the researcher, on the email address provided, to obtain a copy of the debriefing information even if you do not complete the whole study.

Will it help me if I take part?
There is an incentive for participation, as you will receive £0.50p upon completing the questionnaire. Other than this, there are no direct benefits to you, but your participation will benefit the programme of research.

How will you store the information that I give you?
All information which you provide during the study will be stored in accordance with the 1998 Data Protection Act and kept strictly confidential. The chief investigator will be the custodian of the anonymous research data. No identifiable data will be collected from you, but if it were standard procedure dictates that it would be stored separately in a password protected file and then securely disposed of as soon as it is no longer required, and within 5 years. All anonymized results will be stored indefinitely in order to comply with open practice standards. The electronic data will be stored on a password protected computer. If it is necessary to create paper copies of the data, these will be stored in a locked filing cabinet in the researcher's office. Only the chief investigator and members of the research team related to this project will have access to the data

How will the data be used?
The data will be written up and presented as part of my PhD Thesis and might be presented in journals or at research conferences. However, please be assured that only group data will be presented in this way and that a single individual's responses will not be identifiable.

What happens if I agree to take part, but change my mind later?
You have the right to withdraw at any time during the study. All you need to do is abandon the questionnaire. Any data you provided up to the point of abandonment will not be used. However, the last point of withdrawal will be at the end of the questionnaire, please make sure you indicate whether you are happy for your data to be used at the end of the questionnaire.

How do I know that this research is safe for me to take part in?
All research in the University is looked at by an independent group of people, called a Research Ethics Committee, to protect your safety, rights, wellbeing and dignity. This research was approved by the Psychology Research Ethics Committee at the University of East Anglia on 20.03.2018.

By answering the questions that follow it is assumed that you consent to take part and for your data to be used in academic research and for publications. Once all questions have been answered, there will still be an **opportunity for you to withdraw your data from the research at the end of the questionnaire.**

We are interested in your genuine responses so please take the questions at face value and give your personal opinion. If you have any questions about this study please contact the researchers.

You are under no obligation to agree to take part in this research.

If you do agree you can **withdraw at any time without giving a reason.**

Contact details:
Lead investigator: i.norman@uea.ac.uk
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Do also contact us if you have any worries or concerns about this research.

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Appendix 24: Participant Debrief for Study 7

Thank you very much for taking part.

The purpose of the study was to see whether different types of altruism – self-sacrificial behaviours that benefit someone else – impacted upon mate preferences. This study has three conditions, you will have participated in one of these. The information in the three conditions was the same, apart from what the individual in the advert said was "the thing they were most proud of". One of the altruists responded with "I volunteer at a children's hospital", this form of altruism has been labelled considerate. The second altruist responded with "I once helped a woman fight off an attacker when I was walking home after a night out", this form of altruism has been labelled heroic. The final advertisement was a control version, where the individual responded with "Completing my undergraduate degree".

The responses from each condition will be compared to see whether there are significant differences between the extent to which the considerate altruist, heroic altruist and the control profile are preferred as mates in long-term romantic and short-term sexual relationship contexts.

If you want to know more about this study please get in touch with i.norman@uea.ac.uk who can provide more information once the study is complete. This research is supervised by p.fleming@uea.ac.uk.

Do also contact us if you have any worries or concerns.

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Appendix 25: Example of Dating Advert Used in Study 8

Name: Alex

Age: 24

Looking for: Relationship, Dating.

Relationship Status: Single (never married)

Children? None.

Education: Bachelor's degree

Occupation: Computer programmer

Height: 5ft 10"

Body type: Slim

Ethnicity: White

Religion: Agnostic

Smoker? No

Do you participate in any sports? Football and Running.

What do you like to do in your spare time? Dining out, cinema, the outdoors.

Favourite film genre? Comedy, Action, Horror.

Favourite music? Pop, indie.

Thing you are most proud of? I volunteer at a children's hospital.

Name: Mike

Age: 23

Looking for: Relationship, Dating.

Relationship Status: Single (never married)

Children? None.

Education: BSc

Occupation: Web designer

Height: 5ft 11"

Body type: Slim

Ethnicity: White (British)

Religion: Atheist

Smoker? No

Do you participate in any sports? Rugby and distance running

What do you like to do in your spare time? Watching movies, good food, staying active.

Favourite film genre? Action movies, comedies.

Favourite music? Rock and alternative

Thing you are most proud of? I volunteer as a member of a lifeboat rescue crew.

Please indicate the extent to which you would prefer Alex/Mike as a partner in the different relationship contexts below, using the scale provided.

For example, the middle of the scale is neutral, which if selected suggests you have no preference for Alex or Mike. Selecting a point on the scale which is to the left of neutral, indicates you prefer Alex to Mike. Whereas selecting a point on the scale which is to the right of neutral, indicates you prefer Mike to Alex.

	Alex 5	4	3	2	1	Neutral 0	1	2	3	4	Mike 5
As a long-term romantic partner	○	○	○	○	○	○	○	○	○	○	○
As a short-term sexual partner	○	○	○	○	○	○	○	○	○	○	○

Note: The example depicted here represents the long-term helping condition. For the single occurrence helping condition, the response to “thing you are most proud of was altered to; “I once helped an elderly lady who had fallen, by calling the paramedics and waiting with her until they arrived” (considerate) and “I once helped a woman fight off an attacker when I was on my way home after a night out” (heroic). Furthermore, as participants participated in both conditions, the photos altered for the single occurrence condition (see figure 11). Also, the above was shown to heterosexual female participants. Similar adverts were also displayed to heterosexual male participants but the names and photos were altered (see figure 12)

Appendix 26: Information Sheet Used in Study 8

'Dating advertisement study'

Participant Information Sheet

Thank you for your interest in this study. Before you decide whether to take part, please read the following information carefully. You may contact me to ask any questions if you would like more information. To participate in this study you need to be at least 18 years old.

What is this research looking at?
We are looking for your honest opinion about how you perceive individuals depicted in a number of dating advertisements. After you have looked at the dating advertisements, you will rate them using the scales provided.

Do I have to take part?
It is up to you to decide to join the study. Your completion of the questionnaire will be taken as your consent to participate. However, you are free to withdraw at any time, without giving a reason. If you wish to exit the study, please close your browser and any information already provided by you will not be saved. This would not affect you in any way. Once all the questions have been answered, you will still be presented with the opportunity to withdraw your answers at the end of the questionnaire.

What will happen if I agree to take part?
You will complete an online questionnaire. You will be asked questions that relate to some demographic information (Age, Gender, Sexual orientation etc). You will be presented with two pairs of dating advertisements, depicting individuals who are matched to your sexual orientation. You will read these adverts prior to rating the individuals.

Are there any problems with taking part?
The study is not anticipated to be distressing in nature, but some aspects do relate to sexual behaviour, which could make you uncomfortable. If you feel like you could be uncomfortable responding to these kinds of scenarios it may be best if you do not participate. If you do choose to participate and feel uncomfortable at any time, you are free to stop immediately and abandon the questionnaire. You are welcome to contact the researcher, on the email address provided, to obtain a copy of the debriefing information even if you do not complete the whole study.

Will it help me if I take part?
There is an incentive for participation, as you will receive £1 upon completing the questionnaire. Other than this, there are no direct benefits to you, but your participation will benefit the program of research.

How will you store the information that I give you?
All information which you provide during the study will be stored in accordance with the 1998 Data Protection Act and kept strictly confidential. The chief

investigator will be the custodian of the anonymous research data. No identifiable data will be collected from you, but if it were, standard procedure dictates that it would be stored separately in a password protected file and then securely disposed of as soon as it is no longer required, and within 5 years. All anonymized results will be stored indefinitely in order to comply with open practice standards. The electronic data will be stored on a password protected computer. If it is necessary to create paper copies of the data, these will be stored in a locked filing cabinet in the researcher's office. Only the chief investigator and members of the research team related to this project will have access to the data

How will the data be used?
The data will be written up and presented as part of my PhD Thesis and might be presented in journals or at research conferences. However, please be assured that only group data will be presented in this way and that a single individual's responses will not be identifiable.

What happens if I agree to take part, but change my mind later?
You have the right to withdraw at any time during the study. All you need to do is abandon the questionnaire. Any data you provided up to the point of abandonment will not be used. However, the last point of withdrawal will be at the end of the questionnaire, please make sure you indicate whether you are happy for your data to be used at the end of the questionnaire.

How do I know that this research is safe for me to take part in?
All research in the University is looked at by an independent group of people, called a Research Ethics Committee, to protect your safety, rights, wellbeing and dignity. This research was approved by the Psychology Research Ethics Committee at the University of East Anglia on 01/06/2018.

You are under no obligation to agree to take part in this research.

If you do agree you can **withdraw at any time without giving a reason.**

By answering the questions that follow it is assumed that you consent to take part and for your data to be used in academic research and for publications.

We are interested in your genuine responses so please take the questions at face value and give your personal opinion. If you have any questions about this study please contact the researchers.

Contact details:
Lead investigator: i.norman@uea.ac.uk
Research supervisor: p.fleming@uea.ac.uk

Do also contact us if you have any worries or concerns about this research.

School of Psychology Ethics Committee:
ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry:
k.coventry@uea.ac.uk; Phone 01603 597145

Appendix 27: Participant Debrief for Study 8

Thank you very much for taking part.

The purpose of the study was to see whether different types of altruism – self-sacrificial behaviours that benefit someone else – made an individual more desirable as a mate. The two pairs of dating advertisements were intended to contain very similar information, with the main difference being that one of the individuals in each pair was a considerate altruist and the other was a heroic altruist. Furthermore, the time spent being altruistic differed between the pairs of dating advertisements. In one pair, both altruists were depicted as being altruistic once (waiting for paramedics with an injured elderly lady – considerate; helping a woman fight off an attacker – heroic). In the other pair they were altruistic for an extended period of time (I volunteer at a children's hospital – considerate; I volunteer as a member of a lifeboat rescue crew – heroic).

Your responses will help us to examine whether considerate or heroic altruists differ in the extent to which they are desirable as long-term romantic or short-term sexual partners.

If you want to know more about this study please get in touch with i.norman@uea.ac.uk who can provide more information once the study is complete. This research is supervised by p.fleming@uea.ac.uk.

Do also contact us if you have any worries or concerns.

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ethics.psychology@uea.ac.uk; Phone 01603 597146

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Appendix 28: Categories and Descriptors Used in Study 9

Imagine that you have been on a few dates with someone and you really like them and feel as if the relationship is developing into something serious that could be long-term.

Imagine that the individual you are dating is your ideal partner. Read through the different categories below and think about what is important in an ideal partner. Indicate which items are most important by rank ordering them (1 = most important, 2 = second most important and so on).

Physical attraction:
Have a face that I find attractive.
Have a physique that I find attractive.
Be the perfect height.

Personality 1:
Be outgoing – enjoy socialising and going out, talkative
Be kind – nice, thoughtful, thinks of other people
Be dominant – Strong, takes charge of a situation
Be ambitious – Career focussed, driven.

Personality 2:
Be creative – able to think outside of the box, artistic.
Be intelligent – Smart, understands most things instantly.
Be sensitive – Expresses their emotions, shows understanding of other's feelings.
Be funny – Has a good sense of humour, makes others laugh.

Helpfulness:
Be willing to make donations to charity.
Be willing to volunteer to help others.
Be willing to protect others from harm.
Be willing to put themselves in danger to help someone else.

Life skills:
Be a good cook.
Be a good home maker.
Be good at DIY.
Be good with finances.

Hobbies:
Be into sports.
Be into films.
Be into art.
Be into food.

Be into the outdoors.

Circumstances:
Live by themselves.
Not have any children.
Not have any pets.
Have a job.
Want to go travelling.

Appendix 29: Information Sheet Used in Study 9 and 10

'Ideal romantic partner study'

<u>Participant Information Sheet</u>

Thank you for your interest in this study. Before you decide whether to take part, please read the following information carefully. You may contact me to ask any questions if you would like more information. To participate in this study you need to be at least 18 years old.

What is this research looking at?
We are looking for your honest opinion about what your ideal romantic partner would be like in relation to characteristics and behaviours.

Do I have to take part?
It is up to you to decide to join the study. Your completion of the questionnaire will be taken as your consent to participate. However, you are free to withdraw at any time, without giving a reason. If you wish to exit the study, please close your browser and any information already provided by you will not be saved. This would not affect you in any way. Once all the questions have been answered, you will still be presented with the opportunity to withdraw your answers at the end of the questionnaire.

What will happen if I agree to take part?
You will complete an online questionnaire. You will be presented some behaviours which you will rank order from most to least attractive, to demonstrate which behaviours you would like a romantic partner to carry out. You will also be asked to indicate whether you would associate specific characteristics with specific behaviours. You will also be presented with some categories which contain different qualities and you will be asked to rank order which qualities and categories are most important to you. Finally, you will be asked to provide some demographic information such as age, gender, sexuality and relationship status.

Are there any problems with taking part?
It is not anticipated that you will experience any discomfort answering the questions because they are not considered to be sensitive. However, if you do choose to participate and feel uncomfortable during the study, you should remember that you are free to withdraw at any point. Simply stop answering the questions and close the browser. You are welcome to contact the researcher, on the email address provided, to obtain a copy of the debriefing information even if you do not complete the whole study.

Will it help me if I take part?
There is an incentive for participation, as you will receive 1 SONA credit upon completing the questionnaire. Other than this, there are no direct benefits to you, but your participation will benefit the program of research.

How will you store the information that I give you?
All information which you provide during the study will be stored in accordance with the 1998 Data Protection Act and kept strictly confidential. The chief investigator will be the custodian of the anonymous research data. No identifiable data will be collected from you, but if it were, standard procedure dictates that it would be stored separately in a password protected file and then securely disposed of as soon as it is no longer required, and within 5 years. All anonymized results will be stored indefinitely in order to comply with open practice standards. The electronic data will be stored on a password protected computer. If it is necessary to create paper copies of the data, these will be stored in a locked filing cabinet in the researcher's office. Only the chief investigator and members of the research team related to this project will have access to the data

How will the data be used?
The data will be written up and presented as part of my PhD Thesis and might be presented in journals or at research conferences. However, please be assured that only group data will be presented in this way and that a single individual's responses will not be identifiable.

What happens if I agree to take part, but change my mind later?
You have the right to withdraw at any time during the study. All you need to do is abandon the questionnaire. Any data you provided up to the point of abandonment will not be used. However, the last point of withdrawal will be at the end of the questionnaire, please make sure you indicate whether you are happy for your data to be used at the end of the questionnaire.

How do I know that this research is safe for me to take part in?
All research in the University is looked at by an independent group of people, called a Research Ethics Committee, to protect your safety, rights, wellbeing and dignity. This research was approved by the Psychology Research Ethics Committee at the University of East Anglia on October 18th 2018

You are under no obligation to agree to take part in this research.

If you do agree you can **withdraw at any time without giving a reason.**

By answering the questions that follow it is assumed that you consent to take part and for your data to be used in academic research and for publications.

We are interested in your genuine responses so please take the questions at face value and give your personal opinion. If you have any questions about this study please contact the researchers.

Contact details:
Lead investigator: i.norman@uea.ac.uk
Research supervisor: p.fleming@uea.ac.uk

Do also contact us if you have any worries or concerns about this research.

School of Psychology Ethics Committee:
ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry:
k.coventry@uea.ac.uk; Phone 01603 597145

Appendix 30: Participant Debrief for Study 9 and 10

Thank you very much for taking part.

The purpose of this study was to examine two different types of altruistic behaviours (helping behaviours) to see whether either makes the individual carrying out the behaviour more attractive. The two altruistic types are considerate (i.e. someone who volunteers, donates goods or money) and heroic (i.e. someone who intervenes in dangerous situations). Two prior studies have found that considerate altruists are more desirable as long-term romantic partners compared to a neutral individual (someone that was not altruistic, but also wasn't spiteful). The desirability of heroic altruists was not significantly different from the neutral individual or the considerate altruist, but it was unclear as to why.

The current study allows for a direct comparison of considerate and heroic altruists to see if one is more desirable. It also provides an opportunity to examine what characteristics are conveyed by altruistic behaviours which may link to why they are desirable. Furthermore, by asking participants to rank order the different categories (personality, hobbies, helpfulness etc.) we are able to see how important altruism is in relation to other characteristics/behaviours that may determine desirability.

If you want to know more about this study please get in touch with i.norman@uea.ac.uk who can provide more information once the study is complete. This research is supervised by p.fleming@uea.ac.uk.

Do also contact us if you have any worries or concerns.

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