

Increasing global freedoms: the role of psychological flexibility

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CANDIDATE DECLARATION

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Doctor of Philosophy (PhD) is entirely my own work, that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

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ABSTRACT

This thesis seeks to add to the psychological literature that may help reduce global poverty and human rights abuse around the world. More specifically, it investigates the potential role of psychological flexibility and Acceptance and Commitment Therapy (ACT) in helping to increase “global freedoms”. It makes a unique contribution through the way it applies psychological flexibility and ACT to this novel area.

Following two introductory chapters, the next five describe the design and preliminary evaluation of new self-report measures. Specifically these assess: i. helping behaviour, ii. thoughts and cognitions, iii. feelings and emotions, and iv. values – all related to global freedoms. A fifth scale measures psychological inflexibility in an everyday context. Preliminary psychometric development includes both exploratory and confirmatory factor analysis.

Following their development, the measures are used to answer five research questions. In general terms these explore the interrelationships between the measures; how they relate to helping behaviour and whether psychological flexibility plays a direct or indirect role in this. The research questions are answered using a cross-sectional dataset as well as a single session, lab based study which examines the potential of an ACT based intervention to increase helping behaviour.

In summary, in both correlations and regressions, the thoughts and cognitions measure had a significant, negative correlation with helping behaviour, while the feelings and emotions, and values measure had significant, positive correlations with helping behaviour. Psychological flexibility did not show a significant, direct relationship with helping behaviour but, in mediation analyses, it was found to transmit its influence through thoughts and cognitions onto helping behaviour. In terms of the single session lab based study, neither ACT nor an education condition increased the level of donation to charity greater than a control. The general discussion focuses on the implications of these findings and the opportunities for future research.

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1. Increasing global freedoms: the role of psychological flexibility

The discipline of psychology is, arguably, primarily concerned with understanding human behaviour (Gross, 1992, p. 5). Knowledge from psychology has influenced practice in many areas such as mental health, education and other performance focused settings such as the workplace. It could be argued that aspects of global poverty and areas related to human rights are both a result of human behaviour and that their reduction or resolution requires human action. And yet, relative to areas such as mental health and education, psychology has had relatively little impact.

This thesis investigates the potential of psychological flexibility to help increase global freedoms. Two terms within the title and previous sentence require unpacking: global freedoms and psychological flexibility. This will happen throughout the sections of this chapter. Avoiding such terminology for now, this thesis seeks to increase the contribution that psychology can make to the reduction of global poverty and human rights abuse around the world.

Within any one thesis the overall contribution to knowledge is often slight. However it is hoped that this thesis will contain elements of originality both in the way it applies pre-existing frameworks surrounding psychological flexibility to a novel area – reducing global poverty and human rights abuse, and also for the research work that the following chapters contain. Although the work contained within this thesis only represents an initial evidence base, it is hoped that this work will help establish a foundation on which further advances can be built.

In order that psychology can make a useful, long term, contribution to this area it is important to first establish its potential within a focused population. In this way, this thesis should be seen to be a feasibility study seeking to provide a 'proof of concept' within a novel area. With this in mind, the pieces of research contained within this thesis will focus on individuals living in the developed world. As such, the specific and deliberately narrow focus for this particular programme of research is to understand and then attempt to increase the level of pro-social or helping behaviour of members of the public in the developed world (e.g. the UK). If, at the end of this thesis, the evidence base is promising, it may be possible for future research to both broaden and scale up the findings, applying them more widely and to other populations (see discussion).

It should be noted that focusing on members of the public in the developed world is not unheard of within the wider development community. While much of the work to reduce global poverty and human rights abuse is rightly concentrated on the

ground in the developing world, increasing the engagement of the public in the developed world is an important parallel issue. For example, when talking about achieving the Millennium Development Goals, the United Nations (UN) describe how there is a need for "intensified collective action by all Member States and other relevant stakeholders at both the domestic and international levels" (United Nations General Assembly, 2010, point 9, p. 3). They also stress "the importance of mobilizing greater domestic support in developed countries towards the fulfilment of their commitments, including through raising public awareness" (United Nations General Assembly, 2010 point 78-f, p. 29).

The following sections of this first chapter will seek to provide an overview of a number of areas in an attempt to introduce the research programme of this thesis and the two terms mentioned above: global freedoms and psychological flexibility. The first section (1.1) will introduce the term global freedoms, the next five (1.2-1.6) will introduce the background to and potential importance of the term psychological flexibility. Accordingly the following sections will detail:

- 1.1. global poverty, human rights abuse and the term global freedoms
- 1.2. the previous involvement of psychology in the above area
- 1.3. an area of contemporary psychology known as contextual behavioural science (CBS)
- 1.4. the philosophical orientation of CBS – functional contextualism (FC)
- 1.5. the basic science of language and cognition – Relational Frame Theory (RFT)
- 1.6. the applied framework used for therapy and training – Acceptance and Commitment Therapy (ACT)

As section 1.6 is of some length, it is further sub-divided into:

- 1.6.1. Psychological flexibility in context
- 1.6.2. Six core processes of ACT
- 1.6.3. The ACT model of change
- 1.6.4. The ACT evidence framework

Having introduced the terms global freedoms and psychological flexibility, and described how the latter can promote the former, the final sections of this first chapter will provide more detail concerning this thesis itself. Specifically:

1.7. Moving towards research questions

1.8. Research questions

1.1. Global freedoms

This section will broadly outline the areas of global poverty and human rights abuse. It will do so as a way of introducing the term *global freedoms*. This term, global freedoms, will be used throughout the thesis to represent both global poverty and human rights abuse.

1.1.1. Global poverty

Despite the many achievements of the human race, we have yet to end global poverty. Perspectives on poverty vary, but according to one widely used definition, in 2005 there were 1.4 billion individuals who were living on \$1.25 or less a day (Chen & Ravallion, 2010). This figure, \$1.25, represents the threshold of *extreme poverty* as defined by the World Bank. However, it is worth noting that the figure of \$1.25 is not universally accepted as a poverty threshold. Arguments have been made both against the specific figure and also against using a monetary value to define poverty more generally (Khan, 2009, p. 21). For example, Reddy and Pogge (2009) argue that using such a line is both meaningless and arbitrary (p. 5; see also Pogge, 2008a, 2008b). Moreover, some researchers argue that there are inherent weaknesses in measuring global poverty in purely economic terms and instead argue for a more holistic assessment.

One such example is the *capabilities* approach devised and developed by Sen and Nussbaum (Nussbaum, 1997, 2003; Sen, 2005). It focuses on what individuals “are able to do and be” or, in other words, on what freedoms they have (Robeyns, 2005 p. 94; Nussbaum, 2003, p. 33). The capability approach defines ten central areas of functioning: 1. life, 2. bodily health, 3. bodily integrity, 4. the development and expression of senses, imagination and thought, 5. emotional health, 6. practical reason, 7. affiliation (both personal and political), 8. relationships with other species and the world of nature, 9 play, and 10. control over one’s environment (both material and social) (Nussbaum, 2007, p. 21). While it is true that even this approach is not without its critics (see for example Clark, 2005), this framework appears broader and more inclusive than a single monetary figure and has been used by the Human Development Reports of the United Nations Development Programme (Nussbaum, 2007, p. 21; Nussbaum, 1997, p. 275).

1.1.2. Human rights abuse

Human rights abuse tends to be defined as any violation or act that contravenes a human right (Humans rights abuse, n.d.). To avoid a tautology, it is necessary to define human rights themselves. In the contemporary world, the 30 articles of the “Universal Declaration of Human Rights” (UDHR) is often used as a benchmark against which human rights are defined and measured. For example: “Everyone has the right to life, liberty and security of person” (UDHR, III), “No one shall be subjected to arbitrary arrest, detention or exile” (UDHR, IX), “No one shall be arbitrarily deprived of his property” (UDHR, XVII.II). Data on human rights abuse are often gathered by non-governmental organisations working in this arena such as Amnesty International. Their data suggest that individual freedom of expression is limited in more than half of the countries of the world and that unfair trials are also conducted in half of the world’s countries (Amnesty International, 2013).

While it is easy to suggest that global poverty is an example of a human rights abuse, it is also important to evidence this point. As an illustration of the cross-over inherent in definitions of global poverty and human rights abuse it is worth noting that the notion of freedom of expression as defined in the UDHR has parallels with the central capability of affiliation. For example, article 19 of the UDHR states that: “everyone has the right to freedom of opinion and expression” (UDHR, XIX), while the description for the capability of affiliation mentions the importance of “protecting the freedoms of assembly and political speech” (Nussbaum, 1997, p. 287). Indeed Nussbaum argues that both she and Sen believe “that the capabilities approach needs to be combined with a focus on rights” (Nussbaum, 1997, p. 276).

Moreover, and more explicitly, the connection between global poverty on the one hand and human rights on the other is found in article 25 of the UDHR which states that: “everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care” (UDHR, XV). Article 25 appears to state that having adequate food, clothing, housing and medical care represents not just freedom from poverty but constitutes a human right. Another example of the explicit connection between global poverty and human rights comes from Irene Khan, Secretary General of Amnesty International from 2001 to 2009. She argues that “ending poverty is first and foremost about securing respect for human rights” (Khan, 2009, p. 3) and insists “on defining poverty as a human rights problem that can be addressed most effectively through respect for human rights” (p.

13). Thus, according to this analysis, if we focus on ending global poverty, we are also promoting the end of human rights abuse.

1.1.3. Global freedoms

Earlier in this section the Human Development Reports of the United Nations Development Programme were mentioned. In the year 2000, the yearly report was entitled: Human rights and human development. Again, like the paragraph above, the report made the suggestion that rather than being seen as two separate issues, human rights and human development should be viewed jointly. The report argued that both: “Human rights and human development share a common vision and a common purpose – to secure the freedom, well-being and dignity of all people everywhere” (United Nations Development Programme, 2000, p. 1).

The report defines seven freedoms linked to both global poverty and human rights. Specifically:

Freedom from want

Freedom from discrimination

Freedom from fear

Freedom from injustice

Freedom of participation, expression and association

Freedom to develop and realize one’s human potential

Freedom to work, without exploitation

(United Nations Development Programme, 2000, p. 1)

Bearing in mind the inter-connected nature of the definitions of global poverty and human rights, and taking a lead from the terminology used in the above report, this thesis will adopt the collective term: global freedoms. Global freedoms will refer, not just to issues of global poverty, (i.e. freedom from want) nor just to human rights abuse, (i.e. freedom from discrimination, fear and injustice) but to both together.

1.2. The previous involvement of psychology

Having introduced the term global freedoms in the wider context of global poverty and human rights, the next section of the chapter will provide a general overview of the previous involvement of psychology in these two areas. It is worth noting that psychologists have not tended to approach global poverty and human rights as a related or unified topic area but as two separate areas. Below, work in each of these areas will be highlighted, beginning generally, then focusing on global poverty, then

examining human rights research.

In 1969, APA president George Miller gave his presidential address, later published as an article entitled: "Psychology as a means of promoting human welfare" (Miller, 1969). He begins the article by saying that: "the most urgent problems of our world today are the problems we have made for ourselves" (Miller, 1969, p. 1063). Although Miller spends little time highlighting specific problems in either the developed or developing world, he does argue for the 'revolutionary potential of psychology' (p. 1065) and the need for psychologists to do more with the knowledge of human behaviour that they possess.

Perhaps understandably, much of this psychological knowledge gets focused on the ongoing problems in areas of the developed world, like the UK, rather than the developing world. This is illustrated by a special issue of the *Journal of Social Issues* published in March 2011. It celebrated the 75th anniversary of the Society for the Psychological Study of Social Issues (SPSSI; Rutherford, Cherry, & Unger, 2011). While one article examined SPSSI and its work concerned with poverty (Bullock, Lott, & Truong, 2011), the content of the article highlighted how the vast majority of work is focused on poverty in the United States and not the developing world.

This is not to say that the discipline of psychology has not been involved in the developing world and the area of global poverty. Reviews of and special issues concerning this work go back to the late 1960's (Hefner & DeLamater, 1968). Further special issues and review articles appear in the 1980s (Sinha, 1984), continue in the 1990s (Carr & Maclachlan, 1998b) and up to the present day (Carr et al., 2014).

For many decades there has been a continued suggestion that in focusing its attention on the developing world, psychology can tend to focus on the psychological attributes of individuals in poverty rather than an examination of the wider context that contributes to this situation. Mehryar (1984) frames the problems of the developing world as political and economic in origin stridently adding that: "to psychologize them might be both unproductive and immoral" (p. 159). As Sinha (1984) comments, psychological research can concentrate: "almost entirely on personal characteristics of the individual actors in social processes rather than on socio-structural factors"(p. 23). A slightly different argument is also made which suggests that psychology is a primarily Western product that is sometimes unthinkingly applied to the developing world context. As Serpell (1984, p. 179) argues: "parts of the basic conceptual framework of Western psychology have been imported, sometimes blindly, into the design of many

Third World countries' education, industry, law and health services'.

Although the above comments were made in the mid 1980's, a review performed ten years later found some examples of the latter practice continuing. Carr and Maclachlan (1998b) reviewed published output from the Psychlit database between 1985 and 1994. They divided the output into three areas: (a) social and organisational psychology, (b) health and welfare psychology, (c) educational and developmental psychology. The authors noted, for example, that intelligence tests developed in a Western context were being used and applied in a developing world context despite lacking norms or reliability and validity data for their revised use.

The review by Carr and Maclachlan also highlights how the application of psychology to the developing world does not just focus on those living in poverty in developing countries. There is also research which examines aspects of the aid industry, aid workers and the attributions of members of the public in the developed world towards those in the developing world. It has already been stated that the participants for this thesis will be members of public in the developed world. As such, this section will spend some time highlighting more of this research.

The piece of research mentioned by Carr and Maclachlan (1998a) that involved members of the public in the developed world is the Causes of Third World Poverty Questionnaire (CTWPQ; Harper, 1996). The CTWPQ measures participants' views on the causes of third world poverty. It contains 18 items, each a possible cause for poverty in the developing world. Participants rate each possible cause on a five point scale ranging from strongly agree to strongly disagree. Research describing the CTWPQ was first published in 1990 (Harper, Wagstaff, Newton, & Harrison, 1990). Further research by the original author was published two (Harper & Manasse, 1992), six (Harper, 1996) and thirteen years later (Harper, 2003). In each of these four pieces of research the same dataset (N=89) is used. The original paper is presented within the context of Lerner's Just World Theory (1980) and over the years several papers examining the factor structure of the measure have appeared (Bolitho, Carr, & Fletcher, 2007; Campbell, Carr, & MacLachlan, 2001; Carr & MacLachlan, 1998b; Panadero & Vazquez, 2008). In the original Carr and Maclachlan (1998b) review, the authors note that the link between the CTWPQ and actual helping behaviour remains unexplored (p. 5). What this means is that little research has examined whether scores on the CTWPQ relate to whether an individual engages in behaviour which might help reduce poverty; for example, donating to charities, shopping ethically, lobbying, becoming involved in

protest. Despite the repeated interest in the measure's factor structure, it seems very little research has taken place that examines the utility of the measure in predicting actual helping behaviour.

1.2.1. Human rights research

Psychological research into the area of human rights is perhaps less developed and less extensive than the research base into psychology and global poverty more generally. One relatively well developed research theme, pioneered by Willem Doise, involves the use of social representation theory (Clémence, Devos, & Doise, 2001; Doise, Spini, & Clémence, 1999; Spini & Doise, 1998). Social representations are common sense or lay theories held by members of the public about certain topics. The theory assumes that representations of new topics are based on or anchored to more familiar topics. Doise and colleagues have been interested in investigating the social representations of human rights across many countries. In one study (Doise et al., 1999), data collection involved nearly 7000 students across 35 different countries.

Other examples of research in the area of psychology and human rights attempt to divide the umbrella concept of human rights into components (e.g. human rights endorsement and human rights restriction; McFarland & Mathews, 2005), as well as making attempts to examine the relationship between these components and personality or attitude characteristics (e.g. Cohrs, Maes, Moschner, & Kielmann, 2007; McFarland & Mathews, 2005).

The topic of previous psychological research in the area of global freedoms will be returned to at the end of this chapter, when it will be discussed in relation to its compatibility with a functional contextual approach (section 1.7). However, before it is possible to make that assessment it is necessary to introduce that term and a number of other areas that are key to this thesis, i.e. CBS and the term psychological flexibility.

1.3. Contextual Behavioural Science (CBS)

The chapter so far has introduced the term global freedoms as well as providing a brief overview of previous psychological research in this area. The next four sections are designed to orientate the reader to the concept of psychological flexibility: one of the key terms mentioned in the title and first section of this thesis. Specifically, the next four sections will provide an overview of Contextual Behavioural Science (CBS), Functional Contextualism, Relational Frame Theory (RFT) and Acceptance and Commitment Therapy (ACT).

This first section will introduce CBS, the wider philosophical approach to

understanding human behaviour in which the notions of RFT, ACT, and psychological flexibility are situated. It may seem unnecessary to so firmly develop the background of the term psychological flexibility. However the assumptions behind psychological flexibility and CBS more generally are important to establish. These assumptions have implications for the way the previous research in this area will be responded to and for the way the research that forms this thesis will be approached and undertaken.

Many, arguably all, approaches within psychology and wider science are informed and guided by sets of assumptions. This is true whether researchers and applied practitioners are aware of these assumptions or not (Vilardaga, Hayes, & Schelin, 2007, p. 119). Discussing the topic of philosophy of science may initially seem far removed from the subject of this thesis. However, by understanding and being more explicit about the assumptions that inform our work, we are perhaps more able to assess the appropriateness and potential success of our research aims, hypotheses, and methodologies in relation to those assumptions. It is due to these potential benefits that being clear about and owning our assumptions is important to CBS (Hayes, Barnes-Holmes, & Wilson, 2012, p. 3)

In 1942, the philosopher Stephen Pepper published a book entitled “World Hypotheses: A Study in Evidence” (Pepper, 1942). A review of this book has also been published by Hayes, Hayes and Reese (1988). One of the main arguments within Pepper's book is that approaches to science can generally be placed into one of four categories: formism, mechanism, organicism, and contextualism. Pepper calls these categories *world hypotheses*, although world views would be another way of describing them (Hayes et al., 1988, p. 97).

World views can be distinguished from each other in two ways. Each has a root metaphor and a truth criterion. The term root metaphor refers to the way that followers of that world view conceive of the world. Truth criterion refers to what people try and do with the way they see that world. Or, in other words, what their aims and objectives are and criteria they use to tell if they have been successful in those aims.

Different world views should not be seen as being in competition with one another. Instead, they exist as separate categories, with their own interpretation of the world and their own aims and goals. This means that weaknesses in one world view do not necessarily strengthen the position of another. In this way, different world views exist as separate “playing fields” (Hayes et al., 1988, p. 98). As Biglan (1995, p. 35) puts it, there is no right or correct world view, however adopting a particular world view

can have consequences.

This section will now briefly introduce the four world views: *formism*, *mechanism*, *organicism*, and *contextualism*. The next section of this chapter will focus in a little more detail on functional contextualism, a distinct variety of contextualism.

Central to the world view of *formism* is the idea of identifying similarity and recognising forms (Hayes et al., 1988, p. 99). In other words formism is concerned with naming and labelling objects in the world. Formism is less concerned with how things work, instead its truth criterion is simple correspondence. In other words, are these objects alike, do they correspond to each other? Or, putting it another way, does this object fit this label: do the object and the label 'correspond'? To provide a more practical example: if somebody were pondering whether the round, spherical object before them suitably fitted the label *football*, that would be a formist way of interacting with the world (Fox, 2008). Perhaps the world view of formism can be summed up with the question: "What is this form I see before me?"

The second world view, *mechanism*, is also sometimes known as *elemental realism* (Hayes et al., 2012, p. 4). The root metaphor of mechanism is the machine. A machine can be thought of as being made up of many different integrated parts. The workings and output of a machine can be understood by considering the individual parts and how they interact with each other. Adherents of the mechanistic world view tend to divide their subject of study into different parts and devise models and theories about how these parts interact. In terms of psychology, the generic mechanistic question might be: "How does the 'human machine' work?" (Biglan & Hayes, 1996, p. 50).

According to the mechanist world view, any model is deemed to be correct if it stands up to testing. In other words, it is deemed correct if predictions made using the model match data collected from the real world. As such, the truth criterion for mechanism is how well the model maps onto the world. The mechanist hopes to create an ever more complicated and precise model of the machine which maps ever more closely to data collected in the real world. In this way the truth criterion is somewhat similar to that of formism: correspondence. However, the truth criterion of mechanism requires more than simply a match between our model of the world and the actual world before us (Hayes et al., 1988, p. 99; Biglan & Hayes, 1996, p. 50). Mechanists also seek to apply their models in novel and diverse circumstances (Biglan & Hayes, 1996, p. 50; Fox, 2008). In other words mechanists are also interested in prediction. To summarise, mechanists are not just interested in the formist goal of establishing whether the model

matches the world (correspondence), but also whether what the model suggests will happen matches what does happen in novel circumstances (prediction).

It is important to note that the mechanistic world view is probably the most popular world view in contemporary psychology (Biglan, 1995, p. 36), especially within cognitive psychology (Fox, 2008). Although, as Biglan acknowledges, most psychologists are probably unaware that this is the world view that guides their work (Biglan, 1995, p. 37).

Arguably the second most popular world view within psychology is *organicism* (Biglan, 1995, p. 41). The root metaphor of organicism is the growth and development of the organism. Psychological models and theories which talk about stages tend to be linked to organicism and this world view is often found in developmental psychology (Hayes et al., 1988, p. 100). The goal of organicism is to seek out the natural, orderly sequence of events. Organicism differs to mechanism in the way that it focuses on the integrated whole rather than focusing on the individual interacting parts (Hayes et al., 1988, p. 100). The truth criterion of organicism is coherence. This implies the removal of non-essential elements of the development story of that organism. The removal of any unnecessary or contradictory elements leaves a coherent grand story of normative development.

The fourth and final world view proposed by Pepper is *contextualism*. The root metaphor for contextualism is the act-in-context. These three words are hyphenated because act and context are meant to be understood as a whole. In this way, central to the contextualist world view is the belief that the behaviour of a person can not be understood separately from the context in which that behaviour takes place. For example the identical act of raising the arm in the air and moving the hand from side to side may have different meanings in different contexts (Biglan, 1995, p. 32). For example in one context – an airport arrivals lounge – it may be indicative of saying hello. In another context – an airport departures lounge – the same movement may be indicative of saying goodbye. And in a third context – an airport pavement, next to a taxi rank – the movement can function as a request for a ride. In an entirely different context, for example in the sea, the same movement may indicate someone trying to signal they are in distress and require help. For contextualists, context is vital, but it is important to note that context refers to two things: both the current context and the individual's history of learning. In this way act-in-context refers to both the current and the historical context of an act (Fox, 2008, p. 59). Unlike mechanists, contextualists are

not interested in breaking down actions into smaller parts or in divorcing them from the context in which they occur (Fox, 2008, p. 59); for example, contextualists are not concerned with specifying the perceptual and cognitive process that may predict arm waving at people.

The truth criterion of contextualism is: *successful working* (Fox, 2008, p. 58; Hayes et al., 1988, p. 101) and as different varieties of contextualism exist it may not be surprising that each one defines what successful working is slightly differently, despite each sharing the root metaphor of the act-in-context. The two major varieties of contextualism are descriptive contextualism and functional contextualism (Hayes, 1993).

Descriptive contextualists seek to capture the complexity of human behaviour. They are keen to develop rich descriptions of the unique, personal act-in-context and often utilise narrative accounts. Descriptive contextualists do not seek general principles. Indeed some, such as Gergen (1986) conclude that moving beyond a narrative account is not possible (Biglan, 1995, p. 36). Examples of descriptive contextualism include social constructionism (Gergen, 1985), narrative approaches (Sarbin, 1993), dramaturgy / dramapsych (Scheibe, 1993) and hermeneutics (Dougher, 1993).

Another variety of contextualism is known as functional contextualism. Functional contextualism is key to CBS and to psychological flexibility. As such, it will be explored in the next section.

1.4. Functional contextualism

Functional contextualism is the world view that underpins CBS. Functional contextualists tend not to be interested in the way the world 'is' in an absolute sense (Barnes-Holmes, 2000; Fox, 2008, p. 58). Instead they focus more pragmatically on whether things work. Accordingly, you state your goals up front, and your analysis is successful to the extent that it takes you in the direction of those goals (Barnes-Holmes, 2000, p. 198). As such, the *pragmatic truth criterion* that underpins functional contextualism is prediction-and-influence of behaviour with precision, scope, and depth (Biglan, 1995, p. 29). In exploring this truth criterion, this section will first unpack the phrase 'prediction-and-influence' before introducing the implications of 'precision, scope, and depth'.

Like 'act-in-context', the phrase 'prediction-and-influence' is a hyphenated phrase. This is done to suggest that prediction-and-influence are inseparable scientific goals: neither is sufficient on its own. In this way, functional contextualists are not only

interested in simply the prediction of behaviour or just the influence of behaviour but the united goal of prediction-and-influence of that behaviour (Biglan, 1995, p. 34).

Perhaps the key to understanding the implication of this phrase is the notion of manipulation. Some might argue that if a variable is found to predict a behaviour then surely that variable is capable of influencing behaviour too. However two important arguments can be made against this point: one concerns the nature of correlational relationships, the other about how manipulable variables are. The first argument is well known in psychology. It states that just because a relationship is found between a variable and behaviour, it does not necessarily indicate that the relationship is causal in nature. The relationship might for example operate the other way around, or an unidentified third variable may be the cause of influence between variable and behaviour (e.g. Field, 2013, p. 14).

The second argument, about how manipulable variables are, is more specific to functional contextualism. Functional contextualists would argue that unless variables are manipulable we are unable to predict-and-*influence* them. While prediction, in isolation, may be adequate for certain world views, such as mechanism, it is not for functional contextualists (Biglan, 1995, p. 30).

This distinction may become clearer with an example. Biglan (1995, p. 31) notes the research into adolescent smoking. He notes many studies find correlations between smoking behaviour and aspects of the individual, for example: self esteem or rebelliousness. However, he argues that having knowledge of these relationships brings us no closer to being able to reduce the incidence of smoking behaviour because neither self esteem nor rebelliousness are manipulable variables. Put simply, we do not know how to change them. Hence the importance of focusing on variables that are manipulable, at least in principle (Fox, 2006, p. 16). In this way, it is only manipulable variables that allow us to move towards influencing behaviour.

As suggested earlier, 'precision, scope and depth' are also important terms to functional contextualists. These terms simply refer to a desire to be able to explain phenomena using as few concepts as possible (precision), while at the same time for those concepts to be able to explain as wide a range of phenomena as possible (scope) and for these concepts to be readily integrated with other established theories (depth). This final notion of depth suggests that nothing should be used at one level of analysis that is contradictory at another level of analysis. An example of this would be making sure that nothing at the psychological level of analysis contradicts anything at a

biological or evolutionary level of analysis (Vilardaga, Hayes, Levin, & Muto, 2009, p. 110).

Although it may have taken a little time to unpack the different world views that Pepper (1942) proposed, it is hoped that the reason for this is clear. The following quote may help underline the importance of the previous two sections. “As a functional contextualist sees it, the ultimate purpose of behavioral science is to change the world in a positive and intentional way” (Hayes et al., 2012, p. 2). If the aim of a behavioural scientist is to change the world, to influence behaviour, then it seems that certain world views are more able to help this aim than others. Specifically it seems that functional contextualism with its single goal of 'prediction-and-influence' is most useful. However, if the aim of the behavioural scientist were something else, for example just to predict or to describe behaviour, then other world views may be more appropriate to the task.

As was hopefully made clear in the first section of this thesis, the long term aim of this research programme is to help increase global freedoms and the more specific goal of this thesis is to understand the role of psychological flexibility in increasing levels of helping behaviour. Accordingly, it seems clear that this research needs to adopt an approach to behavioural science that is capable of both prediction and influence. This can be achieved by using CBS theory and processes of the basic science of language and cognition known as Relational Frame Theory (RFT) and the applied set of processes known as Acceptance and Commitment Therapy (ACT). These will be explored in the next two sections of this chapter.

1.5. Relational Frame Theory (RFT)

The next two sections provide an overview of the more basic (Relational Frame Theory – RFT) and the more applied (Acceptance and Commitment Therapy – ACT) programmes of science that have arisen from functional contextualist approaches to human behaviour. First RFT.

RFT attempts to provide a scientific understanding of human language and cognition (Hayes, Barnes-Holmes, & Roche, 2001; Törneke, 2010). The framework is consistent with, based on, and extends Skinnerian behavioural analysis (Ramnerö & Törneke, 2008; Skinner, 1974). A growing research and citation base appears to indicate that RFT is resulting in a viable programme of research (Dymond, May, Munnelly, & Hoon, 2010). This is important because while Skinner's book “Verbal Behaviour” (Skinner, 1957) also attempted to understand human language and cognition its analysis failed to generate research, applications and methods (Hayes, Barnes-Holmes et al.,

2001, p. xi).

It is important to note that RFT does not seek to aid our understanding of language and cognition in isolation, but how these processes contribute to complicated human behaviours which are often described under the umbrella terms of psychopathology, developmental psychology and social psychology (Hayes, Barnes-Holmes et al., 2001). It is also important to note that neither RFT or ACT are concerned with mental health in isolation, but provide analysis and processes that are applicable to human behaviour more generally. This is one of the reasons why the framework of CBS generally and RFT and ACT specifically seem appropriate to the topic of this thesis.

The following section will explore a number of concepts important to the understanding of RFT. These include an explanation of the term 'relational' and the difference between human and non-human abilities in this regard. It will then explore the formal and arbitrary properties of objects and the notion of 'arbitrarily applicable relational responding'. The specific processes of mutual entailment, combinational entailment and the transformation of stimulus functions will be explained before providing some real world examples of how these processes can shape our world. Finally this section will examine our current ability to manipulate these processes in laboratory settings.

The *R* of RFT highlights the central importance of *relations* to human language and cognition. The ability to relate one event or object to another, or to make a relational response to events and objects is key to RFTs understanding of human language and cognition. However it is important to clarify what is meant by *relating* as both non humans and humans can act in response to relations.

For example, in non human animals, rhesus monkeys have been found to be able to relate objects together (Harmon, Strong, & Pasnak, 1982). If presented with two stick-like stimuli in experimental settings monkeys are able to select the *taller* of the two stimuli. Interestingly, the monkeys can continue to pick the correct stimuli even if the stimuli change so that the stick that was previously tallest now becomes the shorter of the two. This data suggests that the monkeys are acting on the basis of the relationship between stimuli. In other words, they are making a relational response. However, it is important to note that in the above experiment one stick is actually taller than the other. The taller-shorter relationship between the objects exists in the world, it represents a 'formal property' of the objects.

Whereas non human species tend to only be able to respond to formal properties,

humans can also act on non formal relationships. This means that we can build relationships between objects that are independent of the physical properties of stimuli. In other words we can build relationships that exist merely because of social convention. For example, humans are able to relate to the stick-like objects in terms of which is the 'nicest' or 'best'. Notice that there is nothing inherent in the stick-like objects themselves that defines which is 'nicer'. Which stick is 'best' does not depend on the formal properties of the object but on arbitrary properties. This ability to form arbitrary relationships allows us to bring almost anything into a relationship with anything else and is known as *arbitrarily applicable relational responding*. This is thought to be a key and powerful feature of the human ability to interact with the world through language (Törneke, 2010, p. 89).

To understand more about arbitrarily applicable relational responding (AARR) and its implications for human language and cognition it is useful to look at how this ability develops in young children. The acquisition of relational responding starts when we are very young. As infants we are taught to relate objects to names. For example an object like a *teddy* and its corresponding name *t-e-d-d-y*. Notice that the relationship between words and objects in this instance is purely arbitrary. The word *t-e-d-d-y* only relates to the object “teddy” because of social convention. There is nothing formal that relates *teddy* and *t-e-d-d-y* together. Of course, the relationship between the two may seem natural to us, but this is only because our history of relating has paired the two things together on many occasions in the past. The relationship between *teddy* and *t-e-d-d-y* is known as a “relational frame”. More specifically, the relationship between the object and word is known as a frame of co-ordination or frame of sameness.

Now, when we are first learning relationships such as those between *teddy* and *t-e-d-d-y* each relationship is explicitly taught and reinforced in order to establish the connection between object and name. However over time something known as *generalised relational responding* emerges. This ability means that each individual relationship no longer has to be taught and reinforced and we can, amongst other things, quickly respond to names of objects as if they were the actual objects. Once generalised relational responding appears, not only are humans in a position where relations no longer need to be formally trained, it is also the case that relations can be *derived* outside of awareness. In other words, relationships between events and objects can form without us being aware that relationships are forming.

The evidence for derived relations expands on the existing notion of stimulus

equivalence (Sidman, 1971). In Sidman's classic experiment, a participant with learning disabilities was taught to match spoken words to pictures and also taught to match spoken words to printed words. On top of this, despite the fact the relationships were never directly taught, the participant became able to match pictures to printed words. This last relationship, between the pictures and printed words, had formed spontaneously without training or reinforcement. In other words, the relationship had been derived. Put simply, a derived stimulus relation is a relationship between two or more stimuli which has not had to be directly trained or taught.

The continued research work into this area has highlighted three important qualities of human language and cognition key to RFT: mutual entailment, combinational entailment and the transformation of stimulus functions. In mutual entailment if a relationship from a to b is learned and reinforced, then the reverse relationship, from b to a , is derived despite never being reinforced itself. Combinational entailment involves three or more stimuli. Here, if the relationships between a to b and b to c are established, the relationships from a to c and c to a are again derived without direct learning taking place. Transformation of stimulus functions involves the functions of stimuli being changed on the basis of their relationship with other stimuli. For example, if a is aversive to an individual, and the individual learns that a is similar to b , then b also becomes aversive as the function is transformed from a to b .

In all the examples given above, the a , b and c relationships are frames of coordination. So, a is trained to be functionally equivalent to b - in the same way that the word *t-e-d-d-y* is trained to be functionally equivalent to the object *teddy*. Other families of relational frames also exist such as opposition (e.g. a is the opposite of b), distinction (a is not b), comparison (a is bigger than b). Hierarchical, temporal, spatial and deictic relational frames also exist along with relations concerning conditionality and causality (see Hayes, Fox, et al., 2001). As with frames of coordination, these frames are initially trained and reinforced but the capacity of relating eventually become generalised and then can take place automatically and outside of awareness.

These different processes, acting together, can lead to both the many efficiencies and many of the problems of living with human language. Because of the processes described above, verbal stimuli in the form of either spoken language or thoughts can exert a large influence on our behaviour without us needing to have direct contact with the environment (Törneke, 2010, chapter 7). Our experience of words alone can change what we think, what we feel and what we do. Verbal stimuli alone become all that is

necessary to bring us into contact with the functions that objects possess. For example, if we are scared of spiders, just the word *s-p-i-d-e-r*, or thought *s-p-i-d-e-r* might be enough to produce some of the aversive responses that would happen if we were in the physical presence of an actual spider.

The implications of the processes described above are vast. Once these processes become generalised, our whole world becomes verbal, (Hayes, Barnes-Holmes et al., 2001, p. 89). For example, viewing a real spider, automatically relates to our verbal word (*s-p-i-d-e-r*), which may be in a frame of coordination with dangerous; and so stimulus functions associated with dangerous, e.g., fear, physiological arousal and fleeing, can get transferred to the spider in front of us. Given RFT, it is clear to see how these verbal relationships can come to structure our world and guide our behaviour. Indeed as these relationships form automatically and without our control they can make us insensitive to the world outside of our verbal network of relational frames (Hayes, Niccolls, Masuda, & Rye, 2002; Roche, Barnes-Holmes, Barnes-Holmes, & Stewart, 2002).

The following two examples from the RFT literature provide illustrations of how the above processes might impact the real world. Imagine that a child learns that *men and women are opposite sexes* (a relational frame of opposition) and also learns that *men are strong* (a frame of coordination). From this the child may derive that *women are weak* (as weak, like women, are in frames of opposition with strength and men) without it ever being taught. If the child later learns that *strength comes with age* they may again derive that *younger women are weaker than older women* and that *younger women are weaker still than older men* (adapted from Roche et al., 2002, p. 76).

The next example concerns the terrorist attacks on September 11th 2001. Imagine an American witnessing the attacks of 9/11 (a), in so doing he experiences emotions of rage and hate (b). A little later the media also broadcasts images of terrorists (c), suspected of being responsible for the attack (a). Notice how *a* relates to *b* and *a* separately also relates to *c*. It is also possible that derived relations may also come to exist between *b* and *c* so that images of terrorists now give rise to feelings of rage and hate. Equally, as the distinctive features of the terrorist group (*c*) include their race, skin colour, religion and country of origin, it may be easy for those feelings of hate to be felt not just towards terrorists but to all individuals of Middle Eastern descent who share the same characteristics as the terrorist group (*d*; adapted from Dixon, Dymond, Rehfeldt, Roche, & Zlomke, 2003, p. 135).

Real world illustrations, like those above, have been translated into experimental set ups using neutral stimuli. For example, researchers have investigated whether a transformation of stimulus functions can occur between stimuli associated with obesity and with arbitrary, neutral stimuli (Weinstein, Wilson, & Kellum, 2008). In this experiment, participants took part in a *matching-to-sample* preparation where they were indirectly trained to respond to horizontal and vertical lines as if they were stimuli associated with obesity or thinness. The results suggest that the functions of obese stimuli transformed to the neutral stimuli through derived training. Moreover, the research provided evidence that transformations of this kind only require a very brief training history. One important thing to notice is how in this experiment the functions were transformed to arbitrary, neutral stimuli specifically horizontal and vertical lines which had no history of being matched with stimuli related to obesity. In a similar way people who previously may have had no strong feelings towards individuals of Middle Eastern descent may very quickly come to feel rage and hate towards them.

The above example suggests that RFT can provide a useful account of how human language and cognition can influence our life and even the emotions we experience as part of it. Not only does RFT provide an account of how this might take place in real life, but evidence from experimental settings supports this account. However although an understanding of the processes involved in RFT allows researchers to transfer functions to previously neutral stimuli, a question remains concerning the ability of these processes to influence pre-existing relational frames established over a longer period in an individuals learning history in the real world.

In an attempt to test this, researchers noted that in Northern Ireland surnames from different religious backgrounds are often distinguishable from one another (i.e. Protestant or Catholic; Watt, Keenan, Barnes, & Cairns, 1991). They conducted a laboratory based study using participants from both Northern Ireland and England. They were trained to relate 3 Catholic surnames to 3 nonsense syllables and later to relate the nonsense syllables to three Protestant symbols. Subjects were then tested to see if relations of equivalence had been established. Participants were presented with the Protestant symbols and given the options of selecting a Catholic name from training or a new, novel Protestant surname. All of the English subjects followed their experimental training and chose the Catholic name, but 12 of the 19 subjects from Northern Ireland chose the new, novel protestant name. It seems that laboratory based training was weaker than the pre-existing relationships that had already been established in the real

world for the Northern Irish subjects. Results such as this are not uncommon. Responding to the events of September 11th 2001, researchers tried to form frames of coordination between terrorist and American images in an effort to reduce prejudice (Dixon, Zlomke, & Rehfeldt, 2006). However, across two experiments most participants did not form such frames and the researchers concluded that the training within the laboratory was not sufficient. It appears that, as yet, laboratory based procedures related to RFT are not sufficient to counter histories of responding built up over many years in the real world outside of the laboratory.

In conclusion, this section has provided an overview of the basic science of RFT. The above framework and the processes within it have helped researchers understand human language and cognition and how it can influence our behaviour. Although laboratory based procedures are as yet unable to ameliorate the relational frames that sometimes come to influence our behaviour, the next section will examine how a clinical, behavioural approach that is “consciously derived from RFT” (Wilson, Hayes, Gregg, & Zettle, 2001, p. 231) attempts to influence human behaviour in the real world. The approach is known as Acceptance and Commitment Therapy or ACT.

1.6. Acceptance and Commitment Therapy (ACT)

The following sections of this chapter introduce the reader to ACT. Whereas RFT represents the basic science that stems from functional contextualism, ACT represents the applied science and clinical techniques. The previous section explored how RFT provides a bottom-up, evidence-based account of human language and cognition. It also highlighted how entirely laboratory based procedures based on RFT are currently unable to counter the history of language and cognition that is built up over an individual's life time. However ACT is developing an impressive real world evidence base that evolved alongside the understanding of language and cognition provided by RFT.

The direct connection between RFT and ACT will hopefully become clearer throughout the following sections. However, it is worth emphasising at the outset how the model of language and cognition provided by RFT suggests that many of these verbal processes take place outside of awareness and control. As Hayes, Luoma, Bond, Masuda and Lillis (2006) comment, “it is not practically viable to eliminate these processes” (p. 5). This goes against the common sense idea that language based networks can simply be changed, reorganised, or destroyed. In fact RFT would suggest that attempts to change part of a network is actually likely to elaborate it and increase its

importance (Hayes et al., 2006, p. 5). In this way, while ACT is very interested in language, it makes the distinction between the content of language and its function. As a result of the influence of RFT, ACT chooses to place its efforts on altering the function and not the content of language.

In short, ACT is a practical, cognitive-behavioural approach to behaviour change. ACT allows individuals to do more of what is important to them by strengthening or loosening the influence of language, cognition and related private internal events e.g. thoughts, attitudes, beliefs, feelings, memories, images, physiological or body sensations. Central to ACT, and this thesis, is the promotion of psychological flexibility. Psychological flexibility refers to the dual ability to be fully aware in a willing and open way of the private internal events present in the moment and to either maintain or modify behaviours in direction of that which is personally important to you. (Hayes et al., 2006; Bond et al., 2011). Importantly, ACT does not set out to change the form of private internal events but instead to change our relationship with them.

The following sections will explore psychological flexibility having first introduced the thought suppression and experiential avoidance literature (1.6.1). This is followed by an exploration of the six processes of psychological flexibility, which ACT attempts to strengthen: acceptance, cognitive defusion, values, committed action, present moment awareness and self as context (1.6.2). Following this, the section will clarify the ACT model of change (1.6.3) before finally providing relevant information concerning the ACT evidence base (1.6.4). But first, the term psychological flexibility will be contextualised.

1.6.1 Psychological flexibility in context

Stemming directly from the understanding of language and cognition provided by RFT, ACT suggests that problems in day to day functioning may occur when individuals attempt to manage their private internal events in the same way we are able to manage our external world. As humans we are often able to control and manage external events that present themselves in our day to day life. For example, if a difficult event appears on the horizon we are sometimes able to do things that will either reduce, mitigate or even entirely avoid the event. Indeed this ability to problem-solve external events is highly prized by our society.

However, the ACT model argues that attempting to respond to private internal events, such as thoughts, feelings and memories in the same way can be counter

productive. Indeed the extensive literature on thought suppression, consistent with RFT, suggests that the more we try to avoid a particular thought, the more it occurs (Wenzlaff & Wegner, 2000). Research pioneered by the psychologist Daniel Wegner has provided evidence for the ironic, counter-productive nature of thought suppression. Indeed, it is argued that trying to suppress a difficult cognition helps “assure the very state of mind one had hoped to avoid” (Wenzlaff & Wegner, 2000, p. 59).

A related concept in the psychological literature is the notion of *experiential avoidance*. This term describes attempts to alter the form, frequency, or situational sensitivity of difficult private internal events even if that leads to behaviour inconsistent with things which are important to the individual (Luoma, Hayes, & Walser, 2007, p. 11; Hayes et al., 2006; Bond et al., 2011). Notice that in this definition we move beyond the notion of merely suppressing thoughts and more widely refer to the avoidance of any difficult private internal events. There is evidence that the process of experiential avoidance is involved in many forms of human pathology such as substance abuse, OCD, panic disorder, borderline personality disorder, suicidality and responses to childhood sexual abuse (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Moreover, this insight is not recent. Indeed, as Hayes et al. (1996) remind us, the potential problem of avoiding private internal experiences is recognised by other major thinkers and approaches in psychopathology e.g. Freud, Rogers and Gestalt (p. 1154).

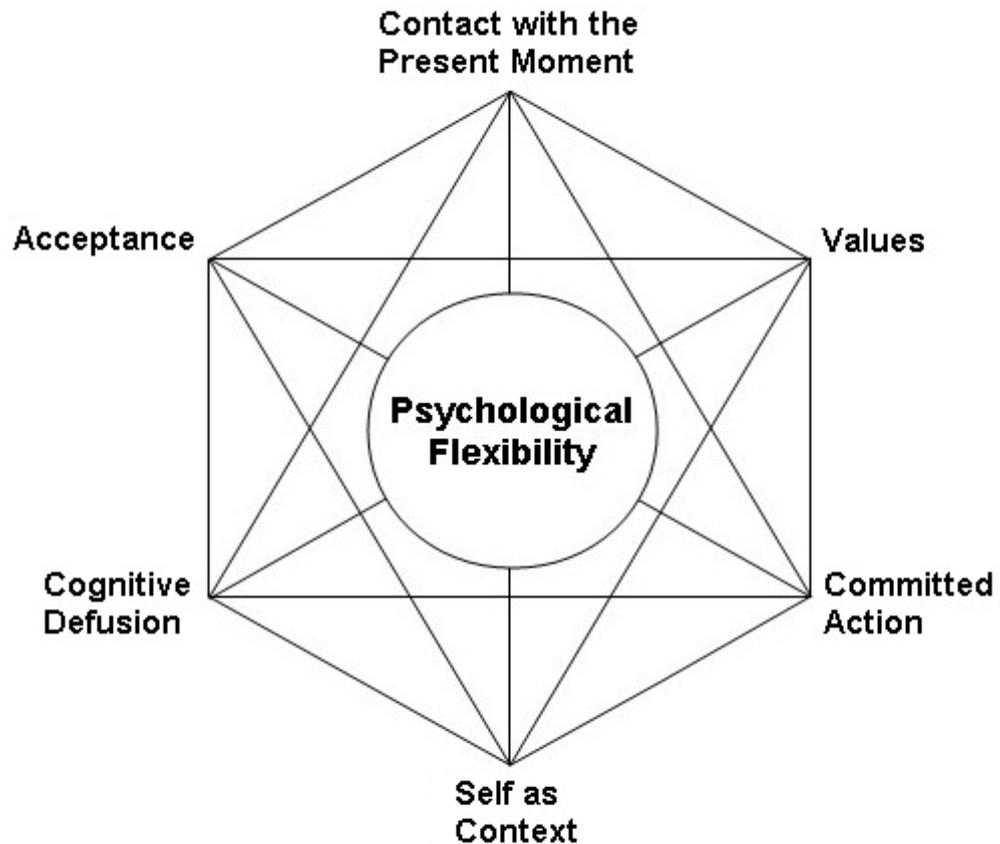


Figure 1. The ACT model of psychological flexibility.

1.6.1.1. Psychological flexibility

The term psychological flexibility develops the definitions and literatures of thought suppression and experiential avoidance introduced above. The thought suppression literature indicates the counter-intuitive and counter-productive effects of attempting to avoid cognition. The experiential avoidance literature explores the potential adverse effects of avoiding other difficult private internal events. The concept of psychological flexibility develops the concept still further by suggesting the avoidance of any private internal events: positive, negative or neutral can potentially stop us moving in the direction of things that are most important to us.

In short, psychological flexibility refers to a deliberate, conscious ability to sustainably move towards that which truly matters, whilst being in full contact with the thoughts and feelings and other private internal events that are occurring in the present moment (Thompson & McCracken, 2011). As the above figure indicates, the notion of psychological flexibility is at the centre of the ACT model. Each term in the above model has an opposite process. So as well as there being psychological flexibility there

is also psychological inflexibility (Hayes et al., 2006). Psychological inflexibility occurs when we are either pre-occupied with avoiding private internal events or our behaviour is being dictated by those same events. In other words, psychological inflexibility occurs when private internal events dominate our present moment to the detriment of acting in a way that is consistent with what matters most to us. The ACT model suggests that psychological inflexibility can cause difficulty for human functioning because we are either less able to persist in behaviour that would move us towards things that are personally important to us, or less able to change our behaviour to bring about the same ends. The dominance of either trying to control or being controlled by private internal events can result in us getting stuck in the world of verbal relations described by RFT whilst at the same time becoming more removed from the real world of environmental contingencies which provide the key to us engaging in successful living.

1.6.2 Six core processes of ACT

Having introduced both psychological flexibility and inflexibility, a natural question that occurs is how to help an individual move from a position of inflexibility towards flexibility. ACT would argue that the answer is to be found in the terms found around the edge of Figure 1. Specifically: acceptance, cognitive defusion, values, committed action, present moment awareness and self as context. These processes have been written about extensively (Luoma et al., 2007; Hayes et al., 2006; Hayes, Strosahl, & Wilson, 1999), but will also be explored in brief below. Like psychological flexibility / inflexibility – each of these six processes are double headed. One term relates to psychological flexibility the other to psychological inflexibility.

1.6.2.1. Acceptance / avoidance

The notion of experiential avoidance has already been introduced earlier in section 1.6.1 and acceptance is a potential counter to it. The word *acceptance* itself is perhaps not ideal, having so many slightly different permutations in the English language, including notions of liking and passivity (Williams & Lynn, 2010). It is perhaps the case that the term *willingness* best captures the alternative to avoidance. Here willingness refers to an openness to experience private internal events without defence. It is perhaps important to notice that acceptance is not something that is done once, nor is it a purely mental event. Acceptance is also not simply a reply: “yes” to the question: “Do you accept this?” Instead it represents an ongoing, quality of action that often needs to be repeated moment to moment (Thompson & McCracken, 2011).

1.6.2.2. Cognitive defusion / fusion

Earlier it was mentioned how psychological inflexibility might either involve individuals avoiding private internal events or being dominated by them. Cognitive fusion refers to this latter variety of psychological inflexibility. Cognitive fusion takes place when individuals are caught up in their thoughts to the extent that it dominates other possible influences on their behaviour. Being caught up in the verbal, language based world also means we are less able to be influenced by real world contingencies. The alternative to cognitive fusion is cognitive defusion. This term refers to an ability to watch and observe thoughts without being unnecessarily dominated by them (Thompson & McCracken, 2011). In other words, defusion involves seeing the processes of language unfold in our mind, but observing this process rather than necessarily being ruled its content. Luoma, Hayes and Walser comment on how the difference between defusion and fusion is the difference between looking at rather than looking from thoughts (Luoma et al., 2007, p. 19).

1.6.2.3. Values / lack of values

When first describing psychological flexibility the phrase: “that which matters most to us” was used. Values are on going patterns of behaviour in the direction of those things that give our lives meaning. Wilson and Murrell (2004) describe values as being the answer to this question: “In a world where you could choose to have your life be about something, what would you choose?” (p. 135). More concretely, values may occur in domains such as family, friends, intimate relationships, education, work, hobbies, spirituality, community, health and fitness. However, despite this list, values are personal choices. ACT is not concerned with changing the content of values. Instead ACT focuses on clarifying an individual's values and helping them live a life which is more directed by those values rather than avoidance, fusion and inflexibility. Indeed, ACT argues that if our life is occupied with either avoiding private internal experiences or is dominated by those experiences, it is more likely that we will lose contact with our values. If this happens, it is likely that our behaviour will be less influenced by our values and over time we may even become less clear about what we really care about (Luoma, et al., 2007, p. 16).

It is worth noting that these sections on RFT and ACT have repeatedly talked about the potential pitfalls of language and cognition. However values are verbal constructions. Values are examples of language that we want to have more influence on our life (Luoma, et al., 2007, p. 19). It is also worth highlighting the ongoing quality of

values. Behaviour in the direction of values is never fully achieved, it is never complete. As long as the value is still relevant to the individual, it is likely that there is still behaviour that can be undertaken in the service of that value. For example, an individual's value may be to be a: “loving and caring partner”. In the spirit of that value the person might, for example, do various actions during part of a day, however there are likely to be other things that the person can continue to do in the spirit of that value as the day continues to unfold. In this way, values are never fully achieved.

1.6.2.4. Committed action / lack of committed action

Being clear about our values, by and of itself is necessary but not sufficient for successful living. Our values are only a language based representation of the things we find most reinforcing. ACT suggests that successful living requires both a knowledge of what matters most to us and actual behaviour consistent with those values. The term *committed action* describes this type of behaviour. Whereas values themselves are never fully achieved, as described above, individual committed actions may include very specific, goal focused activities in the direction of values that can be completed. Of course pursuing committed action in the direction of values is not necessarily easy or straight forward. It can result in difficulties, set backs, and the encountering of both practical and psychological barriers. The notion of committed action implies both a persistence of behaviour and a flexibility to modify behaviour depending on what the situation affords, in relation to expressing one or more values. Persistence is sometimes needed because goals may require multiple attempts to be achieved. Conversely flexibility is sometimes required because sometimes behaviour may need to be modified or reorientated in order to reach a relevant goal. The opposite of committed action is its lack. Luoma et al. (2007) describe lack of committed action in terms of: “inaction, impulsivity, or avoidant persistence” (p. 17). Such behaviour indicates an inability to move successfully in the direction of values, despite perhaps being clear about them. It may well be that in these situations people are being dominated by or are attempting to avoid other private internal events to the cost of more valued behaviour.

1.6.2.5. Present moment awareness / dominance of past or future

To notice both the opportunities that are available to us in the external world and the private internal events that are taking place within us requires the ability to be aware of the here and now. This ability is often known as present moment awareness. Sometimes however an individual's focus is not located in the present moment. Instead they may be focused on the past or the future. Perhaps they are occupied with events

that have already passed – perhaps failures, disappointments or hurts. Alternatively perhaps they are concerned, anxious and worried about an upcoming event. Dwelling or ruminating on events in either the past or future suggests the individual is less aware of and less able to act on the environment and opportunities before them.

1.6.2.6. Self as context / self as content

Put simply, self as context is a perspective on self that is unchanged by time or experience (Thompson & McCracken, 2011). Key to the notion of self as context is the individual's sense of themselves as: *I*, separate from any language or cognition that may also be associated with themselves. For example an individual may see themselves as: a failure, a success, a student, a teacher – and while all of these things may be true, the notion of self as context refers to an ability to notice that they also exist as separate to these labels. Self as content refers to the dominance of the verbal descriptions, for example: “I am a success”, or “I am a student”. Such descriptions, like other examples of language and cognition, can become problematic if individuals become too attached to them, or dominated by them. For example, take the description of self: “I am a clever individual”. If an individual is too attached to this, or too avoidant of it being threatened, they may avoid situations where this description might come under threat, or may seek to defend this description even if it involves acting against other values that they hold. While language associated with self can come to unhelpfully dominate behaviour, the advantage of self as context is that it represents a consistent and invariant perspective untouched by other aspects of language (Stewart & McHugh, 2013, p. 123).

Earlier, in the description of RFT, it was noted that there are different types of relational frames. It was noted that the relational frame between the object *teddy* and the word *t-e-d-d-y* was a frame of co-ordination. One of the other types of relational responding is known as deictic framing. This type of framing specifies relations from the perspective of the speaker (Stewart & McHugh, 2013, p. 111) and is primarily concerned by distinctions between I-YOU, HERE-THERE, NOW-THEN. Although a further explanation of deictic framing is beyond the scope of this chapter it hopefully highlights a direct connection between RFT and ACT. More specifically how the perspective of the speaker, I-YOU, can be bound up in or seen separate from other labels and language.

1.6.3. The ACT model of change

Having described psychological flexibility and the six processes of change associated with ACT, this chapter will now spend a little time describing the ACT

model of change. ACT is a contextual cognitive behavioural therapy and, in common with other third wave or contextual approaches such as Mindfulness (Kabat-Zinn, 1990) and Dialectical Behaviour Therapy (Linehan, 1993), it does not focus on psychological symptom reduction (Hayes, Villatte, Levin, & Hildebrandt, 2011).

ACT does not set out to change the form or frequency of private internal events but to change their function, especially the influence they have on our behaviour. From a functional perspective, private internal events are not problematic as a result of their form alone but can become so depending on an individual's relationship with those events. This orientation sets ACT apart from other evidence-based therapies such as older and more traditional cognitive behavioural therapies (CBTs), especially “cognitive therapy” (CT; Beck, 1995). While traditional CT and ACT see a potential relationship between private internal events and behaviour, the different approaches conceptualise and seek to deal with that connection in different ways.

The following quote illustrates a traditional CT perspective:

“In a nutshell, the cognitive model proposes that distorted or dysfunctional thinking (which influences the patient’s mood and behavior) is common to all psychological disturbances. Realistic evaluation and modification of thinking procedures produces an improvement in mood and behavior. Enduring improvement results from modification of the patient's underlying dysfunctional beliefs.” (Beck, 1995, p. 1)

The above quote suggests that traditional CT attempts to modify distorted or dysfunctional thoughts and beliefs. It suggests that traditional CT views the *form* of the thought to be problematic. A thought or belief such as: “I am worthless”, might be labelled as negative or maladaptive and an attempt may be made to modify its content for example from “I am worthless” to “I am not worthless”. Behind this intervention may be an assumption that if the original thought no longer occurred then it would no longer be able to influence behaviour. It should be noted from the previously cited literature on thought suppression (Wenzlaff & Wegner, 2000) that attempting to remove one thought and replace it with another may, ironically, result in the original thought occurring more often. However, there may be subtle but important differences between “suppressing” thoughts and “challenging” thoughts as is carried out in traditional CT.

As may have become clear from the previous sections, ACT does not define private internal events as problematic as a result of their form alone, nor would it attempt to alter their content. Instead it would try to understand its function and to

influence its impact. What this means is that ACT would try and understand the influence that, for example, a thought had on behaviour (its function) and would try to change the relationship between the thought and behaviour (its impact). So from an ACT point of view, it is quite possible that the thought or belief “I am worthless” might continue to occur. However whereas a previous occurrence of the thought might have resulted in rumination and withdrawal from valued activities, it is hoped that an individual would simply be able to notice that the thought had taken place, to not get caught up in it and to continue to pursue valued ends in the present moment. In short, ACT argues that the willingness to experience such events can reduce the negative impact of private internal events on behaviour.

1.6.4. The ACT evidence framework

This section will briefly describe the evidence base for ACT, before highlighting in more detail existing research studies of particular relevance to this thesis. The evidence base for ACT is strongest in the fields of psychopathology (clinical psychology), behavioural medicine (health psychology) and workplace settings (occupational psychology). Reviews and meta-analyses of the evidence base have been published at various stages over recent years (Hayes et al., 2006; Powers, Zum Vörde Sive Vörding, & Emmelkamp, 2009; see Levin & Hayes, 2009 for a reanalysis of this data; Ruiz, 2010). Overall, reviews suggest that ACT produces medium to large effect sizes (e.g. Hayes et al., 2006; Ruiz, 2010). The ACT evidence base currently includes over 102 randomised controlled trials (Hayes, 2014).

Using criteria outlined by Chambless et al. (1998), Division 12 of the American Psychological Association (Clinical Psychology) now considers there to be strong support for using ACT for the treatment of chronic pain and for there to be modest support for using ACT to treat depression, mixed anxiety, obsessive-compulsive disorder and psychosis (Society of Clinical Psychology, 2013). Furthermore ACT is recorded on the American National Registry of Evidence-based Programs and Practices (NREPP, 2013).

Another important aspect of the ACT evidence base is the emphasis on process. Kazdin (2009) argues that understanding more about how therapy leads to change is one of the most pressing questions in psychotherapy (p. 418). Further, he adds, “we do not know why or how therapies achieve therapeutic change, the requisite research to answer the question is rarely done, and fresh approaches are needed in conceptualization and research design” (p. 418). As ACT is very clear about the centrality of psychological

flexibility it has been both relatively easy and important for the ACT community to study the impact of this and other processes on therapeutic/behaviour change (Levin, Hildebrandt, Lillis, & Hayes, 2012). The submission of research concerning the measurement and testing of process of change is also something that is encouraged within the peer-reviewed publication that is the official journal of the Association for Contextual Behavioural Science (JCBS, 2013). The studying of processes alongside the study of outcome can require a focus on both mediation and moderation. Close to two dozen pieces of mediational research have been carried out thus far (Hayes, Levin, Plumb-Villardaga, Villatte, & Pistorello, 2013, p. 190).

It is worth emphasising again that although the evidence base for ACT is currently concentrated in mental and physical health its research is by no means restricted to these areas. There is, for example, a growing evidence base for ACT in work place settings (Bond, Lloyd, Flaxman, & Guenole, 2015). However ACT is not built on a model of pathology, but on a model of language and cognition more generally so it can be applied to almost any aspect of human behaviour that involves language and cognition. It is hopefully clear then that ACT can be brought to bear in mental health where problematic cognition may take the form: “I am undeserving” or equally to the arena of global freedoms, where problematic cognition may take a similar form: “The poor are undeserving” (adapted from Lillis & Hayes, 2007, p. 391). Of course, as stated earlier, in both instances we are not interested in the form alone, but the influence the thought has on behaviour, i.e. its function.

1.6.4.1. ACT and prejudice

It is perhaps useful to highlight some examples of research more closely associated with this thesis. Although no research has previously been undertaken in the area of global freedoms, data has been published in the area of prejudice and stigma. Below are the details of three ACT interventions that aim to reduce (1) ethnic minority prejudice in students, (2) stigma towards individuals with mental health problems and (3) drug and alcohol counsellors stigma towards clients. In these group based interventions the T in ACT which usually stands for therapy is replaced by a T for training. In all instances the assumption is being made that language and cognition and other private internal events are influencing behaviour in a way that is inconsistent with an individuals values and that an increase in psychological flexibility may allow behaviour to be more influenced by values and goals and more effective in its pursuit.

In 2007, Lillis and Hayes published a study that sought to apply ACT to the

reduction of prejudice towards ethnic minorities (Lillis & Hayes, 2007). The research compared the effectiveness of an ACT intervention to one based on education. The study included 32 undergraduates who participated in both the ACT and the education condition as part of a counterbalanced within-group design. A new questionnaire was designed for the study called the “Prejudicial Biases Awareness, Defusion, and Action Questionnaire”. It contained items which examined positive action intention and other relevant domains within the ACT model for example the awareness and acknowledgement of bias, acceptance and flexibility, thought control and general defusion skills. The questionnaire was administered five times: before the first session, after the first session, before and after the second session and at follow up one week later. Each session lasted about 75 minutes.

The education intervention was based on material from a popular psychology textbook on cross-cultural counselling. It explored the characteristics of three different ethnic groups: African Americans, Asian Americans and Hispanic or Latino Americans, particularly their strengths and common stereotypes. Time was also spent identifying and correcting one's own biases, and seeing the unique aspects of others. The ACT intervention aimed to raise awareness of relevant private internal events, increase willingness towards these, increase ability to notice language processes, and to act in accordance with personal values.

The ACT intervention significantly improved the primary outcome, positive action intention, at post treatment and at one week follow up. It produced an average improvement of between 18 and 19%. Education produced no significant overall change in positive action intention. In terms of process change, *acceptance and flexibility* as measured by the questionnaire accounted for the largest amount of variance at all time points. In a subsequent analysis, acceptance and flexibility were shown to partially mediate the impact of the ACT intervention on positive outcomes.

Also in 2007, another study investigated the impact of an ACT intervention on the stigma associated with psychological disorders (Masuda et al., 2007). The study worked with 95 undergraduates, half of whom were assigned to an ACT condition and half to an education condition. Both interventions lasted 2 ½ hours. The study used the “Community Attitudes Toward Mentally Ill (CATMI) questionnaire (Taylor & Dear, 1981), which was redesigned for a college population, and the Acceptance and Action Questionnaire (AAQ; Hayes, Strosahl, et al., 2004). Scores on the AAQ were used to determine whether subjects were psychologically inflexible (≤ 66) or psychologically

flexible (≥ 67). Thirty percent of those in the ACT condition and 26% of those in the education condition were classified as psychologically inflexible before the training. Measures were taken at pre and post intervention and at one month follow up.

The education condition included group activities, discussion and didactic presentation. The material was delivered in a non-confrontational manner but still aimed to replace subjects' stigmatising thoughts with new non-stigmatising ones. Conversely, the ACT condition emphasised that stigma is built into natural language and instead drew its material from a series of experiential tasks based on an ACT book and manual (Hayes et al., 1999).

Participants with higher levels of psychological flexibility at pre-treatment reported significantly less stigmatising thoughts on the CATMI compared to those with lower levels of psychological flexibility. At post treatment, results indicated that the ACT intervention reduced stigma scores in participants who had both high and low levels of psychological flexibility. However the education condition only reduced stigma scores for participants with high levels of psychological flexibility at pre treatment. At follow up, all scores showed slight but non significant drops.

Finally, a third study included an ACT intervention designed to impact stigmatizing attitudes towards clients in drug and alcohol abuse counsellors (Hayes, Bissett, et al., 2004). The study contained three conditions: control, multicultural training and ACT. One hundred and fifteen counsellors took part (30 in the ACT condition, 34 in the multicultural training and 29 in the control). The training took place on 1 day and all interventions lasted 6 hours.

Measures were taken at pre treatment (the start of the day), post treatment (the end of the day) and follow up data was collected 3 months later. The primary measure for the study was the Community Attitudes Toward Substance Abusers (CASA), an adapted version of CATMI (Taylor & Dear, 1981), the Maslach Burnout Inventory (MBI; Maslach, Jackson, & Leiter, 1996) and an ACT measure called: "Stigmatizing Attitudes – Believability" (SAB) constructed for the study. The SAB contained 20 common thoughts about individuals with substance use problems and asked subjects to rate the believability of such thoughts.

The control group received education on drugs which, among other things, emphasised the biological factors involved in addiction and treatment. The multicultural training condition contained information on culture, race, ethnicity, family structure, spirituality, and language – with the latter focusing on making subjects more aware of

the stigmatising effects of cultural bias. Similar to the above studies, the ACT condition explored the role of language processes within the client relationship.

The results suggest that in terms of stigma, as measured by the CASA, compared to pre intervention the control condition did not show a significant change at either post treatment or follow-up. The multicultural intervention was found to have a significant change at post intervention but not at follow-up and the ACT showed no change at post treatment but was significantly improved at follow-up. In terms of burnout, again the control condition showed no change at either time point. The multicultural intervention showed change at post treatment but not at follow up, while ACT produced a significant change at both post treatment and at follow-up. Regarding process research, ACT altered the believability of stigmatizing thoughts, as measured by the SAB, and it was this that appeared to mediate the ACT condition's influence on stigma and burnout scores.

Taken together the three studies above suggest a significant future role for ACT interventions in this and related areas. It is worth noting the relative success of the above studies based on ACT. This compares to null results of the laboratory based studies built directly on RFT that were described earlier. However some limitations do need to be noted. Some of the studies had relatively small sample sizes, all used measures constructed for the purposes of the study without extensive testing of their psychometric properties. Equally none of the studies contained direct measures of behaviour only self-report questionnaires. These limitations notwithstanding, the possibility of achieving changes as a result of such brief interventions hint at the future potential potency of using an ACT approach in these areas as well as those related more closely to global freedoms.

1.7. Moving towards research questions

Before describing the research questions addressed by this thesis (section 1.8), this penultimate section re-examines some threads from the existing psychological literature from a functional contextual and CBS perspective. Specifically, it will re-visit themes from the existing global poverty and human rights literature, as well as the usefulness of raising awareness as an intervention strategy.

1.7.1. Re-examining the existing literature

It was noted at the start of the thesis that this overall programme of research seeks to increase helping behaviour in members of the public living in the developed world. This aim clearly involves the attempt to influence behaviour. Section 1.4

explored Pepper's (1942) world views. It was mentioned that different world views are not in competition with each other, but they vary in terms of their appropriateness for different tasks. Of the world views Pepper described, functional contextualism, with its truth criterion of prediction-and-influence with precision, scope and depth seems the most appropriate to adopt owing to its emphasis on influence and not just prediction.

Two collections of research were highlighted earlier in section 1.2 which both involved members of the public from the developed world: one concerned global poverty, the other human rights. As this research already exists and could potentially be built upon and extended, it seems important to re-examine its utility through the combined lens of: i. the overall aims of this thesis and ii: functional contextualism.

One path of research concerning global poverty was centred around the CTWPQ (Harper, 1996). This questionnaire measured respondents' reactions to potential causes of third world poverty. Despite multiple pieces of research examining the factor structure of the CTWPQ, very little research had examined the measures connection to actual helping behaviour. Equally, if the link to helping behaviour was established, it seems unclear whether belief in causes of third world poverty is immediately manipulable. In other words, having an understanding of the relationship between the perceived causes of third world poverty and helping behaviour does not seem to bring us any closer to increasing actual helping behaviour. One reason for this is because we are unclear how to manipulate beliefs in causes about third world poverty (see also section 1.7.2. below, about the utility of education).

The same analysis can be applied to the pre-existing literature about human rights. Although psychologists have performed work in this area, the same two things are unclear. One, how does this work link directly to helping behaviour. And two, even if the link is made, what variable can be manipulated to help increase helping behaviour itself.

None of the above is suggesting that private internal events like beliefs about causes are not important or relevant. However the issue of manipulability is important if your intention is to influence behaviour. One possibility, of course, is that psychological flexibility may play a key role in this area. It seems possible that having a more open and willing relationship with private internal events generally may influence our behaviour. We also know that psychological flexibility seems to be manipulable as a result of a relatively short intervention. However whether these assumptions actually apply to the area of global freedoms needs to be established empirically.

1.7.1. Raising awareness

In section 1.0, a quote highlighted "the importance of mobilizing greater domestic support in developed countries towards the fulfilment of their commitments, including through raising public awareness" (United Nations General Assembly, 2010 point 78-f, p. 29). It is possible that this quote suggests that all that is needed to increase the helping behaviour of members of the public in the developed world is to raise public awareness. The quote could be taken to imply that a knowledge gap currently exists, and that all that is needed to increase action is education. However, one conclusion from the accumulated psychological research would tend to argue that the task of changing behaviour is more complicated than raising public awareness alone. For example, the public health literature is full of examples of groups of individuals who are educated about the possible consequences of doing things (i.e. the harmful effects of cigarette smoking), who then continue to engage in certain behaviours (i.e. smoking cigarettes). For example, in the wider context of information campaigns, Bettinghaus (1986) explores how the correlations between levels of knowledge and health behaviours tend to be positive but low (p.475). As another example, in a review of pro-environmental behaviour Kollmuss and Agyeman (2002) note how "information deficit" models of behaviour, tested since the 1970's, "were soon proven to be wrong" (p. 241).

While the general psychological literature suggests that the relationship between education and behaviour change is complicated, the RFT literature begins to provide a more fine grained, basic psychological account of why along with a possible explanation. In an unpublished thesis by Clayton (1995), the director of an organisation gave speeches to his employees in an attempt to adjust the beliefs they held about the organisation. It was already known that the workers felt their work environment to be chaotic. It was hoped that the speech would make the work environment appear more creative and caring. In one speech the desired attributes were simply instructed, in the other, the desired attributes, were linked to the chaotic associations already known to be held by the employees. For example, the following line was used: "This is a caring place we care about our clients. And yes, it is a bit chaotic, but that gives us the freedom to be creative in meeting our clients' needs". Data indicated that workers attitudes changed more when the desired attributes were linked to the pre-existing networks. The RFT interpretation of this is that it is easier to elaborate an existing relational network than it is to challenge or extinguish a pre-existing network. In this way, RFT suggests that attempting to add to relational networks is more useful than attempting to eliminate

them. Other related evidence also suggests that directly trying to challenge or change existing networks is unhelpful (Hayes, Fox, et al., 2001; Pilgrim & Galizio, 1995). This idea also links to the findings of the thought suppression literature that was mentioned earlier (section 1.6.1). Although, as previously highlighted, the connection between thought suppression and thought challenge / change is an evolving definitional and empirical question.

Further evidence supports the idea that education can have unintended effects. In this experiment, children in one room were told that a disabled child was in the next room. The child participants were then asked to name any prejudicial thoughts they had. One group of children simply had their thoughts acknowledged, the other had them corrected. Then both groups were taken into the room where the disabled child was. The group of children who had had their thoughts corrected, avoided the disabled child more than the group who had such thoughts acknowledged (Langer, Bashner, & Chanowitz, 1985). The evidence from this study suggests that trying to correct or change cognitions is not a straight forward task. The results also indicate that if participants are instructed to relate to their thoughts in a way that is potentially more willing and defused they might interact with a disabled child more.

It is important to note that neither the ACT v education research studies presented in section 1.6.4, nor the evidence presented above in this section should be taken to suggest that educational approaches should not be used. However, as Langer et al. (1985) demonstrate, providing more “accurate” information can result in less rather than more desirable behaviour. It seems that educational information can, unintentionally, be “psychologically misused” (Hayes, Bissett, et al., 2004, p. 832). In the area of global freedoms the same thing might happen. For example, accurate information could be provided about the: extent of problem, the length of time the difficulties have been ongoing, the amount of money required to change things, or the interconnected web of power and influence that currently maintains the status quo. All this information, while accurate, might end up resulting in less rather than more helping behaviour as people avoid the enormity of the task or their potential insignificance in making a difference.

Importantly, in the future, it might be most useful to combine educational information with ACT interventions. In other words, to investigate the ideal future combination of CBS strategy and educational knowledge. This might both, raise awareness, and raise psychological flexibility – thus reducing the risk of avoidance of

the on-the-ground reality, or fusion with perfectly legitimate reasons for not helping. However, in the first instance, it is probably important to examine these two elements (education and psychological flexibility) separately.

In conclusion, research relevant to global freedoms does exist as do suggestions about the usefulness of increasing awareness / education. However, if this research is to approach the area of global freedoms being influenced by both a functional contextual perspective and ACT it seems important that this thesis pursues its own research questions. These are laid out in the final section of this chapter below.

1.8. Research questions

The general research question to be addressed by this thesis is: do private internal events have a relationship with helping behaviours that promote global freedoms and what role, if any, does psychological flexibility play in this? More specifically, the research contained within this thesis seeks to answer the following questions:

1. Do private internal events, such as thoughts and feelings, have a relationship with helping behaviour connected to global freedoms?
2. Does psychological flexibility relate directly to helping behaviour connected to global freedoms?
3. Does psychological flexibility play any indirect role in the relationship with other variables and helping behaviour connected to global freedoms?
4. Can helping behaviour connected to global freedoms be increased through a brief ACT based intervention?
5. Does an increase in psychological flexibility mediate the benefits of the ACT intervention?

This final section will now outline the programme of research that will be undertaken in order to answer the general and specific research questions above in the broadest of terms. As this thesis represents a novel research pathway within the CBS tradition, it seems important that it initially attempts to establish strong foundations upon which both this and future research programmes can be built. It is noteworthy that the results of two of the three ACT intervention studies in the areas of prejudice reported earlier (i.e. Hayes, Bissett, et al., 2004; Lillis & Hayes, 2007) were limited through their use of CBS derived process or outcome measures that were either new or not fully validated. While it would be possible to begin research in this area by immediately testing ACT based interventions, it seems important for both the short and

long term integrity of research in this area to ensure that adequately reliable and valid measures are available to researchers.

As a result of this, the proposed programme of research divides into three progressive stages. The first stage will seek to either find existing self-report measures that can capture: private internal events, psychological flexibility and helping behaviour that is relevant to global freedoms, or will develop and validate new ones. The second stage will explore the relationships that exist between these measures. The final stage will investigate whether a short ACT based intervention can increase participants' levels of actual helping behaviour.

Self-report measures will play an important part in answering the research questions above. As a result, it seems likely that scale development will form an important part of this thesis. As such the next chapter will provide a general overview of the scale development process and describe relevant key decision points highlighted in the psychometric literature.

2. Scale development – overview

2.1. The need for scale development

As will become clear, this thesis requires the development of a number of new self-report measures. Thus, this chapter aims to provide an overview to the literature and procedures relevant to scale development. In other words, it reviews and summarises key decision points in the psychometric literature. It is hoped that both establishing and then following these processes will help establish the necessary foundations to answer the research questions set out in chapter one and below. As a number of different self-report measures need to be developed, it was considered more parsimonious to present this material in one initial chapter, rather than risking redundancy by repeatedly referring to the same literature as each measure is developed.

The research questions listed below fall under the overall title of this thesis: investigating the role of psychological flexibility in increasing global freedoms. The specific research questions ask:

1. Do private internal events, such as thoughts and feelings, have a relationship with helping behaviour connected to global freedoms?
2. Does psychological flexibility relate directly to helping behaviour connected to global freedoms?
3. Does psychological flexibility play any indirect role in the relationship with other variables and helping behaviour connected to global freedoms?
4. Can helping behaviour connected to global freedoms be increased through a brief ACT based intervention?
5. Does an increase in psychological flexibility mediate the benefits of the ACT intervention?

One way this thesis will attempt to answer the research questions above is through the use of data collected from a number of different self-report measures. For example, in order to answer the first research question, there is a need to measure a number of different phenomena. Not just helping behaviour connected to global freedoms, but also the private internal events that are associated with global freedoms. More specifically: thoughts, cognitions, feelings and emotions. In terms of this thesis, it is important to measure these private internal events because psychological flexibility and inflexibility are concerned with the way that private internal events can come to dominate our behaviour over and above the influence of our values and goals (see section 1.6).

In this way, as well as it being important to measure helping behaviour and relevant private internal events, it also seems important to measure psychological flexibility itself as well as individual values related to global freedoms. In summary, it seems necessary to attempt to measure:

1. Helping behaviour related to global freedoms
2. Thoughts and cognitions related to global freedoms
3. Feelings and emotions related to global freedoms
4. Values related to global freedoms
5. Psychological flexibility

A cursory examination of the literature, which will be elaborated in later chapters, reveals that appropriate, well validated, pre-existing scales do not exist in all of the above areas. Accordingly, scale development is necessary. With this in mind, the following sections will detail information regarding:

The importance of scale development

Psychometric principles and validity

Stages of scale development with separate sections devoted to: initial scale design, exploratory factor analysis, confirmatory factor analysis and reliability

A final section provides some procedural information shared by chapters 3–7.

Key references which have informed this section of the thesis include Abell, Springer, and Kamata (2009), American Educational Research Association, American Psychological Association, and National Council on Measurement in Education (1999), Clark and Watson (1995), DeVellis (2012), Holmbeck and Devine (2009) and Kline (2000). Note: the actual scale development for each the individual measure is described in chapters 3-8.

2.2. The importance of and long term nature of scale development

From the outset, it is important to note that scale development is an ongoing process which should not be expected to be completed within one thesis. In support of this, Holmbeck notes that scale development is a “cumulative process” taking place “across many different types of research studies and across research programs” (Holmbeck & Devine, 2009, p. 692). In a similar way, Clark and Watson (1995, p. 318) draw a parallel between scale development and the way that “graduation” is also known as “commencement”. In other words, any work completed towards scale development serves both as an end in itself and as a beginning of future work.

With this in mind, this thesis will only be able to conduct the initial steps of

scale development. But these steps are vital. DeVellis notes that not all scales are “carefully developed”. He makes the point that: “for many, *assembly* may be a more appropriate term than *development*” (DeVellis, 2012, p. 13). Further, DeVellis argues that “if a poor measure is the only one available, the costs of using it may be greater than any benefits attained” (p. 14). As well as being a reminder of the importance of good foundational work, this last point is also an important one to bear in mind when considering selecting a pre-existing self-report measure.

Before outlining the stages of scale development in more detail, it is worth stepping back and taking a wider perspective on issues such as psychometric theory and validity. As Holmbeck and Devine (2009) note, it is “important to attend to guiding psychometric principles when developing and disseminating data on new measures” (p. 691).

2.3. Psychometric principles and validity

The following section provides a brief overview of psychometric principles, ideas related to validity and their relationship to scale development. It also highlights what tasks relevant to validity will be undertaken as part of this thesis.

As Clark and Watson (1995) state, “a primary goal of scale development is to create a valid measure of an underlying construct” (p. 309). The quote makes reference to the connection between a measure, on the one hand, and an underlying construct on the other. The notion of an underlying construct refers to classical psychometric theory. According to this, items on well designed scales provide the researcher with an insight into latent variables that sit behind these items. These latent variables influence the ratings that participants give each relevant scale item (DeVellis, 2012, p. 19). According to psychometric theory, the score a participant gives any item is made up of an items “true score”, which stems from the underlying latent variable, and various sources of random error such as imperfect / confusing wording, as well as idiosyncratic influences such as participant fatigue (Abell et al., 2009, p. 84; Kline, 2000, p. 33).

The earlier quote from Clark and Watson also includes the term “valid”. In terms of scale development, the word validity has multiple categories of meaning and is not necessarily simple to define. Indeed, like the process of scale development itself, validity is not a single event, nor tick box but an ongoing programme of development. Other writers concur: Abell et al. (2009) note that validity is something that is “emergent” (p. 10), while the authors of the standards refer to “multiple lines of evidence” being required in order that validity can be assessed (American Educational

Research Association et al., 1999, p. 5). However, in short, in order for a measure to be valid, it must measure what it claims to measure (Abell et al., 2009, p. 101; Kline, 2000, p. 17). That said, proof that this has happened depends, in part, on: how validity is defined, which sub-category of validity is being assessed, and what type of measurement is being used.

Sub-categories of validity include, but are not limited to: face, content, factorial, convergent, discriminant and predictive (discussed below; also see; Abell et al., 2009, p. 101; DeVellis, 2012, chapter 4). However, arguably these stem from the overarching category of validity that is known as construct validity, which can be thought of as the composite of results from other forms of validity (Abell et al., 2009, p. 13, 63; Cronbach & Meehl, 1955).

Face validity refers to whether a scale measures what it appears to measure. Some argue that this type of validity is not related to construct validity. Indeed, Mosier argued that the term should be “banished to outer darkness” (Mosier, 1947, p. 191). Content validity refers to whether the items of the scale cover the scope of what the scale purports to measure (DeVellis, 2012, p. 59; Kline, 2000, p. 23). Factorial validity, assesses the number of clusters (or factors) within a measure and the inter-relationship amongst those clusters. Convergent validity assesses whether a scale has strong relationships with other measures that target the same, or similar, constructs (Kline, 2000, p. 19). Conversely, discriminant validity assesses the extent to which other scales which should not correlate with the scale fail to do so. And finally predictive validity assesses whether the scale helps predict future behaviour (Kline, 2000, p. 21).

Some of the above terms (e.g. convergent, discriminant and predictive) are sometimes referred to as different types of: “criterion-related validity”. In other words does the scale relate, in some way, to other criteria (DeVellis, 2012, p. 61). However DeVellis also makes a subtle but important clarification between criterion-related validity and construct validity, highlighting the interwoven nature of the above terms. DeVellis argues that the intention of the researcher is important in defining what type of validity is being assessed (DeVellis, 2012, p. 65). He argues that a researcher performing the same actions might be assessing different types of validity depending on their intention. For example, if a researcher is examining the relationship between X new measure and Y and Z established measures – and is simply looking at the relationships between the measures, then they are assessing criterion-related validity. However, if the same data is being collected, but the purpose is more directed towards

understanding the underlying latent variables or wider theoretical issues, then this is testing construct validity. Perhaps this point highlights the overlapping and contested nature of some of these terms.

This thesis will be primarily concerned with beginning to establish the content and factorial validity of any new scales. The relationships between the new measures will also begin to be established (i.e. convergent and discriminant validity). The final chapter will seek to examine how well, if at all, the new measures predict actual helping behaviour (predictive validity).

Two things should be noted. There will be limited opportunities within this thesis to examine the convergent and discriminant validity of any new measures against pre-existing measures. Secondly, no type of validity will be fully established. This is a longer process that cannot be completed in one thesis alone. Instead, the following chapters will seek to start the journey.

2.4. Stages of scale development

This section will outline the different stages of scale development that will be undertaken. As stated, the literature contains a number of different sources that detail these stages (e.g. Abell et al., 2009; DeVellis, 2012; Holmbeck & Devine, 2009; Kline, 2000). The literature generally follows the same model. More specifically:

- A. Initial scale design (*content validity*)
 - i. scale conceptualisation
 - ii. item pool
 - iii. review and pilot
 - iv. data collection
- B. Exploratory factor analysis and initial reliability checks (*factorial validity*)
- C. Confirmatory factor analysis and further reliability checks
(*factorial validity*)
- D. Examining measure performance against other measures / behaviour
(*convergent, discriminant and predictive validity*)

Note: these stages can also be mapped onto the discussion of validity that took place in the previous section (see content in italics in brackets).

As you can see, initial stages of scale development focus on defining, constructing and piloting new measures. Later stages shift the focus to both exploratory and then confirmatory examination of the factor structure of the new measures as well as gathering initial data on reliability. Final stages focus on the relationship between the

new measures and relevant other behaviour. Hopefully the reason for this ordering is self explanatory. Early stages focus on making sure content validity is “built in” (Holmbeck & Devine, 2009, p. 693). As both Holmbeck and Devine (2009) and Abell et al. (2009) make clear, establishing the underlying structure and factorial integrity of a new instrument needs to be established before relationships with other instruments are examined (Abell et al., 2009, p. 130; Holmbeck & Devine, 2009, p. 693).

The three sections below (A-C), will expand upon the areas A-C listed above. They will highlight recommendations of best practice from the literature, focusing on the main criteria and decision points, which will then be followed in chapters 3-7. Issues related to section D will be explored in chapters 8 and 9.

2.5. A. Initial scale design

In terms of initial scale design, issues related to scale conceptualisation, creating the item pool, reviewing and piloting the items are all important considerations before beginning full-scale data collection.

2.5.1. Scale conceptualisation

An important first step in the development of any new measure is the need to establish a clear conceptualization of the relevant domains. This is integral to content validity. It requires an articulation of the theoretical background on which the measure is based and a definition of the scope and basic constructs of the scale. The literature in this area speaks to establishing the focus of, and mapping the relevant concepts (Abell et al., 2009, p. 17 & 26), defining constructs and specifying scale dimensions (Holmbeck & Devine, 2009, p. 692) and establishing a brief, formal description of what the measure aims to do (Clark & Watson, 1995, p. 309-310).

Somewhat more specifically, another aspect of this process is the need, where appropriate, to establish what is beyond the boundaries of the scale. In other words, to make clear what the scale will not measure, or what areas will be excluded (DeVellis, 2012; Holmbeck & Devine, 2009, p. 694).

A number of authors note the importance of the wider literature to this stage of scale development. For example, Clark and Watson (1995, p. 310) note that a literature review can help the researcher decide whether the measure is needed at all or how it will help improve what already exists. There is a sense from the literature that some researchers highlight the importance of examining theory and literature before mapping out the measure, while others seem to suggest consulting the literature afterwards. The on the ground reality would seem to suggest that this is an intertwined process where

initial thoughts about the measure take place hand in hand with the existing literature. In other words, first ideas about a scale inform preliminary literature searches which then influence the shaping up of further ideas about the scope of the measure.

2.5.2. Item pool

The next task in scale development is to generate an initial item pool. While the authors of the new measure should generate this, it is also informed by a combination of the existing literature and existing measures, where available. Enough items should be generated to ensure that each of the areas of the construct established during conceptualisation is well represented. The final item pool should seek to be over inclusive (Clark & Watson, 1995, p. 309) and to provide a large, rich collection of items from which the final scale will be formed (DeVellis, 2012, p. 84). In terms of size, DeVellis notes that a 10 item scale might evolve from a 40 item pool and that generally the item pool should contain three to four times the number of items as is expected in the final measure (DeVellis, 2012, p.81).

The literature suggests that attention should be paid to the wording of individual items, with items designed to be simple and straightforward (DeVellis, 2012, p. 82). Clark and Watson (1995), advise against the use of “double barrelled” items (p. 312) that contain two or more ideas.

There is some debate in the literature, about the use of positively and negatively worded items. While including both such items has been encouraged in the past, it appears to be falling out of favour (DeVellis, 2012, p. 84). For one: it appears that this can be confusing to respondents. There is also the possibility of creating a method effect. A method effect, refers to any form of covariation between items that is not due to the underlying latent variable (Brown, 2006, p. 3). Positive and negatively phrased items are one potential source of method effects. Another problem of method effects in scale development is that exploratory factor analysis is unable to estimate their influence (Brown, 2006, p. 3). With this in mind, DeVellis concludes that “the disadvantages of items worded in an opposite direction outweigh any benefits” (DeVellis, 2012, p. 84). As such, they will be avoided in this thesis.

Many potential scaling options present themselves, for example: semantic difference, visual analogue, binary options and Thurstone / Guttman scaling, (DeVellis, 2012, p. 85-99; Kline, 2000, p. 45). However this research, like many others in the area of psychology and the wider social sciences, will use 7 point Likert scales (Dawes, 2008, p. 62). Evidence suggests that 7 item scales have good reliability, validity, and

discriminating power, and suffer less from problems with internal consistency compared to scales with more than 10 response categories (Preston & Colman, 2000).

2.5.3. Review and pilot

Prior to collecting data, it is important that the item pool is reviewed by experts (Abell et al., 2009, p. 45) and piloted amongst a small number of potential participants. Both can provide feedback in terms of clarity, sense and understanding. Items may be revised in light of any feedback received. By this stage, instructions will have been added to the item pool and the item pool will be arranged into the order that it will be presented to participants. In order to avoid either confusing participants, or to get them looking for reasons behind questions, it seems important to avoid clumping items together in sub scales or to present them in alphabetical order.

2.5.4. Data collection

Only after the three previous stages have been completed should data collection take place. This will require a relatively large number of participants, as discussed below.

2.6. B. Exploratory factor analysis and initial reliability checks

The following section provides an overview of the literature related to decision points relevant to this thesis in terms of exploratory factor analysis.

2.6.1. Factor analysis overview

Exploratory factor analysis (EFA) is used to summarize large data sets and to reveal underlying dimensions, or factors, that are present in the data (Tabachnick & Fidell, 2007, chapter 13). As such it is a vital early step in creating new measures and scales (Clark & Watson, 1995, p. 317). Unlike confirmatory factor analysis (CFA; see section C), EFA is performed without an explicit hypothesis about, or a pre-existing model of, the factors the data will form.

Researchers note that: “EFA is a complex procedure with few absolute guidelines and many options” (Costello & Osborne, 2005, p. 1). The section below will address issues related to:

- Initial checks
- Sample size
- Suitability for EFA
- Type of EFA
- Factor extraction criteria
- Rotation

Steps to create a brief measure

A further section will also discuss the related issue of reliability.

2.6.2. Initial checks

While CFA requires multivariate normality, i.e. assessing normality through participants responses to all items on a measure, EFA requires, at best, univariate normality, i.e. normality on an item by item basis (see Ferguson & Cox, 1993, p. 86), while others suggest that even univariate normality requirements are relaxed (Field, 2013; Tabachnick & Fidell, 2007). As Field notes, normality is only important if you wish to perform significance tests, or to generalise beyond the sample (Field, 2013, p. 686). As a result of the above and because in this context, EFA is only the first stage in a multi layered process assessing validity, detailed normality checks will not be reported. Outliers and out of range data will be checked for, but out of range data is unlikely to be an issue as an online questionnaire is being used to collect data. In terms of missing data, listwise deletion will be used.

2.6.3. Sample size

In EFA it is important to ensure that the sample size is adequate. Recruiting too few participants is a risk as patterns of variance amongst items may not have stabilised, so patterns of relationships may be due to chance alone and not be reflective of the wider population (DeVellis, 2012, p. 102–103). Different researchers use different criteria to determine sample size. These tend to divide into two categories: i. minimum sample size, ii. minimum ratio of participants to variables (see Ferguson & Cox, 1993, p. 85).

In terms of minimum sample size, figures vary. For example: Comrey and Lee (1992, p. 217) suggest that sample sizes of 50 are very poor, 100 poor, 200 fair, 300 good, 500 very good, and 1000 as excellent. However others set different limits, for example: between 150 and 300 (Hutcheson & Sofroniou, 1999, p. 222). Evidence suggests that smaller samples are plausible if factors have 10 or more items with loadings greater than .4 (Field, 2013, p. 684).

Regarding participants to variables ratio, arguably the most cited figure is that there should be at least 10 participants for each item (10:1; from Nunnally, 1978; Nunnally & Bernstein, 1994). Although, other researchers use 5:1 (Bryant & Yarnold, 1995) or even 2:1 (see Ferguson & Cox, 1993, p. 85). However, Field (2013, p. 683-684), suggests that minimum sample size matters more than participant to variable ratio.

While it seems clear that more participants are better, it also seems important to

strike a pragmatic balance between generating an adequate sample size and not exhausting channels of recruitment. Bearing in mind the evidence above (e.g. Comrey & Lee, 1992; Field, 2013; Hutcheson & Sofroniou, 1999) figures of around 250 seem to represent a healthy minimum baseline. With this in mind, the aim will be to recruit an initial sample in excess of this number.

2.6.4. Suitability for EFA

One of the first steps in performing an EFA is examining whether the data is suitable. There are two primary methods in this area: Kaiser-Meyer-Olkin (KMO; Kaiser, 1970) and Bartlett's test of sphericity.

Kaiser-Meyer-Olkin is a measure of sampling adequacy. The statistic it produces suggests the proportion of variance that is caused by underlying factors. It ranges from 0 to 1, with values closer to 1 indicating that EFA may be useful. More specifically, according to Hutcheson and Sofroniou (1999, p. 225) figures below .5 are unacceptable, .5 to .6 miserable, .6 to .7 mediocre, .7 to .8 middling, .8 to .9 meritorious and .9 and over marvellous. Bartlett's test of sphericity examines whether the variables in the matrix correlate to some extent. Significant values are wanted. However with samples large enough for factor analysis (e.g. $n > 250$) significance is almost always found (Field, 2013, p. 695). As such, while KMO data will be reported, Bartlett's test of sphericity will not.

2.6.5. Type of EFA

There are a number of different varieties of EFA. For example, principal axis factoring (common factor analysis / PAF) and principal components analysis (PCA). They have different approaches and assumptions to the way they treat variance and estimate communality. This notwithstanding, evidence suggests that the results produced by both PAF and PCA are broadly similar (Ferguson & Cox, 1993, p. 90; Field, 2009, p. 638). However it should also be noted that some suggest PCA should not be described as factor analysis at all (Costello & Osborne, 2005, p. 2; Field, 2013, p. 676). In keeping with other recently developed ACT measures (Bond et al., 2011; Bond, Lloyd, & Guenole, 2013), this thesis will adopt the PAF / common factor analysis approach.

2.6.6. Factor extraction criteria

In many cases EFA extracts a large number of components that count for increasingly small amounts of variance. As such, the researcher may need to impose a limit on how many factors to extract. A number of different approaches are available

(Zwick & Velicer, 1986). These include Kaiser criteria, scree plots and parallel analysis. The Kaiser criteria (designed by Guttman, 1954; Kaiser, 1960), simply extracts any factor that has an eigenvalue greater than 1.0. An eigenvalue is a figure that indicates how much variance a factor accounts for. It should be noted that other versions of this criteria exist. For example Jolliffe (1972, 1973) suggests retaining any factor over 0.70. However either criteria can over estimate the number to be components to be extracted (Costello & Osborne, 2005, p. 2).

Scree plots graph the eigenvalues of the factors found in the initial solution. Factors on the steep slope are generally extracted, while factors that are “scree”, i.e. have fallen from the steep slope onto the “valley floor” are discarded (Cattell, 1966). Researchers stop extracting factors, before the scree begins, at the “point of inflexion”. However, in certain data sets where this point falls can be open to interpretation (Field, 2013, p. 698).

Another technique to determine factor extraction is parallel analysis (Horn, 1965; Zwick & Velicer, 1986). This determines the number of factors to be extracted by comparing the eigenvalues in the data with the equivalent eigenvalues produced by a random sample of uncorrelated data with the same number of observations. Using syntax written by O'Connor (2000) parallel analysis can now be performed relatively quickly using SPSS. However there appears to be an issue with performing parallel analysis in conjunction with PAF (O'Connor, n.d.), as parallel analysis can be conducted using either PAF or PCA. According to O'Connor experts disagree as to which method should be used if the wider EFA is formed around PAF. O'Connor states that it is not as simple as choosing PAF for the parallel analysis because PAF is guiding the EFA. As SPSS allows both options, data from both will be considered.

In the case of this thesis, the number of factors to be extracted will be determined by a combination of the Kaiser criteria, the scree plot, and the two separate parallel analysis (PAF and PCA). In other words, all four results will be considered and a consensus will be sought between the results. As the overall intention is to reduce the number of items through a number of rounds of EFA (see below), there will be a tendency to favour the consensus even if that risks over-factoring (extracting more factors), rather than under-factoring (extracting less factors) to begin with (Fabrigar, Wegener, MacCallum, & Strahan, 1999).

2.6.7. Rotation

In order to improve interpretation and help discriminate between factors, the

initial EFA solution is rotated. There are two main options in rotation: orthogonal and oblique. In orthogonal rotation, factors are kept unrelated and independent of each other. In oblique rotation factors are allowed to correlate with each other. Rotation choices should be guided by theory. In the social sciences there is little reason to assume that any one factor in a measure would not be related to other factors in the same measure (Costello & Osborne, 2005, p. 3; Field, 2013, p. 681), so oblique rotation will be used: specifically direct oblimin. It should also be noted that when using oblique rotation, researchers tend to report the pattern matrix in their results (Costello & Osborne, 2005).

2.6.8. Further steps to create a brief measure

In this thesis, the goal of scale development is to produce brief, practical measures that will not be too onerous on participants to complete. With this in mind, we do not plan to accept the first EFA solution, but instead to submit the items to multiple rounds of factor analysis, as necessary. This is not uncommon in the ACT community (see Bond et al., 2013). As such, it seems important to have some steps to guide the process. Especially as a similar processes could be performed on five separate occasions. Adapting recommendation from Ferguson and Cox (1993, p. 97) the pattern matrices from the EFA will be inspected and items will be considered for removal items, in terms of the 5 steps below.

1. removal of any item that fails to load at .40 or above on its main factor
2. removal of any item which cross loads at .30 or above on one or more factor
3. removal of any item which cross loads at .20 or above on any other factor if their main loading is .50 or less
4. removal of any item which cross loads at .20 or above on any other factor if their main loading is .60 or less
5. If at any point a factor is reduced to two items or less, the items that make up that factor are considered for removal

More specifically, after the first round of EFA, step 1 alone will be considered. If any items are removed a result of step 1, the same extraction and rotation procedure will be performed again on the remaining items. Step 1 will then then be considered again, as it is possible that removing previous items will change the factor loadings of other items. If no items meet the criteria of step 1, then step 2 will be considered. Items will then be removed in line with step 2 and the same extraction and rotation procedure will be performed again.

2.6.9. Reliability

After a final EFA solution is reached, the reliability of separate sub-scales and total scores will be examined using Cronbach alpha. Reliability is vital if a test is going to be valid (Kline, 2000, p. 17). It concerns the likelihood and practicality of the scale performing consistently over time (Abell et al., 2009, p. 79; DeVellis, 2012, p. 31). Testing reliability can take a number of different forms. The most widely used method is Cronbach's alpha (Allen, Reed-Rhoads, Terry, Murphy, & Stone, 2008; Iacobucci & Duhachek, 2003; Streiner, 2003). Possible reasons for the popularity of this method are because alpha only requires one administration of scale (Streiner, 2003), and is easy to interpret (Yang & Green, 2011). Whereas test-retest reliability, for example, can pose challenges due to both memory and practice effects (Osburn, 2000), and the burden of repeated administration.

It is important to note that alpha itself is not a measure of homogeneity or unidimensionality, but instead is simply a measure of the level of inter-relatedness among items (Schmitt, 1996). Some also note that high reliability may simply mean you have high but stable systematic error within your items (Shevlin, Miles, Davies, & Walker, 2000). While others provide examples of scales with different factor structures achieving the same level of alpha (Field, 2013). It must also be noted that alpha increases as a result of scale length (Field, 2013). As such, aiming for a high alpha alone can be a false benchmark by which to judge measures of differing length.

The above notwithstanding, alpha can be very useful in the process scale development. Especially through examining the alpha of individual items within scales and sub-scales to see if the inter-relatedness of the measure would be improved if items were removed. As a result of this, after a final EFA solution has been settled upon, the reliability of sub scales and then total scales will be examined to see if the reliability of a measure could be improved by further item deletion. Items will be considered for deletion if the scale's alpha could be substantially improved without its inclusion.

Many texts suggest that measures should aim for an overall Cronbach alpha of above .7 or .8 (Clark & Watson, 1995). This will be the aspiration for the measures in this thesis. However a more detailed, yet “personal and subjective” recommendation is provided below (DeVellis, 2012, p. 109): below .60, unacceptable; .60 - .65, undesirable; .65 - .70, minimally acceptable; .70 - .80, respectable, .80 - .90; very good; above .90, consider shortening the scale.

Peterson (1994), like DeVellis, argues that an alpha score which is “too high”,

may be an indication of scale redundancy and an indication that the factor / scale could have fewer items in it. However, DeVellis also advises the researcher to expect some deterioration between the development context and real world deployment. So, with that in mind, high overall alpha will not be used as a reason for item deletion.

2.6.10. Scale length

One overarching issue that informs this scale development process, is that it potentially involves the development of five new measures. Five measures in isolation is a reasonable but not insignificant burden for potential participants. It seems important to ensure that a balance is struck between keeping the measures themselves relatively brief while at the same time not sacrificing their reliability or validity. As writers note: “all things being equal, shorter scales are preferable to longer ones” (Abell et al., 2009, p. 37). Of course, as DeVellis comments: “subjects may, indeed, be more willing to answer a 3-item scale than a 10-item scale. However, if the researcher cannot assign any meaning to the scores obtained from the short version, then nothing has been gained” (DeVellis, 2012, pp. 110–111).

With this balance in mind, the issue of how short a scale, or a factor within a scale can be seems pertinent. In this regard, David Kenny notes "Two [items] might be fine, three is better, four is best, and anything more is gravy" (Kenny, 2004, p. 179). In a similar way, Brown makes an argument for a minimum of three items per factor (Brown, 2006, p. 72). With this in mind, any measures created during this thesis will have factors that are at least three items or longer in length.

2.7. C. Confirmatory factor analysis

There is an extensive, often book length, literature covering the many and varied aspects of CFA (e.g. Brown, 2006; Harrington, 2009). The section below will not attempt to capture all of this literature. Instead, similar to the earlier section on EFA, it will briefly summarise the literature related to the various decision points that will inform how CFA is performed in this thesis.

2.7.1. Orientation

Unlike EFA, CFA is based on and tests a pre-existing model or theory. In this way, CFA attempts to confirm previous findings and examine if newly collected data fits a pre-existing model (Tabachnick & Fidell, 2007, p. 680).

In a nutshell, the steps of CFA require the researcher to: i. specify a model, ii. test that model, iii. examine the goodness of fit between the model and the data, iv. modify the model if there is a gap between the model and data, and then repeat steps i-iv

as necessary (Kline, 2011, p. 91). Any gap between model and data is known as a residual or disturbance. It is important to note that there will always be a degree of gap. Indeed, as MacCallum notes in his, 2001 Presidential Address to the Society of Multivariate Experimental Psychology (SMEP): "fundamentally, we must accept imperfection in our models and recognize that our models can be useful if we can avoid or correct gross errors" (MacCallum, 2003, p. 130).

Like the EFA section, this CFA section will address issues related to:

- Initial checks
- Sample size
- Missing data
- Estimation methods
- Fit indices
- Modifying the model
- CFA analysis strategy

In this thesis, CFA will be performed using AMOS versions 21 and 22, which are now part of the IBM SPSS package (Arbuckle, 2012).

2.7.2. Initial checks

As mentioned when discussing EFA, univariate outliers represent extreme scores on one item in isolation. Conversely, multivariate outliers refer to participants who have extreme scores on more than one item. CFA requires multivariate normality. However researchers note that conducting all the checks required under multivariate normality is impractical for CFA, and generally checking for univariate normality and outliers through Mahalanobis distance is acceptable (Harrington, 2009, p. 41; Kline, 2011, p. 60).

Mahalanobis distance measures the number of standard deviations each participant is away from the mean of all scores (Byrne, 2010, p. 106). According to Byrne, using Mahalanobis distance allows you to identify individual participant scores that stand out from the average and remove them. A very conservative significance level tends to be used to identify possible candidates for removal ($p < 0.001$; Harrington, 2009, p. 43). AMOS will be used to calculate these scores.

Univariate normality is often examined, in part, through checks of skew and kurtosis. Kurtosis is of greater importance than skew in CFA, because of the potential influence on covariance (Byrne, 2010, p. 103). While issues of skew and kurtosis can be important in CFA, establishing critical levels is difficult. In large samples (e.g. > 200)

significant values are likely to be found, so it may be easier to look at absolute values greater than 7 (Byrne, 2010, p. 100) or 10 (Kline, 2011, pp. 60–63) as potential causes for concern.

If problematic kurtosis is found, one possible solution is to use a different type of estimation (e.g. asymptotically distribution-free, ADF). However others argue that ADF needs very large samples to be useful (Byrne, 2010, p. 105; Harrington, 2009, p. 30). Indeed Harrington (2009) notes that Maximum Likelihood is preferable to ADF even in the cases of non-normality (p. 30). With this in mind, in line with recommendations, as long as absolute values for kurtosis are less than 20.0, Maximum Likelihood estimation will be used (Harrington, 2009, p. 44).

2.7.3. Sample size

Similar to EFA, sample size is important and, again, is often discussed in terms of: i. minimum number of participants or ii. a ratio between participants and parameters. In terms of the former, an oft quoted number is a sample size of above 200 (Kline, 2011, p. 12; Weston & Gore, 2006, p. 734). In terms of participants to parameter ratio, a ratio of 20:1 is noted as being ideal, 10:1, less ideal and less than 10:1 should be avoided (Kline, 2011, p. 12). In line with this, the thesis will aim for participant numbers to be greater than 200.

2.7.4. Missing data

CFA programmes like AMOS can only provide data on modification indices (i.e. error terms than can be added to a model to improve the fit between data and model) if using datasets with no missing data. While SPSS is now able to impute missing data using strategies such as expectation maximization (EM), and maximum likelihood (Harrington, 2009, pp. 39–40) this thesis will, follow the same procedure it used for missing data on the EFA: namely listwise deletion.

2.7.5. Estimation methods

In EFA various options related to rotation and factor extraction exist. In CFA similar choices exist in regard to estimating the fit between model and data. These include: maximum likelihood (ML), weighted least squares (WLS), generalized least squares (GLS), and unweighted least squares (ULS). Maximum likelihood (ML) is the most common approach (Brown, 2006, p. 107; Harrington, 2009, p. 28) and will be used in this thesis.

2.7.6. Fit indices

Simply put, fit indices describe the level of fit between model and data. CFA

programmes like AMOS provide a variety of fit indices. Primarily, they divide into two types: overall model fit and approximate or alternative fit indices (Kline, 2011, p. 193). The overall model fit index is Chi-square (χ^2). Ideally this result should be non-significant. However there are issues based around the limitations of Chi square more generally (Byrne, 2010, pp. 76–77), including the fact that larger samples are quite likely to result in Chi square results that are significant due to sample size alone. As an alternative, Tabachnick and Fidell note that a good fit between data and model is generally found, if the ratio between overall Chi-square score and the degrees of freedom (df) in the model is less than 2 (Tabachnick & Fidell, 2007, p. 715). In other places, figures for the ratio are stated as 3 (Bond et al., 2011). In this thesis both the overall Chi square and Chi / df ratio will be reported.

A large variety of alternative fit indices also exist (Harrington, 2009, chapter 4). Different types focus on different aspects of fit. For example: baseline comparisons (e.g. the comparative fit index: CFI), parsimony correction indices (e.g. the root mean square error of approximation: RMSEA), residual based (Tabachnick & Fidell, 2007) or absolute (Harrington, 2009) fit indices (e.g. standardised root mean square residual: SRMR). Wider discussions of the differences between these are available in most volumes that detail CFA. However, based on Hu and Bentler (1998) and previous CFA work in the ACT literature (Bond et al., 2011, 2013), the following alternative fit indices will be used: CFI (baseline comparison), RMSEA (parsimony corrected) and SRMR (absolute / residual based). It should be noted that the figures quoted below for these fit indices are rules of thumb and not golden rules (Kline, 2011, p. 197). These rules of thumb are maintained through regular citation, but are still just rules of thumb.

The CFI falls on a range from 0-1. A good fit is indicated by larger figures. Figures at or above .95 are desired (Brown, 2006; Harrington, 2009; Kline, 2011). For the RMSEA, smaller figures are desired and figures of .05 or less (Kline, 2011), or .06 or less (Harrington, 2009) are ideal. It is also recommended to report the confidence intervals for the RMSEA. In this regard, some note that the higher CI should, ideally, be less than .10 (Kline, 2011). Finally, like the CFI, the SRMR falls on a range of 0-1. Here, smaller values indicate better fit. Ideally figures that are \leq .08 (Harrington, 2009) or \leq .10 (Kline, 2011, p. 140) are desired.

2.7.7. Modifying the model

While it is hoped that first fit between model and data will be acceptable, it is also anticipated that the models from EFA may need changes made to them within the

CFA process. The most obvious way to make changes to a CFA model is through the addition of modification indices (MIs). MI's, also known as results of the Lagrange Multiplier test, involve the addition of cross-loadings between parameters. However, it is important to add them only if they make sense and not just to improve model fit alone. Adding an MI, adds an extra path to the model and so adds an additional degree of freedom. As such, only MI's above a certain size (i.e. >3.84) will be of benefit to the overall fit of the model (Harrington, 2009, p. 54).

However, others note the importance of not being overly guided by MI's. This risk is that while the final model will fit the current sample of data, it will only be because it capitalizes on chance present in that sample (see Arbuckle, 2012, p. 110; MacCallum, 1986; MacCallum, Roznowski, & Necowitz, 1992; Schermelleh-Engel, Moosbrugger, & Müller, 2003). In other words, while the gap between model and data becomes small in this particular sample, the solution may be unstable and unlikely to be replicated in another sample.

With this in mind, rather than focusing on MI's, it is perhaps more important to examine the standardised residual covariances matrix looking for areas of local strain. This matrix captures the difference between the ideal model data and the actual data (Brown, 2006, p. 114-118). In a good fitting model, residuals should be small in size and centred around zero (Tabachnick & Fidell, 2007, p. 683). However, based on z-scores, a standardised residual of greater than 1.96 in either direction indicates a source of strain, while a value above 2.58 suggests a large problem (Schermelleh-Engel et al., 2003). Positive residuals suggest the model underestimates the relationship. Negative residuals suggest the model over-estimates the relationship (Harrington, 2009, p. 64). Residuals can be dealt with by adding or deleting paths to the model or by deleting items.

It should be noted that adding paths or deleting items from the original EFA model, moves the CFA from being purely confirmatory back to being exploratory. Any resulting fit between the model and data may be due to the individual data set alone. In other words it may be an "overfitted" model (Byrne, 2010, p. 73). As such it is important to cross validate any final model by examining it afresh within an independent sample (Byrne, 2010, p. 111; Tabachnick & Fidell, 2007, p. 728). MacCallum (2003) notes that doing this is of critical importance (p. 129).

2.7.8. CFA analysis strategy

With the above in mind, and knowing that the same process may need to be

carried out five times within this thesis: the following steps will be taken to examine whether the model fits the data and to guide what changes, if any, should be made to the original model.

1. Check for multivariate outliers using Mahalanobis distance. Remove participants scores than stand out from the rest. Use 0.001 as guidelines. Plot data if necessary.
2. Check item skew and kurtosis. Mark extreme items, especially items whose skew or kurtosis is in an opposite ratio to the others. Consider removing extreme items.
3. Check path diagram. Identify any items or factors that are not performing as expected. Particularly note items where less than 50% of variance (.71 correlation) in an item is not explained by the factor. Consider removing such items (Kline, 2011, p. 231).
4. Check standardised residual covariances matrix. Look for areas of local strain. Consider modifying paths or removing items with results over +/-1.96. Certainly modify paths or remove items with strain over +/-2.58.
5. Only after all the above steps have been taken: consider adding modification indices to the model.
6. If any changes to the original model have been made, cross validate on an independent sample of data.
7. Finally, perform another EFA and recalculate reliability information using the original sample to provide information to compare with the original EFA.

2.8. Summary and methods

2.8.1. Orientation to chapters 3-7

The research questions integral to this thesis are stated at the end of chapter 1 and again at the start of this chapter. It was noted that in order to attempt to answer these research questions it is important to measure the following domains:

1. Helping behaviour related to global freedoms (chapter 3)
2. Thoughts and cognitions related to global freedoms (chapter 4)
3. Feelings and emotions related to global freedoms (chapter 5)
4. Values related to global freedoms (chapter 6)
5. Psychological inflexibility (chapter 7)

With this in mind, chapter 2 has provided an overview of the literature related to scale development. Going forward, in chapters 3-7, the thesis will conduct the process

of scale development for each of the five measures, following stages A-C below:

- A. Initial scale design (*content validity*)
 - i. conceptualisation
 - ii. item pool
 - iii. review and pilot
 - iv. data collection
- B. Exploratory factor analysis and initial reliability checks (*factorial validity*)
- C. Confirmatory factor analysis and further reliability checks
(*factorial validity*)
- D. Examining measure performance against other measures / behaviour
(*convergent, discriminant and predictive validity*)

It should be noted that stage D from the above list will form the basis of chapters 8 and 9. Also note, that this chapter will be the first time that it will be possible to provide some preliminary answers to the research questions. However without first undertaking stages A-C, it will be impossible to approach D with any level of confidence.

Chapters 3-7 will describe the development of each new measure. Below is some further background information related to methods that will be consistent across all five of the measure development chapters.

2.8.2. Conceptualisation

Crucial to the process of scale development is the conceptualisation stage. This involves consultation with the established literature. It is important to establish whether any suitable measure already exists. With this in mind, a review of the existing psychological and related social science literature was undertaken in order to find other potentially well suited and well validated self-report measures. The main databases searched were: PsycINFO (<http://www.apa.org/pubs/databases/psycinfo/>) and google scholar (<http://scholar.google.co.uk/>). In both cases, they were searched without time restriction. As well as searching relevant databases, the reference lists of relevant literature was also examined to uncover other potential sources. Finally, in parallel to this thesis, the author was also part of an international team who published a review on a recent “global special issue” in the area of psychology and poverty reduction in the developing world (Carr et al., 2014). The results of this review also provided another opportunity to uncover potentially relevant measures.

Generally speaking, the literature search process failed to uncover measures that

were either entirely relevant or well-validated. However, potential relevant examples will be highlighted in the following chapters where relevant. Measures may be described both in terms of form (e.g. context, item content, item length and measure scale) and / or psychometrics (e.g. mean score, factor structure, reliability). Generally, when describing other measures, details of psychometric information will only be provided if the measures seems suitable and relevant in terms of form first.

2.8.3. Pilot and procedure

Following the initial design of the five scales, an online questionnaire pack was constructed (see the appendices). As well as the measures themselves, the questionnaire pack also contained an information sheet, consent form, demographic information form as well as a form which provided some debriefing information and gave participants the opportunity to leave feedback and contact the researcher. The initial questionnaire that was designed to collect data from participants used the “Bristol Online Surveys” platform (BOS: <http://www.survey.bris.ac.uk/>). After final feedback and revision on the questionnaire pack from both first and second supervisor, ethical permission was sought from the ethics committee within the psychology department at Goldsmiths, University of London during December 2011.

Following ethical permission, the online questionnaire was sent out for pilot to a limited number of potential participants. Seven individuals filled out the questionnaire, two others examined the questionnaires more generally and tested that it worked through different internet browsers and on different computers. Using data from within the BOS system it was possible to see that these participants had engaged with the questionnaire for between 12 and 25 minutes. Feedback tended to relate to general aspects of the questionnaire rather than specific measures. For example including a progress bar, or providing more detail on each of the points of the Likert scale. Following revision to the questionnaire pack the questionnaire was sent out for wider data collection.

2.8.4. Data collection – orientation

The two sections below describe the shared data collection procedures across chapters 3-7. In short, two periods of data collection took place. The first, described in section 2.8.5 below, resulted in one large data set that was evenly split in two (sample A and B). The second, described in 2.8.6, produced one further data set (sample C). Generally speaking, in the stages of psychometric development outlined in chapters 3-7, sample A is used for the exploratory factor analysis, sample C (not B) is used for the

initial confirmatory factor analysis and sample B (not C) is used for any secondary confirmatory factor analysis (the reasons for this will be explained below). For reasons that will become apparent, this order is not constant across all chapters. With this in mind, it is hoped that the consistent use of the labels: samples A, B and C will help orientate the reader to which data set is being used.

2.8.5. Data collection – sample A and B

Participants for the initial study were recruited through a number of different sources. This included: e-mails to departments within UK universities and other educational establishments including Goldsmiths; websites that advertise online psychological studies; and through the personal contacts of the researcher. No course credit or payment was given for participation. In total 755 participants entered data.

Thirty three of the 755 participants had their data removed as they had 50% or more missing data. The remaining sample of 722 participants were randomly divided into two samples of n=361 (sample A and sample B). Generally, sample A was used for the EFA and sample B for the secondary CFA. In terms of the demographic data below, and throughout the thesis, data related to different categories are presented if more than 5% of participants fall into that category.

In terms of sample A: it contained data from n=361 participants, 66% of whom were female, with an average age of 31 years (SD 13.5). In terms of geographical location: UK (75%), Europe (10%), North America (9%). Regarding ethnicity: White (81%), Asian (6%), Mixed (6%). In terms of highest level of education: GCSE's or A' levels (37%), undergraduate degree (29%), postgraduate degree (29%).

In terms of sample B: it contained data from n=361 participants, 72% of whom were female, with an average age of 31 years (SD 13.6). In terms of geographical location: UK (73%), Europe (10%), North America (12%). Regarding ethnicity: White (83%), Asian (7%). In terms of highest level of education: GCSE's or A' levels (43%), undergraduate degree (25%), postgraduate degree (25%).

In terms of both Sample A and B, listwise deletion was used to handle missing data. As a result, the actual samples used in the following chapters will be smaller than original numbers reported above. As such, the actual number of participants, and their demographics will also be reported in each chapter.

2.8.6. Data collection – sample C

As well as using data from sample A and B, chapters 3-7 will also use data from sample C. Sample C data is an amalgamation of 9 data sets from research projects of

final year undergraduate psychology students supervised by the author collected during the 2012-2013 and 2013-2014 academic years. Their questionnaires, designed by the author, collected data from participants using the online survey platform Limesurvey (<http://www.limesurvey.org/en/>). Ethical permission was sought and received for each of the student projects from the psychology department at Canterbury Christ Church University. As with samples A and B, the questionnaire pack contained an information sheet, consent form, demographic information form and debrief and feedback sections (see appendices). Data was collected by the final year undergraduates using their friends, family and peers.

Data was originally screened to remove any participants that had 50% or more missing data. Repeat participants were also removed using demographic data that was collected to help anonymously identify participants who may have completed more than one questionnaire. This left an overall dataset of $n=466$. Again, listwise deletion was used to handle missing data, and so the actual samples used in the following chapters will be smaller.

Sample C contained data from $n=466$ participants, 61% of whom were female, with an average age of 24 years (SD 9.3). In terms of geographical location: UK (94%), Europe (5%). Regarding ethnicity: White (82%), Mixed (7%), Black (5%). In terms of highest level of education: GCSE's or A' levels (79%), undergraduate degree (11%), postgraduate degree (6%).

There is an important difference between samples A and B on the one hand and sample C on the other. Rather than using all of the original statements from the item pools as sample A and B do, sample C only uses the items that resulted from the EFAs. As these measures represent an interim step between the original measures and the final measures, it was decided to perform the first round of CFA on the data from sample C. One of the reasons for this was to perform the initial CFA on a data set that only contained the items retained by the EFAs.

With the above in mind, and to summarise, the initial EFA will be performed on sample A. The first CFA will be performed on sample C. And, if this first CFA results in any modifications to the model from the EFA, those changes will be verified on an independent sample: namely sample B.

2.9. Conclusion

The following chapters will report on the design and preliminary evaluation of self-report measures concerning:

1. Helping behaviour related to global freedoms (chapter 3)
2. Thoughts and cognitions related to global freedoms (chapter 4)
3. Feelings and emotions related to global freedoms (chapter 5)
4. Values related to global freedoms (chapter 6)
5. Psychological inflexibility (chapter 7)

3. Helping Behaviour measure – initial psychometric findings

Abstract

This chapter sought to develop a self-report measure of helping behaviour relevant to global freedoms. The existing literature was examined and while relevant examples of measures were found, none were deemed suitable for this research. As a result an initial item pool of 50 behaviours was developed as the basis for a new measure. In the first study, data from 283 participants were entered into an exploratory factor analysis (EFA). This resulted in a 21 item measure spread over five factors: Learning More, Protest, Donation, Shopping and Active Engagement. A second study submitted the 21 items retained from study one to a confirmatory factor analysis (CFA) in a different data set. However no suitably fitting model could be found, so a new EFA of the 21 items was performed. This produced a 16 item three factor measure, with factors concerning: Learning More, Active and Protest, and Donation. In a third study, the 16 items from the second EFA were submitted to CFA across three different data sets. This resulted in a final 10 item measure of helping behaviour, consisting of 3 factors: Learning more, Protest and Donation. The discussion explores a number of issues pertinent to the scale development process and highlights future research pathways.

Measure scope

The helping behaviour measure aims to capture self-report of helping or pro-social behaviour in the area of global freedoms. Ideally, the helping behaviour measure will capture a relatively broad and varied level of activity related to global freedoms. Importantly, this means not just measuring involvement in highly engaged “activism” like attending rallies or protests, but a wider spectrum of behaviours. This may include actions which are potentially less public and less engaged, for example, giving money to relevant charities, NGO's or other organisations. Even less dramatic behaviour including simply talking about the topic and finding out more about the issues involved could be included as lower level behaviours that may be performed. With this in mind, the measure will try to include a range of overt behaviours (behaviours that can be verified by other individuals), but may also include some covert behaviours (behaviour that can only be verified by the individual concerned, e.g. thinking about an issue).

One of the advantages of including a range of helping behaviours, is that in many cases the opportunity to take part in highly engaged helping behaviour, like rallies, may be relatively infrequent. With this being the case it seems important to include some helping behaviours which are likely to happen more frequently, albeit it on a smaller scale.

Literature review

With the initial scope of the helping behaviour measure outlined above, a literature review was carried out to search for both a: examples of relevant pre-existing measures that could be used in this thesis, and b: for closely related measures that might aid the construction of a new helping behaviour measure. Searches looked initially for measures that focused on helping behaviour related to global freedoms in the developed and developing world specifically and helping behaviour more generally. Findings will be discussed below.

Researchers Hine and Montiel (Hine & Montiel, 1999; Hine, Montiel, Cooksey, & Lewko, 2005) developed the Anti-Poverty Activism measure (APA), a 7 item, unidimensional scale measuring activism on a Likert scale ranging from 1=never to 5=very often. Participants were asked to indicate how often they had engaged in behaviours during the past year. Item content included: telephoning public officials, writing letters, attending meetings, participating in rallies. Although the item content and alpha reliability of the APA was good (.90), no exploratory factor analysis of the measure was carried out and so it remains unclear whether the items reflect one, or

perhaps multiple underlying latent variables. Equally, the measure seemed to produce low mean scores and relatively low variability, even for participants who were activists. For example members of poverty activist organisations: $M=2.68$, $SD=1.05$, members of the general public: $M=1.18$, $SD=0.28$. (Note: final scores were divided by 7, to average all items into a single score ranging from 1 to 7). A measure with a low mean and low score variability suffers from what is known as “restriction of range” (Preston & Colman, 2000). This seems problematic, especially if the measure is potentially going to be the dependent variable in some studies in this thesis. This reinforces the idea of trying to design a measure that captures a broad range of helping behaviours as discussed above.

Other studies in the literature related to global freedoms have used single item measures to capture aspects of helping behaviour. They have done this by asking questions such as: “Do you believe in giving money to aid programmes for work in ‘developing’ countries?” and “How often do you donate money to developing world charities?” (e.g. Carr & MacLachlan, 1998a; Campbell et al., 2001). However single item measures may struggle to capture the breadth of helping behaviour desired and present psychometric problems of their own in terms of EFA and CFA (Kline, 2011; Brown, 2006).

Searches were also made looking for other potentially relevant measures outside of the literature specific to global freedoms. It was thought that generic helping behaviour or activism measures might be found. Equally, other scales in the environmental and wider social justice literature might aid the process of measure construction. In this regard, three measures will be looked at in some detail, and another 6 will be referred to briefly.

Historically, one of the first measures in the wider socio-political engagement / activism area seems to be the Activity Scale (ACT; Kerpelman, 1969, 1972). The ACT is a 24 item measure, containing the same 12 items measured on two sub-scales: actual (ACT-A) and desired (ACT-D) activism. The ACT-A assesses what participants have done over the past three years, while the ACT-D assesses what you would have liked to have done over the past three years by prefacing its items with the text: “imagine yourself as having been free from all financial, social, academic, etc. responsibilities or any other commitments on your time during the past three years...”. On each item, the wording ends by referring, generically to “a political or social issue”. While it might be possible to change this phrase to “global freedoms” or equivalent, it is unclear how this

would change the measures psychometric performance. Equally, although interesting, the research questions in this thesis are not directly interested in the comparison between actual and desired behaviour. Another potential issue with the APA, is the two different behavioural scales it uses. Some items measure behaviour frequency thus: 0 times, 1-2 times, 3-4 times, 5-6 times, and 7 or more times. However, other items, measures behaviour in units of time: less than 15 min., 15-30 min., 30min-1 hour, 1-2 hours, more than 2 hours. The combination of frequency of behaviour and the amount of time behaviour has been carried out for within one scale seems potentially problematic. Equally, more practically, simply using two different scales within one measure poses a small challenge for keeping the measure concise and short in terms of presentation, especially if that is taking place online.

Another example is the Activism Orientation Scale (AOS; Corning & Myers, 2002). This is a 35 item, 2 factor measure examining both conventional activism and high risk activism. Items were rated from 0 (extremely unlikely) to 3 (extremely likely). The AOS measures a wide range of potential future behaviour. Item content is deliberately general rather than issue-specific. However, the measure seems somewhat long (35 items), although more recent research has altered the number of items used (e.g. Klar & Kasser, 2009; Moskalenko & McCauley, 2009). Of more concern is the fact that the content of the items seems rather specific to the US (e.g. items mention the Democratic or Republican party and Congress). Also, a lot of the items mention “politics” (e.g. political activity, political candidate, political message, political organisation). Although, arguably, global freedoms is a political issue, it is unclear whether potential participants will see the direct connection. Finally, it is also perhaps a weakness that items are only measured on a 4 point likert scale as 5, 7, 10 and 11 point scales are more common (Dawes, 2008) and 4-point scales appear to have less reliability, validity, and discriminating power (Preston & Colman, 2000).

The last measure that will be highlighted in detail is the Activism and Radicalism Intention Scales (ARIS; Moskalenko & McCauley, 2009). The ARIS is shorter than the AOS at only 10 items, over 2 factors, and is measured on a 7-point Likert. The ARIS measures legal and illegal activism. Like the AOS, it measures future behaviour. While being less US-centric than the AOS, it does have two drawbacks. Firstly, participants are invited to think of: “the group you feel closest to”. In the original study, participants thought of 21 different groups including women (n=11), Catholics (n=6), the Taiwanese (n=1), runners (n=1), gifted students (n=1). Although it

might be possible to direct participants to a specific group related to global freedoms, rather than allowing them to pick their own, it is unclear if this would affect the psychometrics of the measure. Equally, as one factor focuses on illegal activism, it is unclear how items related to: breaking the law, violence, and attacking security forces is immediately going to be relevant to most participants answering on global freedoms. In this way, adapting the ARIS might potentially result in the same problem as Hine and Mintiel's APA measure and produce low mean scores and low variability.

In the two paragraphs below six further measures will briefly be highlighted. The Activism Scale (Séguin, Pelletier, & Hunsley, 1999) contains 6 items measuring behaviour, related to environmental activism. While the item content is clearly related to the environment (e.g. ecological groups, environmental group, environmental conditions, policies regarding the environment), the behaviours (e.g. participation in events, financial support, circulation of a petition, participation in protests, writing of letters) seems useful in terms of populating the item pool for this scale. The Social Issues Advocacy Scale (SIAS; Nilsson, Marszalek, Linnemeyer, Bahner, & Misialek, 2011) measured both awareness, attitudes and behaviour related to social advocacy. However the measure was not necessarily very good at separating these different components out. Equally, the SIAS tried to select items that fell into three different areas: a. personal, b. professional and c. legislative. However the resulting factor analysis did not cluster items that way. Finally, the Environmental Justice Advocacy Scale (EJAS), only measured attitudes, knowledge and skills without any more direct measure of behaviour, despite the mention of Advocacy in its title.

Finally, three measures with Social Justice Advocacy in the title were found. The first (Kaye Dean, 2009), measured counsellors awareness of social justice and advocacy issues across 43 items. Generally, the items were of most relevance to therapeutic relationship and clients needs. Another, Social Justice Advocacy Scale (SJAS; van Soest, 1996), measured self-reported advocacy in social work students through 80 items. Like the other Social Justice Advocacy Scale, it did not seem relevant to this thesis. A similarly titled measure, the Social Justice Advocacy Readiness Questionnaire (SJARQ; Chen-Hayes, 2001), used even more items (n=188) many of which were open-ended in nature, and seemed unsuitable to quantitative research.

Although the existing literature contains measures of potential relevance to the helping behaviour scale, it does not seem to be the case that the literature contains one measure which could be used without some form of adaptation. More specifically, the

APA would need its factor structure to be examined and has low score variability. The ACT would require changes to every item and there are question marks over its scaling of behaviour. Some AOS item content is very specific to the US and closely tied to politics. And it is unclear how the ARIS would perform if adapted to the area of global freedoms. If a measure requires substantial changes to make it fit the remit of this research, it perhaps seems best to begin to develop a new measure from scratch. Despite not finding a measure that can be used unaltered for the helping behaviour measure, examination of the literature has been useful in terms of gaining greater awareness of the item content used to describe helping behaviour. This will be useful when devising the item pool.

The examination of the literature has also raised a number of pertinent issues. It is interesting to note that some scales measure past behaviour (e.g. ACT) and some measure future behaviour (e.g. AOS, ARIS). In some ways it seems most obvious to measure past behaviour because a participant can look back on their personal history and report accurately on it. However, as the eye witness and related psychological literature testifies (e.g. Bartlett, 1932; Loftus, 1984), memory recall can be both faulty and constructed. There are also potential experimental problems with measuring past behaviour. For example, the ACT measure mentioned above asks about a 3 year period of recall. Imagine that in the future, the helping behaviour measure was being used as the dependent variable in some research and it was hoped that the measure would show change over time following an intervention. In this possible scenario, the measure might be given three times: at baseline (pre intervention), 3 weeks later (post intervention), and 2 months after that (follow up). However, if past behaviour is measured, even over three months rather than three years, then at all time points, some pre-intervention behaviour is still being included within the scope of the measure at the final follow up period. However, if future behaviour, or behavioural intention, is measured, then it is always looking forward and can change more immediately in response to changes taking place in the present.

Item pool

Based on the scoping of the helping behaviour measure and the search of the literature above, an initial pool of items was produced. As these items were intended to capture a broad range of helping behaviour a wide range of potential topics were included such as:

Thinking about relevant issues / action

Talking with others about the issues / action
 Learning more about the issues / action
 Monitoring the media
 Shopping / consuming behaviour
 Networking with others who are interested
 Displaying posters, flyers, wearing t-shirts and other items of clothing related to the issues
 Membership of / financial donations to relevant organisations.
 Attending relevant meetings / protests
 Campaigning: signing or distributing petitions, recruiting others, voting
 Contacting those involved in positions of power or those who might be able to help
 Organising meetings, groups or events
 Volunteering and working for relevant organisations

An initial long list of 60 items was reduced to 50 through separate consultations with my first and second supervisor. Items were revised, rejected or reworded according to feedback and the ideas set out in chapter 2. A final list of 50 items were sent out for pilot. No items were changed during the piloting process.

The final instructions for the helping behaviour measure was as follows: “How likely are you to take the following action in the next three months to help those around the world who lack basic resources, opportunities and rights?”. Participants answered items on a 7 point Likert ranging from (1) very unlikely to (7) very likely. The full questionnaire can be seen in the appendices.

3.1. Helping Behaviour measure – study 1: exploratory factor analysis

In order to determine possible factor structures within the initial Helping Behaviour measure (HB), principal axis factor analyses was carried out in SPSS on the 50 statements in the item pool using oblique (direct oblmin) rotation.

Method

Participants

From sample A, 283 participants had complete data for the helping behaviour measure. Of these: 65% were female, with an average age of 31 years (SD 13.7). In terms of geographical location: UK (75%), Europe (11%), North America (10%). Regarding ethnicity: White (84%), Mixed (6%), Asian (6%). In terms of highest level of

education: GCSE's or A' levels (36%), postgraduate degree (31%), undergraduate degree (30%).

Material and procedure

See section 2.8.

Results

The initial Kaiser–Meyer–Olkin (KMO) index of sampling adequacy was .954, indicating that the correlation matrix was suitable for factor analysis. The initial number of eigenvalues above 1 was 8 and the scree plot also suggested extracting 8 factors, as did parallel analysis, using PAF. Parallel analysis using CFA only suggested extracting 4 factors. To begin with, 8 factors were extracted. In order to produce a brief measure, items were removed through several rounds of EFA following the guidelines described in chapter 2.

The final measure derived from the exploratory factor analysis consisted of 21 items across 5 factors. In total the 5 factors accounted for 69.11% of the variance. The full scale had an overall Cronbach α coefficient of .93. The rotated factor solution of the pattern matrix can be seen in Table 1, along with further information about the percentage of variance explained, reliabilities and both mean and standard deviation scores of the full scale measure and factors.

Table 1: Factor loadings for exploratory factor analysis with oblique rotation of the original Helping Behaviour measure, also including information on variance explained, reliability, means and standard deviations.

Item	F1	F2	F3	F4	F5
Monitor progress in the media	0.81	0.01	-0.02	0.01	0.01
Find out more information	0.80	0.00	-0.08	0.06	-0.14
Deepen your knowledge about relevant issues	0.80	-0.03	-0.05	-0.02	-0.08
Seek further information on the topic	0.78	-0.03	-0.04	-0.03	-0.16
Keep track of developments in the area	0.77	-0.03	0.06	0.06	-0.05
Stay up to date with relevant news	0.73	-0.03	0.11	-0.06	0.13
Think about the issues involved	0.69	-0.01	0.06	0.18	0.10
Be part of a protest	0.05	-0.93	0.02	0.06	0.04
Join a demonstration	0.06	-0.88	0.02	0.03	-0.04
Participate in a rally	-0.01	-0.75	-0.01	0.04	-0.19
Make relevant financial contributions	-0.06	-0.09	0.91	0.01	0.08
Donate regularly to relevant groups or charities	-0.02	-0.01	0.76	0.03	-0.15
Make a one off donation to relevant groups or charities	0.13	0.08	0.64	0.03	-0.04
Boycott certain products	-0.08	-0.14	-0.06	0.88	-0.01
Avoid giving money to certain businesses or companies	0.11	-0.07	0.02	0.76	0.03
Buy products associated with making a difference	0.10	0.14	0.19	0.57	-0.09
Facilitate meetings	-0.06	-0.05	0.14	-0.02	-0.84
Undertake paid work in this area	0.06	0.08	-0.08	0.11	-0.69
Go to at least one discussion group	0.18	-0.16	0.06	-0.06	-0.68
Attend at least one meeting	0.15	-0.17	0.03	0.02	-0.66
Stand up and address audiences	-0.04	-0.20	0.11	-0.01	-0.64
% explained variance	40.72	11.46	7.65	5.55	3.73
Coefficient alpha for factors	0.92	0.94	0.83	0.80	0.89
Coefficient alpha for scale	0.93				
Sub scale mean	36.18	8.02	13.33	13.70	13.60
Sub scale SD	9.58	4.84	4.98	4.85	6.99
Full scale mean	84.82				
Full scale SD	22.83				

Note. Factor loadings >.40 are in boldface. Factor labels: F1 Learning more, F2 Protest, F3 Donation, F4 Shopping, F5 Active engagement (n = 283).

In terms of the make up of the 5 factors themselves, the first factor, labelled learning more, included 7 items, describing gaining more knowledge or keeping up to date with relevant issues. The second, labelled protest, included 3 items, describing being part of a protest, demonstration or rally. The third, labelled donation, included 3 items related to donating to relevant groups or charities. The fourth, labelled shopping, included 3 items related to buying or boycotting certain products or businesses. The fifth, labelled active, included 5 items related to being actively involved and engaged in the area, but at a level less than protest. So, for example, being involved in setting up or speaking at meetings and debates.

Later sections of this chapter will confirm whether the exploratory factor structure is supported by confirmatory factor analysis. Later chapters will explore the relationships between the final measure and other measures.

3.2. Helping Behaviour measure – study 2: initial confirmatory factor analysis and resulting exploratory factor analysis

An attempt was made to perform a confirmatory factor analysis (CFA) on sample C, with the intention of performing a follow up CFA, if needed, on sample B. The hope was that both CFA's would indicate a reasonable level of fit between the model suggested from the EFA and the data in samples B and C.

Method

Participants

The initial CFA was carried out on a subset of sample C using those participants who had complete data for the HB measure. These were 435 participants, 60% of whom were female, with an average age of 24 years (SD 9.4). In terms of geographical location: UK (94%), Europe (5%). Regarding ethnicity: White (82%), Mixed (7%), Black (5%). In terms of highest level of education: GCSE's or A' levels (79%), undergraduate degree (10%), postgraduate degree (6%).

Before conducting the CFA on the data from sample C, the data was tested for multivariate normality. As a result of this process, data from 6 participants was removed due to participants having high Mahalanobis distance scores. This left n=429 participants remaining.

Material and procedure

See section 2.8.

Results

The initial fit of the data from Sample C to the model from the EFA was unsatisfactory. Multiple attempts were made to modify the model to produce a satisfactory fit between model and data. However no suitable revised model could be found that was near to the fit indices hoped for. Schmitt (2011) notes that poor CFA's can be followed by further EFAs (p.315). As a result, a new EFA was performed on the 21 items resulting from section 3.1 using the data from Sample C. This resulted in a revised HB measure consisting of 16 items spread over 3 factors. This compares to the original EFA which had 21 items over 5 factors. The revised EFA model is shown in Table 2 below. As can be seen from Table 2, a number of changes have taken place. In short, while the learning more and donation factors remain unchanged, the shopping factor disappears, and the previously separate active and protest factors combine into one factor.

Table 2: Factor loadings for exploratory factor analysis with oblique rotation of the revised Helping Behaviour measure, also including information on variance explained, reliability, means and standard deviations.

Item	F1	F2	F3	
Monitor progress in the media	.87	.09	-.09	
Find out more information	.85	-.03	.07	
Stay up to date with relevant news	.83	.08	.00	
Deepen your knowledge about relevant issues	.81	-.11	.00	
Think about the issues involved	.76	-.01	.10	
Seek further information on the topic	.68	-.11	.10	
Keep track of developments in the area	.63	-.12	-.01	
Participate in a rally	-.02	-.95	-.07	
Be part of a protest	-.03	-.90	-.05	
Join a demonstration	.03	-.82	.00	
Facilitate meetings	-.03	-.79	.06	
Attend at least one meeting	.08	-.77	.06	
Go to at least one discussion group	.13	-.61	.15	
(Undertake paid work in this area)	-	-	-	
(Stand up and address audiences)	-	-	-	
Make relevant financial contributions	-.02	-.03	.91	
Donate regularly to relevant groups or charities	-.03	-.04	.84	
Make a one off donation to relevant groups or charities	.07	.05	.72	
	% explained variance	49.97	14.91	8.48
	Coefficient alpha for factors	0.93	0.93	0.87
	Coefficient alpha for scale	0.94		
	Sub scale mean	32.98	15.53	12.08
	Sub scale SD	9.71	8.07	4.99
	Full scale mean	60.58		
	Full scale SD	18.84		

Note. Factor loadings >.40 are in boldface. Factor labels: F1 Learning more, F2 Active and Protest, F3 Donation (n = 435).

3.3. Helping Behaviour measure – study 3: further confirmatory factor analysis

Following the second EFA using Sample C, a fresh attempt was made to perform confirmatory factor analysis, this time using the as yet untouched Sample B. (Sample A and C remain available as potential follow up samples.)

Method

Participants

The initial CFA was carried using those participants who had complete data for

the HB measure from within sample B. These were 267 participants, 60% of whom were female, with an average age of 30 years (SD 12.4). In terms of geographical location: UK (75%), Europe (9%). Regarding ethnicity: White (81%), Asian (9%), Mixed (3%). In terms of highest level of education: GCSE's or A' levels (44%), undergraduate degree (25%), postgraduate degree (27%).

Before conducting the CFA on the data from sample B, the data was tested for multivariate normality. As a result of this process, data from 16 participants was removed due to participants having high Mahalanobis distance scores. This left n=251 participants.

A follow up CFA was carried out on a subset of sample A using those participants who had complete data for the revised HB measure. These were 292 participants, 65% of whom were female, with an average age of: 31 years (SD 13.7). In terms of geographical location: UK (78%), Europe (11%), North America (10%). Regarding ethnicity: White (84%), Mixed (6%), Asian (6%). In terms of highest level of education: GCSE's or A' levels (36%), undergraduate degree (30%), postgraduate degree (31%). Again, the data was tested for multivariate normality. As a result of this process, data from 9 participants was removed due to participants having high Mahalanobis distance scores. This left n=283 participants.

A final, follow up, CFA utilised sample C. It contains n=429. The demographics of this sample C remain as described earlier in study 2 (section 3.2).

Results

The initial fit of the data from Sample B to the model from the second EFA was unsatisfactory. A large number of modifications needed to be made. These included: removing the items that originally composed the active sub-scale, which following the second EFA, now sat within the active and protest sub-scale (i.e. “Facilitate meetings”, “Go to at least one discussion group”, “Attend at least one meeting”). All three items had a signification amount of local strain within the standardised residual covariances matrix. Following these revisions, changes were also required to the learning more factor. This included removing three items (“Think about the issues involved”, “Keep track of developments in the area”, “Stay up to date with relevant news”), and one further item was removed for problems with excessive skew and kurtosis relative to other items in the measure and for a low loading on the main factor (“Stay up to date with relevant news”). No further modifications were made.

CFA results from samples A-C are presented in Table 3 below. The CFA path

diagrams from all models are also presented on the following pages.

Table 3. Confirmatory factor analyses results for the Helping Behaviour measure across three samples

Model	X ²	X ² ratio	CFI	RMSEA	RMSEA - CI	SMSR
Sample B (n = 251)	63.727 (**)	1.991	.986	.063	.040 / .085	.0346
Sample A (n = 283)	55.900 (**)	1.747	.989	.051	.028 / .073	.0346
Sample C (n = 427)	74.383 (**)	2.324	.987	.056	.039 / .072	.0281

Note. X² ratio, X² / df (2); CFI, comparative fit index; RMSEA, root-mean-square error of approximation; SRMR, standardised root-mean-square residual; ns, not significant; *p < .05, **p < .01.

The results shown in Table 3 indicate that the three factor model for the HB measure fits the data relatively well. The X² ratio is below 2 in two of three samples, the CFI is greater than .95 in all samples and the SMSR is always below .08. However, the X² score is always significant, and the RMSEA hovers above .05 in all samples.

As a result of the changes to the original and second EFA, a final EFA on the HB measure was performed re-using sample A. This allows for comparisons between the first and final EFA, as both used sample A (see Table 4 following the path diagrams, Figures 2, 3 and 4).

Figure 2. Confirmatory factor analysis of the Helping Behaviour (HB) measure using sample B

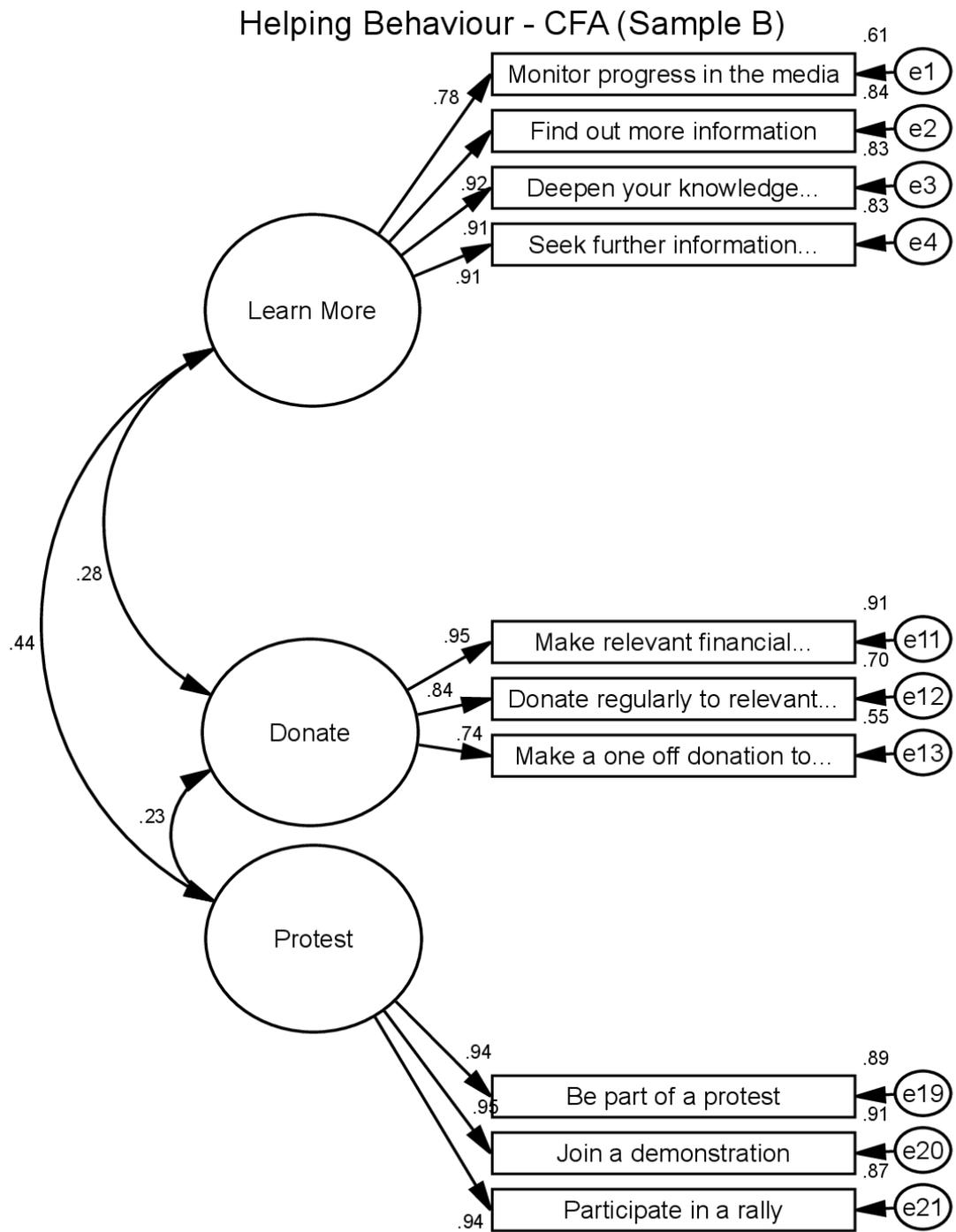


Figure 3. Confirmatory factor analysis of the Helping Behaviour (HB) measure using sample A

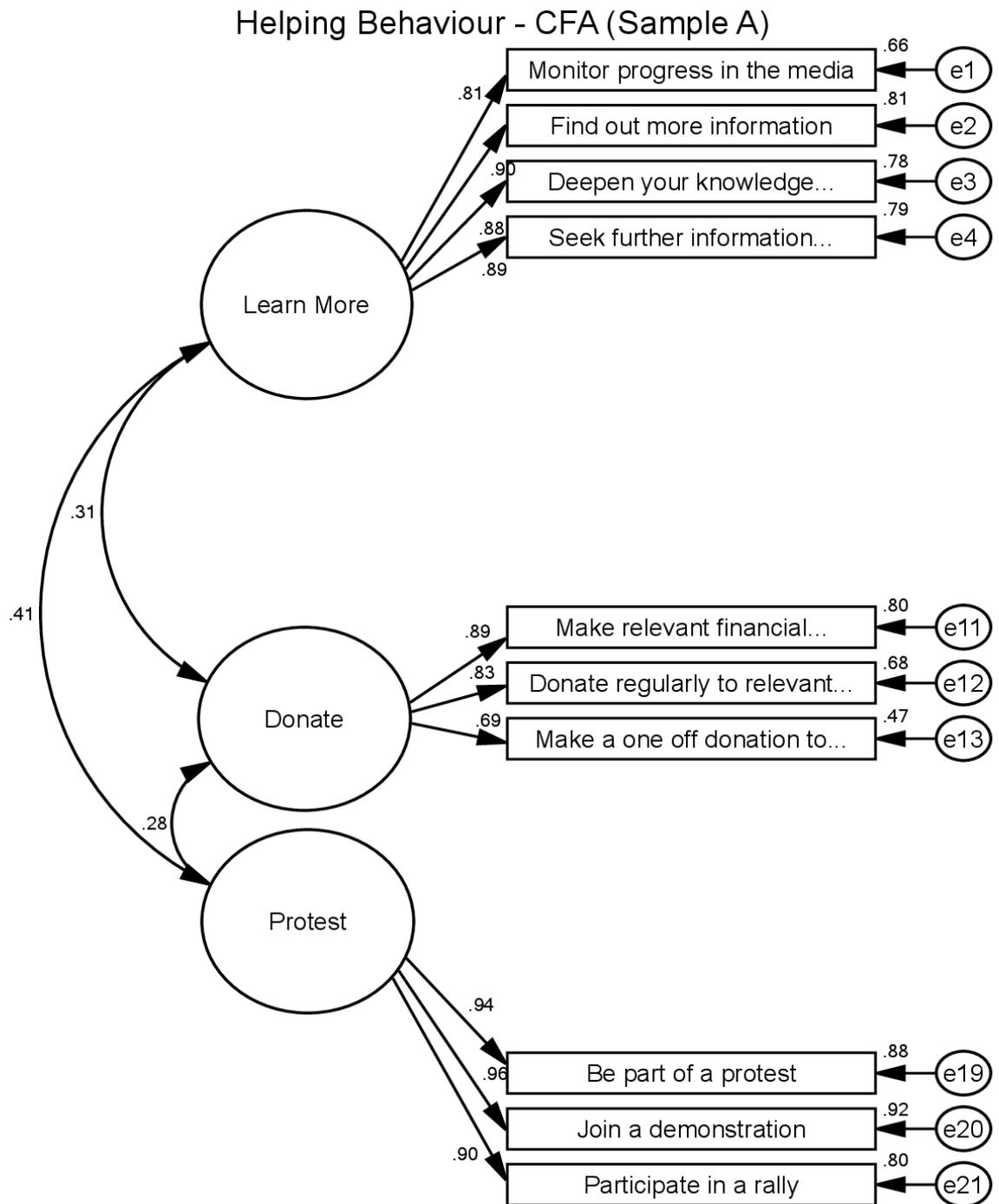


Figure 4. Confirmatory factor analysis of the Helping Behaviour (HB) measure using sample C

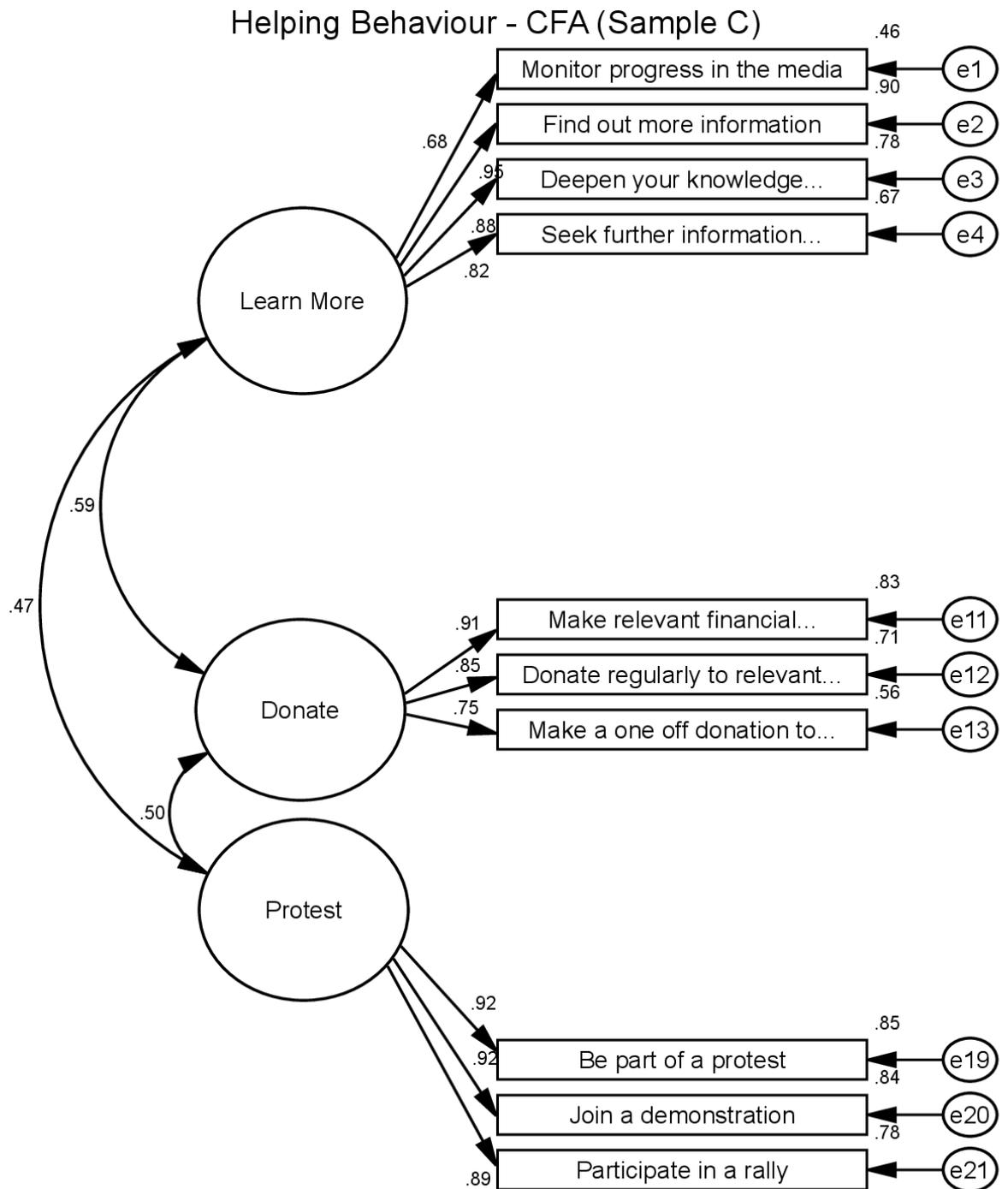


Table 4. Factor loadings for exploratory factor analysis with oblique rotation of the final Helping Behaviour measure, also including information on variance explained, reliability, means and standard deviations.

Item	F1	F2	F3
Deepen your knowledge about relevant issues	.87	.00	-.01
Find out more information	.85	-.05	-.02
Seek further information on the topic	.83	-.06	.01
Monitor progress in the media	.81	.06	.03
(Stay up to date with relevant news)	-	-	-
(Think about the issues involved)	-	-	-
(Keep track of developments in the area)	-	-	-
Join a demonstration	.02	-.93	.01
Be part of a protest	.01	-.93	.01
Participate in a rally	.00	-.87	-.01
(Facilitate meetings)	-	-	-
(Attend at least one meeting)	-	-	-
(Go to at least one discussion group)	-	-	-
Make relevant financial contributions	-.11	-.02	.94
Donate regularly to relevant groups or charities	.01	-.07	.79
Make a one off donation to relevant groups or charities	.12	.06	.65
% explained variance	49.97	14.91	8.48
Coefficient alpha for factors	0.91	0.94	0.83
Coefficient alpha for scale	0.86		
Sub scale mean	19.67	12.38	8.83
Sub scale SD	6.02	5.15	5.10
Full scale mean	40.88		
Full scale SD	11.98		

Note. Factor loadings >.40 are in boldface. Factor labels: F1 Learning more, F2 Protest, F3 Donation (n = 435).

Finally, Table 5 below shows the inter-correlations between the factors of the Helping Behaviour measure. These relationships will be highlighted in the discussion.

Table 5. Summary of the inter scale correlations of the Helping Behaviour measure using sample A.

Measure		HB Total	HB Learning	HB Protest
HB Learning	A	.80*** [.75, .85]		
	B	.80*** [.74, .84]		
	C	.85*** [.82, .88]	-	
HB Protest	A	.72*** [.66, .77]	.38*** [.28, .47]	
	B	.73*** [.67, .77]	.41*** [.30, .50]	
	C	.75*** [.71, .79]	.44*** [.37, .51]	-
HB Donating	A	.68*** [.61, .74.]	.31*** [.18, .43]	.24*** [.14, .36]
	B	.67*** [.59, .74.]	.28*** [.13, .42]	.23*** [.09, .34]
	C	.82*** [.78, .85.]	.54*** [.45, .62]	.45*** [.37, .53]

Note. ns= not significant ($p > .05$), * $p < .05$, ** $p < .01$, *** $p < .001$. BCa bootstrap 95%, 1000 samples, CIs reported in brackets. Sample A, $n = 283$, Sample B, $n = 251$, Sample C, $n = 427$.

Discussion

Chapters 3-7 are carrying out similar procedures for five different measures. More specifically, they each work through the initial stages of psychometric scale development laid out in chapter 2 (i.e. stages A-C). The discussion below will include material specific to the initial psychometric development of the Helping Behaviour measure and, also, a wider discussion of aspects of the process of psychometric development more generally. That more general section will also be relevant to the other chapters involving scale development (i.e. 4-7). Material that could be replicated in chapters 4-7 will only be found below. It should also be noted that the published literature on scale development often includes information about the relationship between the new measure and other measures. This will be explored in chapter 8.

Helping Behaviour measure specifically

The Helping Behaviour measure that took shape in this chapter began as a 50 statement item pool and ended as a 10 item, 3 factor measure. During interim stages, EFA's produced a 5 factor, 21 item measure (Factor labels: F1 Learning more, F2 Protest, F3 Donation, F4 Shopping, F5 Active engagement), and a 3 factor, 16 item measure (Factor labels: F1 Learning more, F2 Active and Protest, F3 Donation). However when these EFAs were submitted to a CFA changes were still required. Indeed such was the poor degree of fit between the initial 21 item solution and the first CFA, a second EFA was carried out which resulted in the 16 item solution. Further CFAs followed and the final 10 item solution was finalised. The final 3 factors were labelled:

Learning more (F1), Protest (F2) and Donation (F3). In total these factors accounted for 73.36% of the variance (F1. 49.97%, F2. 14.91%, F3. 8.48%). Reliability, measured using alpha was also good at: .86 for the total measure, .91 for F1, .94 for F2 and .83 for F3. The final fit indices across the different CFA samples produced levels of satisfactory fit.

The three factors in the final measure (learning more, donation, protest) appear to span a suitable range of behaviour. Learning more being perhaps the easiest to do, with the least cost to the participant. Donations, involve some financial outlay, but little further effort. While taking part in protest, demonstrations and rallies seem to involve a considerable amount of effort as well as relatively visible public declaration of your values. In terms of the correlations between these factors, Table 5, shows the inter-correlations across factors in samples A, B and C. Sample A and B come from the same original sample, so it is no surprise that they produce similar correlations. What is perhaps interesting is the stronger correlations between donating and learning more in sample C (.54), than in samples A and B ($\approx .30$); and donating and protesting in sample C (.45) compared to samples A and B ($\approx .45$). It will be interesting to see if this stronger relationships between factors is replicated in future samples collected during and after this thesis.

It is interesting to spend a little time exploring why the need arose to perform a second EFA in this scale development process. This took place as a result of the poor match between the initial EFA and first CFA. Examining the results, it seems likely that the inter-relationships between the shopping and donating factors on the one hand and active engagement and protest on the other were partly responsible for this. It seems that certain items within these pairings of factors were too inter-related to load purely on their host factors. But equally, the combined items in the two factors did not coalesce well enough to form a single factor. Hence, over the course of the development of the measure, the loss of all items in both the shopping and active engagement factors. Issues related to this and the wider literature will be explored in the general discussion below.

In comparison with other measures that have been used elsewhere in the literature, the new helping behaviour measure appears to have several advantages. For example, it is a multi-item, multi factor measure which differs to the single item measures which have been used elsewhere (e.g. Carr & MacLachlan, 1998a; Campbell et al., 2001). Also, unlike the Anti-Poverty Activism measure (APA), the Helping Behaviour measure seems to have a more central mean score and higher standard

deviation. This may reduce concern over low score variability that exists with the APA. Equally, unlike the Activity Scale (ACT; Kerpelman, 1969, 1972), which used different time scales and frequencies, this measure simply uses a standard seven point Likert scale. Finally, unlike other measures whose items can be rather US specific (e.g. mentioning the Democratic or Republican party and Congress: Activism Orientation Scale; Corning & Myers, 2002), the item pool in the Helping Behaviour measure has attempted to use item content that would be valid across a number of countries.

There is of course a risk, as with all self-report measures, that participant behaviour when completing a questionnaire, may not reflect their actual behaviour in the real world. This well documented issue, may be a result of social influence or social expectation, and this may be exacerbated when questionnaires focus on socially sensitive areas (Barnes-Holmes, Barnes-Holmes, Stewart, & Boles, 2010; Barnes-Holmes, Murphy, Barnes-Holmes, & Stewart, 2010; Dasgupta, McGhee, Greenwald, & Banaji, 2000). This potential problem and its influence on the thesis, will be further explored in the final discussion (chapter 10).

General discussion

More generally, the processes adopted in this and later chapters have some strengths. Not only is (i) an EFA performed, but also (ii) an initial CFA and if any change take place, (iii) a follow up CFA. Equally, each stage: i to iii, is tested with a different sample of participants (samples A, B & C). Together, this seems like a reasonable attempt to follow the best practice guidelines suggested by various sources (e.g. Abell et al., 2009; DeVellis, 2012; Holmbeck & Devine, 2009; P. Kline, 2000).

Another potential strength is that the process of model fit within the CFA is not being led by modification indices. Doing so can result in over-fitting models to the specifics of that data set (see Arbuckle, 2012, p. 110; MacCallum, 1986; MacCallum et al., 1992; Schermelleh-Engel et al., 2003). While it may lead to successful fit indices in this specific instance, this may not be replicated in independent samples. However, despite these potential strengths, the process of scale development does not end here and further research is required (see below).

Elsewhere in the literature, some researchers have raised questions about why there is often a difference between EFAs and CFAs, as was also the case in this chapter. Van Prooijen and Van der Kloot (2001) note that the results of CFA do not generally confirm the results of an EFA. Indeed, the authors comment that the two techniques are fundamentally different: that EFA is data driven while CFA is both theory driven as

well as being more restrictive and conservative. For example, in an EFA items might have loadings of around .3 on other factors. However, in CFA this is fixed to 0. To back up this point, the authors carried out an EFA and CFA on the same sample of data. Doing so removed any issues that might have stemmed from using different populations and datasets. Their results showed divergence between EFA and CFA solutions and the authors concluded that CFA has more restrictions than EFA. Overall, this seems to be helpful information to bear in mind. It highlights how changes in the results between EFAs and CFAs are not necessarily a sign of weakness in the original EFA, but might instead simply be a reflection of the differences between the two techniques.

Limitations and future directions

It is important to note that despite nearing the end of this chapter, the process of psychometric development for this and other measures does not end here. It is important to recall earlier references from chapter two which referred to psychometric development as a “cumulative process” taking place “across many different types of research studies and across research programs” (Holmbeck & Devine, 2009, p. 692). Equally the demographic limitations of this and other samples in this thesis must be borne in mind. Participants in this thesis tend to be relatively young, relatively highly educated and mainly ethnically white and from the UK. The extent to which data from other samples differ to this one remains to be seen.

More generally, although some preliminary steps of scale development have been undertaken – specifically: initial scale design and both exploratory and confirmatory factor analysis – more tasks remain. It is important to examine the new measure against other new measures, against already established measures and even against actual helping behaviour. Another way of phrasing this step of the research pathway is in terms of validity. Adopting this set of terminology, although some aspects of content and factorial validity have been examined, it is important to now investigate aspects of convergent, discriminant and predictive validity. More concretely, after describing each of the remaining new measures (chapters 4-7), chapter 8 will examine the inter-relationships amongst those measures, before chapter 9 examines whether it is possible to use an ACT intervention to influence actual helping behaviour.

4. Thoughts and cognitions measure – initial psychometric findings

Abstract

This chapter sought to develop a self-report measure of thoughts and cognitions relevant to the area of global freedoms. The existing literature was examined and while relevant examples of measures related to attitudes, attributions and just world belief were found, none were deemed suitable for this research. As a result an initial item pool of 36 relevant thoughts and cognitions was developed as the basis for a new measure named the Reasons For Not Helping (RFNH) measure. In the first study, data from 308 participants were entered into an exploratory factor analysis (EFA). This resulted in an 11 item measure spread over three factors named: Personal Priorities, Not Caring and Leaders Responsibility. In a second study, a confirmatory factor analysis (CFA) was carried out using a sample of 451 participants. Following modifications, a relatively good set of fit indices were produced, and this was backed up by a further CFA involving 262 participants. The final RFNH measure is a nine item, three factor measure with the same factors as described above. The brief discussion explores a number of issues pertinent to the development of this measure.

Measure scope

A measure of thoughts and cognitions is important to this thesis because it seems likely that internal human language may have a relationship with the occurrence of helping behaviour. In other words, irrespective of any connection to psychological flexibility, it seems likely that there will be a relationship between certain clusters of thoughts and cognitions and helping behaviour itself. Exploring the extent of this relationship at a general level seems important to the questions of thesis.

It is important to note that the terms “thoughts” and “cognitions” are not being used to refer to two separate things. Using more behavioural language, these terms together refer to “covert behaviour” (Hayes & Brownstein, 1986, p.184; O'Donohue & Szymanski, 1996, p.39) or “private speech” (Hayes & Brownstein, 1986, p.186) which in everyday language and other areas of psychology might be known, more simply, as thoughts and cognitions. In line with radical behavioural thinking, these phenomena are scientifically valid, behaviours of the organism (Skinner, 1945). Like other behaviours, they may need to be explained, and equally they are not necessarily explanations for any overt behaviours that happen contiguously with them (Hayes & Brownstein, 1986; O'Donohue, & Szymanski, 1996).

With specific regard to this thesis, one research question speculates about the potential role that psychological flexibility may play in the relationship between thoughts and cognitions on the one hand and helping behaviour on the other. The idea is simply, that those who are more psychologically inflexible may have a stronger relationship between their thoughts and cognitions and helping behaviour. In other words, there may be less flexibility in the relationships between thoughts, cognitions and behaviour.

In short, this measure will attempt to capture relevant thoughts and cognitions that may occur in the context of global freedoms, and helping behaviour related to global freedoms. The measure will present statements that may occur to an individual as internal thoughts or as external reasons they may give to others.

Literature review

The literature relevant to thoughts, cognitions and global freedoms is potentially large. One reason for this is the multiple, related directions that research can take. Some, for example, research poverty within one's own country (domestic poverty). For example Shek has published multiple papers looking at Chinese people's explanations of poverty in China using the Perceived Causes of Poverty Scale (Shek, 2002, 2003; Shek

& Ma, 2009). Other research focuses on poverty elsewhere in the world (global poverty; see below).

Another potential complexity is the variety of domains related to thoughts and cognitions that researchers may choose to investigate. So, for example, rather than investigating thoughts and cognitions in isolation, they may instead investigate attitudes, attributions, or just world beliefs. Although these terms are so commonly used within the psychological literature they are sometimes used in everyday conversation, they will be briefly unpacked below.

Finally, other related research investigates thoughts and cognitions towards those in poverty, often in the form of single item questions within larger market research style questionnaires, with large sample sizes (e.g. Barrientos & Neff, 2011; Campbell et al., 2001; Lindstrom & Henson, 2011; Noël & Therien, 2002; van Heerde & Hudson, 2010). Due to their reliance on single item measures, they will not be considered in detail below.

Attitudes

As Biglan states: “most educated lay people probably subscribe to the view that 'attitudes are one of the prime determinants of people's behavior'” (1995, p. 81).

According to some, attitudes contain three components: i. cognitive – what we think, ii. affective – what we feel, and iii. behavioural – what we do (McGuire, 1985). This description of attitudes is somewhat confusing as attitudes appear to contain not just thoughts and cognitions, but also feelings and behaviours. So, attitudes contain not just domains relevant to the thoughts and cognitions scale, but also domains inherent to the helping behaviour and feelings and emotions scale.

Of course, attitudes are also hypothetical constructs, in that they need to be inferred from what people say and do (Gross, 1992, p.516; Schwarz, 2007, p.638). As such, the lack of precision inherent within the idea of attitudes is also arguably problematic from a functional contextualist perspective which aims to predict and influence what people do. More specifically, it may seem odd to a functional contextualist, and others, that we have to observe what people do (behaviour), in order to infer their attitudes, in order to predict from those attitudes what we have already seen them do (behaviour, again).

Equally, long established evidence makes clear that the connection between the cognitive and affective components of attitudes do not always marry well with the behavioural. Famously, in 1934, LaPiere reported travelling around America to hotels

and restaurants with a Chinese couple. At the time discrimination towards Chinese people was reportedly high. However, on their travels, very little problem with discrimination was encountered. They were served at all restaurants (n=184) and were able to stay at all but one hotel n=(67). However, in follow up letters sent 6 months later, which asked if a Chinese couple would be allowed to stay, 90% of those who replied said no (51% response rate).

Of course, even if attitudes are closely associated with observed behaviour, we still have the potential difficulty of how to change the attitudes in order to change the behaviour. Or, if the research findings are correlational, we are still unsure of the nature or direction of the relationship between attitudes and behaviour. More generally, as Biglan (1995, p. 30) notes, in terms of functional contextualism, we may have the ability to predict, but not to influence behaviour.

It is worth noting that some less complicated definitions of attitudes exist. For example, Biglan (1995, p.81) refers to Ajzen (1988) who noted that attitudes merely refer to a tendency, when presented with a stimulus, to react favourably or unfavourably. In this way, this thesis is looking to separately divide up the reactions that individuals may have when presented with global suffering. Not to examine them as thoughts, feelings and behaviours combined, but as three separate, but related reactions. For this reason, it is necessary to carefully examine the item content of measures and scales that purport to measure attitudes as they potentially risk conflating cognitive, affective and behavioural components. Finally, it worth noting that many of the comments and concerns associated with the problems of measuring attitudes are also applicable to the measuring of attributions and just world beliefs below.

Attributions

Attributions concern our judgements or explanations about the causes of behaviour. One, well known attributional tendency is the fundamental attribution error (Jones & Nisbett, 1987). Here we tend to say that other's behaviour, especially their mistakes, are a result of internal causes, i.e. that person's disposition. Whereas our own mistakes and errors are a result of situational or external factors.

In terms of poverty, attributional research is long established. For example, in the 1970's Feagin questioned 1,017 Americans about causes of domestic poverty. Three categories emerged: individualistic (dispositional), fatalistic (fate or bad luck) or structural (situational or external factors – often societal). Feagin noted that most participants gave highest scores to individualistic attributions of poverty (Feagin, 1972,

1975).

The 18 item Causes of Third World Poverty Questionnaire (CTWPQ; Harper, 1996) was mentioned in the introduction to this thesis (section 1.2). It extends Feagins work looking at domestic poverty to a global context. It lists possible causes for poverty in the developing world and participants are asked to agree or disagree with these statements. Extensive preliminary analysis of the CTWPQ has taken place (Harper et al., 1990; Harper & Manasse, 1992; Harper, 1996; Harper, 2003), including several exploratory factor analysis (Bolitho et al., 2007; Campbell et al., 2001; Carr & MacLachlan, 1998b; Panadero & Vazquez, 2008). However, as stated in chapter 1.2, very little research has taken place that examines the utility of the measure in predicting helping behaviour. Moreover little research has examined other important psychometric aspects of the measure including its reliability. Indeed, Hine and Montiel (1999) acknowledge the wider lack of evidence concerning attributions in this area saying: “Although researchers often assume that poverty attributions are an important determinant of decisions to help or not to help the poor, few (if any) studies have tested this proposition directly” (p. 925).

As well as there seeming to be a lack of evidence for the connection between attributions and poverty generally, the use of attribution as an explanatory framework has been criticised in social psychology more generally (Parker, 1989) and in relation to global poverty specifically (Harper, 1996, 2003). Harper, for example, highlighted problems related to i. individualism, ii. stability, iii. the constructed nature of attributions, and iv. neglecting the influences on / effects of why people make the attributions that they do.

Just world belief

Belief in a just world is a related extension of attitudinal and attributional theory (Lerner, 1980). Just world belief asserts, simply, that people get what they deserve. As Furnham (2003) puts it, just world belief assesses whether people believe that: “good things tend to happen to good people and bad things to bad people” (p. 795). Various measures of both personal and other just world beliefs have been developed (e.g. Dalbert, 1999; Dalbert, Montada, & Schmitt, 1987; Lipkus, Dalbert, & Siegler, 1996; Rubin & Peplau, 1973, 1975). Although research has been carried out looking at the connection between just world belief and attributions for global poverty (e.g. Campbell et al., 2001; Harper & Manasse, 1992), the connection between just world belief, global poverty and helping behaviour has often not been as strong (Bègue, 2014).

In summary, although the existing literature does contain measures of thoughts and cognitions related to poverty, some are focused on domestic rather than global poverty and others are tied to other psychological concepts such as attitudes, attributions and just world beliefs.

Although the literature contains evidence of how these terms are related to each other (e.g. attributions and just world beliefs), or how these terms are related to aspects of personality (e.g. just world belief and the five factor model of personality; Nudelman, 2013), there is scant literature which reports on the relationship between these terms and actual helping behaviour. Where attempts to do this have been made, the strength of relationship does not seem great (e.g. Carr & MacLachlan, 1998a; Campbell et al., 2001).

As a result, this thesis will not use any of the existing literature or measures outlined above. Equally, because of the goal of prediction and control that stems from functional contextualism, this thesis will not focus on attitudes generally, nor attributions, or just world beliefs. Instead, it will try and focus more directly on the thoughts and cognitions that might occur when an individual is made aware of global freedoms, or asked to help in some way to reduce global suffering. These may include examples of the thoughts that people think internally, or the verbal explanations that they offer to those around them. In drafting these items, it became apparent that they tended to form clusters of “reasons” why help might not be forthcoming.

It is perhaps noteworthy that reasons seem somewhat related to attributions. However attributions, such as those used in the Causes of Third World Poverty Questionnaire (Harper et al., 1990), seem to only relate to why an individual finds themselves in poverty. This may, by itself, be a reason for helping or not helping. However it seems reasons can also be broader. For example: having too much on personally, or believing it is someone else's responsibility. While these also seem like valid reasons, they seem different to causal attributions about the wider situation, and instead seem to represent personal explanations as to why the individual might be about to act or not act. This seems similar to the definition of reasons used by Addis and Jacobson (1996) who talk about reason giving as “offering multiple explanations” for behaviour, rather than a more general style of causal reasoning (p.1417).

Discussion of reasons also links to the pre-existing literature on psychological flexibility. For example, Hayes et al. (1999) note that through our development the verbal community provides us with extensive training in giving reasons for our own

behaviour, such that we become adept at offering “verbal explanations and justification” for what we do and do not do (p. 52-54). The authors go on to make the point that despite individuals presenting reasons as causes for behaviour, it is impossible for us to be fully aware of the richness of learning history that has contributed to the present moment. However such reasons allow us to justify our behaviour, by providing valid, sensible, reasonable and understandable “causes” of our behaviour (p. 76). There is also a corollary from the clinical literature. Addis and Jacobson (1996) note that clients with more reasons for their depressed behaviour were both more depressed, harder to treat and they responded to treatment differently compared to those with fewer reasons.

Item pool

Based on the search of the literature and discussion above, an initial long list of 136 items generally describing reasons for not helping was produced. These reason related statements fell into 15 overlapping categories. Specifically:

Tendency to focus on self (e.g. I have to focus on my own issues)

Tendency to focus on family / friends (e.g. My family and friends come first)

Reasons concerning, local, national and international government (e.g. Many politicians are corrupt)

Already contributing enough (e.g. I already feel that I contribute sufficiently)

Not caring or caring with caveats (e.g. Problems like this do not matter to me)

Prefer to avoid these issues (e.g. I find it easier to turn a blind eye)

Limits to personal money / finance

Limits to other resources / other problems (e.g. I must focus on personal matters first)

Limits to time (e.g. Because I need to prioritise my time issues like this can not take priority)

Prioritising problems at home (e.g. This country has enough problems of its own to deal with)

Overwhelmed / unsure what to do (e.g. I have no extra money to donate)

People in poverty need to help themselves (e.g. My helping stops people helping themselves)

Only the powerful can influence this issue (Only politicians and diplomats can help in this situation)

The inadequacy of individual action (e.g. There is nothing I can do)

Some categories contained many items, others contained few. The initial long list was reduced through separate consultations with my first and second supervisor. Items were revised, rejected or reworded according to the ideas set out in chapter 2. A final list of 36 items were sent out for pilot. No items were changed during the piloting process.

The final instructions for the thoughts and cognition measure, which from this point forward will be referred to as the “Reasons For Not Helping” (RFNH) measure was as follows: “The statements below are possible reasons why other people do not help those around the world who lack basic resources, opportunities and rights. Use the scale above to rate how much you personally disagree or agree with each reason”. Participants answered items on a 7 point Likert ranging from (1) strongly disagree to (7) strongly agree. All 36 items in the measure are visible in the appendices.

4.1. Reasons For Not Helping (RFNH) – study 1: exploratory factor analysis

In order to determine possible factor structures within the initial Reasons For Not Helping (RFNH) measure, principal axis factor analyses was carried out in SPSS on the 36 items of the RFNH measure using oblique (direct oblimin) rotation.

Method

Participants

In sample A, 308 participants had complete data for the RFNH measure. Of these: 65% were female, with an average age of 30 years (SD 13.1). In terms of geographical location: UK (75%), Europe (10%) and North America (9%). Regarding ethnicity: White (82%), Mixed (6%) and Asian (6%). In terms of highest level of education: GCSE's or A' levels (37%), undergraduate degree (31%) and postgraduate degree (29%).

Material and procedure

See section 2.8.

Results

The initial Kaiser–Meyer–Olkin (KMO) index of sampling adequacy was .933, indicating that the correlation matrix was suitable for factor analysis. The number of eigenvalues above 1 was 7 and the scree plot suggested extracting 7 factors. Parallel analysis, using PAF, suggested extracting 9 factors, while parallel analysis using PCA suggested extracting 5. Considering all indicators, 7 factors were initially extracted. In order to produce a brief measure, items were removed through several rounds of EFA following the guidelines described in chapter 2.

The final measure derived from exploratory factor analysis consisted of 11 items across 3 factors. In total the 3 factors accounted for 63.57% of the variance. The full scale had an overall Cronbach α coefficient of .88. The rotated factor solution of the pattern matrix can be seen in Table 6, along with further information about the percentage of variance explained, reliabilities and both mean and standard deviation scores of the full scale measure and factors.

Table 6: Factor loadings for exploratory factor analysis with oblique rotation of the original Reasons For Not Helping (RFNH) measure, also including information on variance explained, reliability, means and standard deviations.

Item	F1	F2	F3
I focus on personal matters first	.95	.15	-.07
My family and friends come first	.70	.03	.01
Other things are more important to me	.68	-.15	.06
My primary responsibility is me	.60	-.15	.04
I have enough problems of my own of deal with	.54	-.18	.12
I do not care	-.01	-.90	-.03
Problems like this do not matter to me	.04	-.86	.03
I do not feel the need to help	.06	-.75	.03
Only politicians and diplomats can help the situation	-.05	.04	.95
Only the powerful can help change this situation	.11	.10	.81
This is solely the responsibility of our leaders	-.03	-.14	.62
% explained variance	42.50	11.10	9.97
Coefficient alpha for factors	.85	.89	.83
Coefficient alpha for scale	.88		
Sub scale mean	19.19	5.88	9.17
Sub scale SD	6.52	3.44	4.37
Full scale mean	34.23		
Full scale SD	11.53		

Note. Factor loadings >.40 are in boldface. Factor labels: F1 Personal priorities, F2 Not caring, F3 Leaders responsibility (n = 308).

In terms of the make up of the 3 factors themselves, the first factor, labelled Personal priorities, included 5 items, describing personal, family or other matters being more important than helping. The second, labelled Not caring, included 3 items, describing how this issue does not matter and not feeling the need to help. The third, labelled Leaders responsibility, included 3 items describing how only politicians, the powerful and our leaders can change the situation.

4.2. Reasons For Not Helping (RFNH) – study 2: confirmatory factor analysis

Confirmatory factor analysis was performed on two separate and independent samples: sample C and B (in that order). In the case of sample C, CFA was performed in order to test the fit of the data to the EFA model derived from sample A. In the case of sample B, CFA was performed in order to test the fit of the data to the CFA model

from sample C.

Method

Participants

The initial CFA was carried out on a subset of sample C using those participants who had complete data for the RFNH measure. These were 451 participants, 61% of whom were female, with an average age of 24 years (SD 9.4). In terms of geographical location: UK (94%), Europe (5%). Regarding ethnicity: White (84%), Mixed (7%), Black (5%). In terms of highest level of education: GCSE's or A' levels (79%), undergraduate degree (10%), postgraduate degree (6%).

Before conducting the CFA on the data from sample C, the data was tested for multivariate normality. As a result of this process, data from 1 participant was removed due to the participant having a high Mahalanobis distance score. This left n=450 participants.

The follow up CFA was carried out on a subset of sample B, again using those participants who had complete data for the RFNH measure. These were 267 participants, 72% of whom were female, with an average age of 30 years (SD 12.4). In terms of geographical location: UK (75%), North America (13%), Europe (9%). Regarding ethnicity: White (81%), Asian (9%). In terms of highest level of education: GCSE's or A' levels (44%), undergraduate degree (25%), postgraduate degree (27%). Before conducting the CFA on the data from sample B, the data was tested for multivariate normality. As a result of this process, data from 7 participants were removed due to participants having high Mahalanobis distance scores. This left n=262 participants remaining.

Material and procedure

See section 2.8.

Results

The initial fit of the data from sample C to the model from the EFA was unsatisfactory. Examining the results of the CFA, it was noted that some of the items in the personal priorities factor were producing relatively poor standardised residual covariances above >1.98 . As this factor originally had five items and the other two had three, two items were deleted to bring the factor size in line with the other factors. As a result of this, two items: "I focus on personal matters first" and "My family and friends come first" were removed. No further modifications were made.

As a modification to the original EFA model was made, the revised CFA model

from sample C was re-tested using independent sample B. The CFA results from sample C and sample B are presented in Table 7 below. The CFA path diagrams from both models are also presented on the following pages.

Table 7. Confirmatory factor analyses results for RFNH across two samples

Model	X ²	X ² ratio	CFI	RMSEA	RMSEA – CI	SMSR
Sample C (n = 450)	54.42 (**)	2.268	.984	.053	.034 / . 072	.0392
Sample B (n = 262)	55.35 (**)	2.306	.975	.071	.046 / . 095	.0408

Note. X² ratio, X² / df (2); CFI, comparative fit index; RMSEA, root-mean-square error of approximation; SRMR, standardised root-mean-square residual; ns, not significant; *p < .05, **p < .01.

The results shown in Table 7 indicate that the five factor model for the RFNH measure fits the data relatively well. The X² ratio is below 3 in both cases, the CFI is greater than .95 in both and the SMSR is less than .08 in both. However, the X² score is significant in both samples, and the RMSEA exceeds .05 in both.

As a result of the changes to the original RFNH measure derived from an EFA using sample A, a further EFA using the new factor outline from the CFA was performed, again, using sample A for comparison. This is shown in Table 8, following the CFA path diagrams (Figures 5 and 6).

Figure 5. Confirmatory factor analysis of Reasons For Not Helping (RFNH) measure using sample C

RFNH - CFA (Sample C)

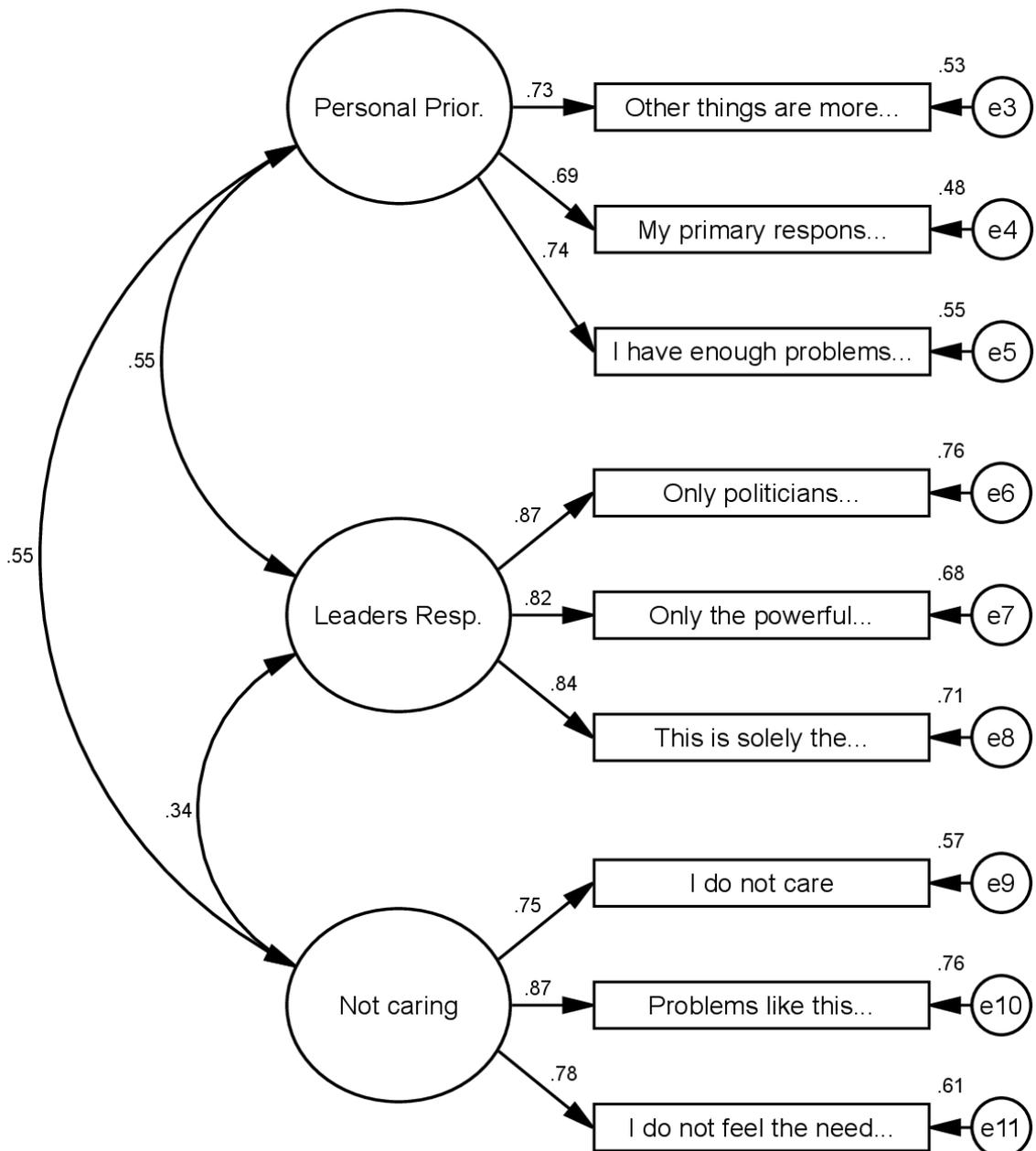


Figure 6. Confirmatory factor analysis of Reasons For Not Helping (RFNH) measure using sample B

RFNH - CFA (Sample B)

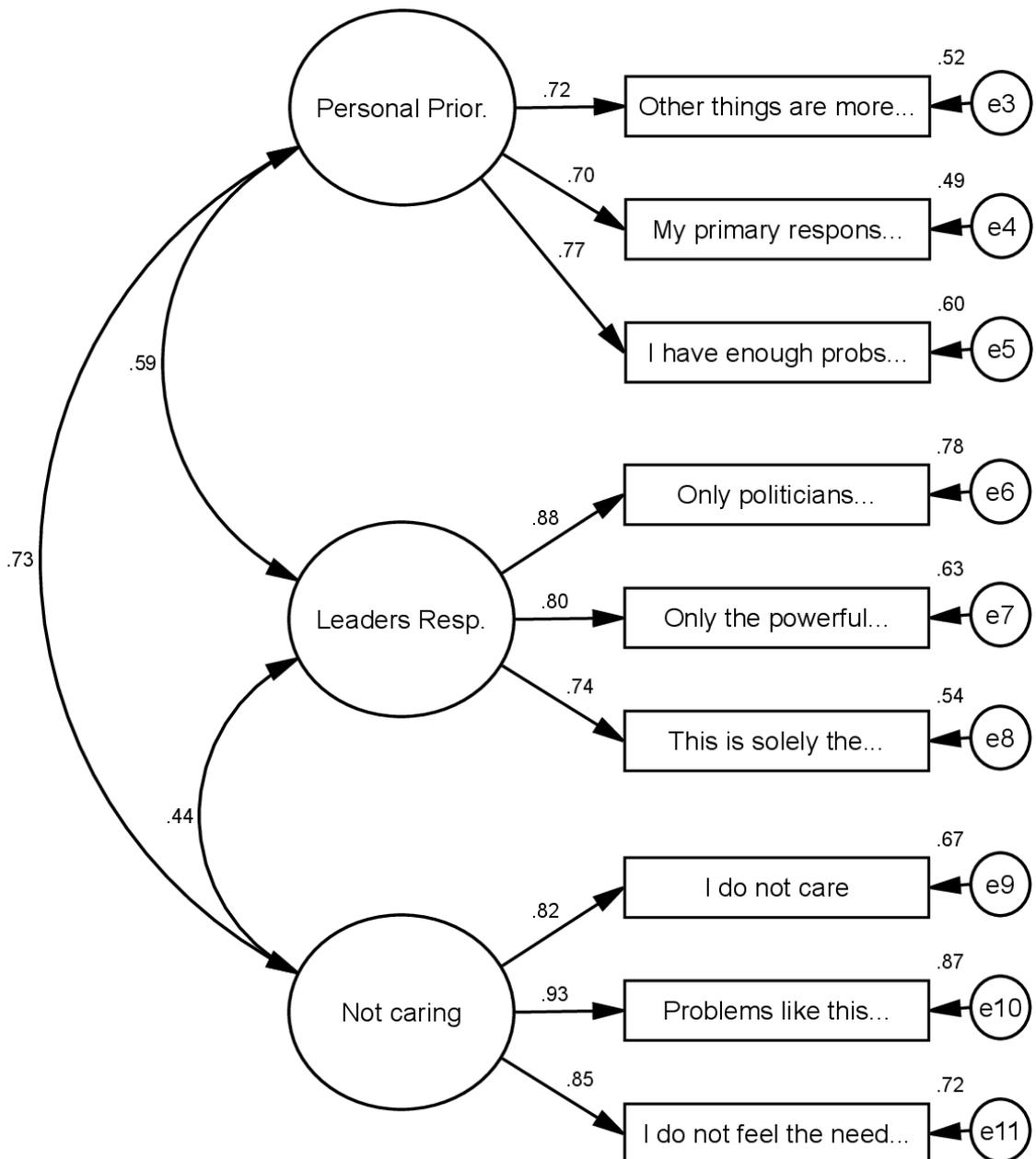


Table 8. Factor loadings for exploratory factor analysis with oblique rotation of the revised Reasons For Not Helping (RFNH) measure, also including information on variance explained, reliability, means and standard deviations.

Item	F1	F2	F3
I do not care	.93	-.02	-.05
Problems like this do not matter to me	.83	.03	.08
I do not feel the need to help	.73	.03	.08
Only politicians and diplomats can help the situation	-.01	.95	-.06
Only the powerful can help change this situation	-.11	.78	.15
This is solely the responsibility of our leaders	.16	.62	-.04
Other things are more important to me	-.02	-.02	.83
I have enough problems of my own of deal with	.02	.04	.71
My primary responsibility is me	.05	.01	.63
(I focus on personal matters first)	-	-	-
(My family and friends come first)	-	-	-
% explained variance	45.32	12.29	7.00
Coefficient alpha for factors	.89	.83	.78
Coefficient alpha for scale	.86		
Sub scale mean	5.88	9.17	10.35
Sub scale SD	3.44	4.37	4.24
Full scale mean	25.40		
Full scale SD	9.71		

Note. Factor loadings >.40 are in boldface. Factor labels: F1 Not caring, F2 Leaders responsibility, F3 Personal priorities (n = 308).

Finally, Table 9 below shows the inter-correlations between the factors of the Reasons For Not Helping Measure. These relationships will be highlighted in the discussion.

Table 9 Summary of the inter scale correlations of the Reasons For Not Helping (RFNH) using samples B and C.

Measure	RFNH Total	RFNH Per Priorities	RFNH Not Caring
RFNH Per. Priorities			
B	.86*** [.83, .89]	-	
C	.81*** [.78, .84]		
RFNH Not Caring			
B	.81*** [.76, .85]	.61*** [.52, .68]	-
C	.69*** [.63, .75]	.44*** [.35, .52]	
RFNH Leaders Res.			
B	.78*** [.70, .84.]	.49*** [.37, .61]	.40*** [.26, .51]
C	.81*** [.77, .84.]	.45*** [.38, .53]	.29*** [.18, .39]

Note. ns= not significant ($p > .05$), * $p < .05$, ** $p < .01$, *** $p < .001$. BCa bootstrap 95%, 1000 samples, CIs reported in brackets. Sample B, $n = 262$, Sample C, $n = 450$.

Discussion

The Reasons For Not Helping (RFNH) measure began as a 36 statement item pool and ended as a nine item, three factor measure. During interim stages of development, an EFA produced a slightly longer 11 item measure, which contained the same three factors. Those three factors are labelled as: Not Caring (F1), Leaders Responsibility (F2) and Personal Priorities (F3). In total, in the final EFA, they accounted for 64.61% of the variance (F1. 45.32%, F2. 12.29%, F3. 7.00%). Reliability, measured using alpha, was also good, at .86 for the total measure, .89 for F1, .83 for F2 and .78 for F3. The fit indices across the different CFA samples also produced levels of satisfactory fit.

The three factors in the final measure appear to cover a reasonable range of possible reasons for not helping, however they are by no means designed to be exhaustive. In terms of the correlations between these factors, Table 9, shows the inter-correlations across samples B and C. It is worth noting that sample C seems to result in somewhat lower inter factor correlations than those found in sample B, especially for factor combinations involving the not caring sub-scale. It will be interesting to see if this is replicated in future samples.

This new measure represents a departure from other related scales that exist in the literature. For example, it does not claim to measure 'attitudes' (McGuire, 1985). Rather than combining aspects of thinking, feeling and overt action, it chooses to focus

on thoughts and cognition alone. Nor does this measure tie itself to the assumptions which come with other terms such as attributions and the associated notion of the fundamental attribution error (Jones & Nisbett, 1987). In this way, the RFNH measure is different to the Causes of Third World Poverty Questionnaire (CTWPQ; Harper, 1996) which assumes that the attributions people make about the causes of global poverty influence their behaviour. Instead, the RFNH measure simply examines participant level of agreement with potential reasons for not helping, irrespective of any “underlying” attitudes or attributions. The term “underlying” is highlighted, because while many psychologists might accept this as a sensible way of describing the situation, functional contextualists might argue that terms such as “attitudes” and “attributions” are hypothetical constructs which, if seen as explanations for behaviour, may lead us away from rather than towards the ability to predict and influence human behaviour (Hayes & Brownstein, 1986; O'Donohue, & Szymanski, 1996). The above argument notwithstanding, the usefulness of the RFNH measure will not be based on the basis of its philosophical purity, but from the results of further data collection which will take place in the future chapters.

5. Feelings and emotions measure – initial psychometric findings

Abstract

This chapter sought to develop a self-report measure of feelings and emotions relevant to the area of global freedoms. The existing literature was examined and while relevant examples of measures related to empathy were found, none were deemed suitable for this research. As a result, an initial item pool of 32 feelings and emotions were developed as the basis for a new measure named the Emotional Responses Scale (ERS). In the first study, data from 301 participants were entered into an exploratory factor analysis (EFA). This resulted in a 16 item measure spread over five factors labelled: Annoyed, Indifferent, Ashamed, Sympathetic and Depressed. In a second study a confirmatory factor analysis (CFA) was carried out using a sample of 428 participants. Following modifications, a relatively good set of fit indices were produced, and this was backed up by a further CFA involving 262 participants. The final ERS measure is a 15 item five factor measure. The factors are the same as the first EFA: Annoyed, Indifferent, Ashamed, Sympathetic and Depressed. The brief discussion explores a number of issues pertinent to the development of this measure.

Measure scope

The feelings and emotions measure is important to this thesis for similar reasons to the RFNH scale. Like thoughts and cognitions, it seems probable that feelings and emotions, may have a relationship with helping behaviour, irrespective of any relationship with psychological inflexibility. In short, this measure will attempt to capture relevant feelings and emotions that may occur in the context of global freedoms.

Literature review

The number of scales that already exist in the literature that are focused on feelings and emotions connected to aspects of global freedoms are more limited than the two areas focused on in previous chapters. Equally, the number of scales that already exist in the literature that are focused on feelings and emotions in isolation is also more limited.

It seems possible that this gap has multiple causes. One is the dominance of attitudes (see chapter 4). As highlighted in the literature review for the RFNH measure, it seems plausible to argue that one of the overarching concepts that has dominated scale development in social psychology is 'attitudes'. As mentioned earlier, attitudes are often thought to contain three parts: cognitive, affective and behavioural. In this way, it seems possible that emotions have been absorbed as part of the affective within the overarching category of attitudes.

Another possible reason for the lack of measures focused on feelings and emotions is the focus and primacy placed on cognition within many psychological perspectives. In this way, for some, cognition can be seen as both the precursor to, and perhaps the most important part of a pathway between cognition, emotion and behaviour. Although it must be noted that the exact relationship between cognitions and emotions is a long-standing debate (e.g. cognitive appraisal versus affective primacy, see Lazarus, 1984).

One final reason for the lack of more general emotion measures is that if the psychological literature has embraced any link between an emotional state and helping behaviour then this link seems to have focused on one particular multidimensional construct: namely empathy. This area will be explored in more detail below.

Spreng, McKinnon, Mar and Levine (2009) recall that the term empathy derives from the German word "Einfühlung" which translates as "feeling into" (p. 62). Although modern definitions typically describe empathy as a "reaction to the situation of another", Spreng and colleagues note that there is no clear consensus as to what the

notion of empathy contains (Spreng et al., 2009, p. 62). Historically empathy was broken down into two sub sections: a cognitive / intellectual reaction and an emotional / affective reaction (Davis, 1983, p.113; Lawrence, Shaw, Baker, Baron-Cohen, & David, 2004; Spreng et al., 2009). As such, depending on the focus of the researcher, empathy might be studied in a more cognitive, a more emotional or a more combined way. For example, a cognitive focus on empathy might assess whether the situation of another had been processed accurately.

Often empathy is now studied in a more combined way (Davis, 1983, p113) i.e. cognition and emotion together and not one or another in isolation. However, in a similar way to the potential confusion around attitude measures, what is actually captured by any one empathy scale depends on the make up of the items themselves.

Measures related to empathy include the Interpersonal Reactivity Index (IRI.; Davis) The IRI is a 28 item, 4 factor scale, measuring: i. Perspective-taking (PT), ii. Fantasy (F), iii. Empathic concern (EC) and iv. Personal distress (PD). However looking at some of the first items from the different sub-scales of the IRI, it is noteworthy how they seem to talk more generally about behaviour itself rather than emotions and feelings related to empathy in isolation. For example:
“I daydream and fantasize, with some regularity, about things that might happen to me.” (item 1, fantasy subscale)
“I sometimes find it difficult to see things from the 'other guy's' point of view.” (item 3, perspective taking subscale)

This potential lack of precision is not limited to the IRI alone. The Empathy Quotient (EQ; Baron-Cohen & Wheelwright, 2004) is an 80 item questionnaire, primarily presented as one factor, although an exploratory factor analysis has been reported by other authors (Lawrence et al., 2004). In a similar way to the IRI, the items in the EQ seem to attempt to tap into a more overall reaction to others than reporting on emotions per se. For example item 1 is: “I can easily tell if someone else wants to enter a conversation”, and item 2: “I prefer animals to humans”. Of course, this is entirely understandable from the point of view of measuring a multidimensional construct such as empathy, but it is perhaps not so useful if a research goal is to measure emotions and feelings in isolation.

It would appear that the existing literature offers limited potential in terms of pre-existing scales for measuring emotions and feelings related to global freedoms. It seems possible that empathy related research may have occupied much of the space in

which relevant measures might otherwise have grown. As a result, this thesis will attempt to design a measure that will capture emotions and feelings related to global freedoms in isolation – in other words, separate from cognitive and behavioural content. Specifically the emotions and feelings that might occur when an individual is made aware of the lack of global freedoms in the world.

Item pool

Built from the measure scope and the search of the literature above, an initial long list of 178, unique, emotional reactions or feelings was produced. The development of this list was aided by combining data from various different web pages on the internet. The long list included a wide spectrum of emotions. For example, just taking a small subset from the letter 'E' included: Envy, Euphoria, Exasperation, Excitement. As the goal was to produce a brief psychometric scale, the long list was reduced by considering what would seem to be normal or typical responses to witnessing a lack of global freedoms. More specifically, in reference to the list above, terms like envy and euphoria were removed as seemingly unlikely responses. Over a number of rounds, through separate consultations with my first and second supervisor, this initial list was reduced. Emotional terms that were ambiguous, uncommon, or rarely used in day to day conversation tended to be rejected. A final list of 32 items was produced. The items clustered into eight themes, each with four items. Specifically, at this stage, the themes were preliminary labelled:

- Annoyed
- Caring
- Depression
- Distant
- Guilty
- Indifferent
- Overwhelmed
- Sad

This final list was sent out for pilot. No items were changed during the piloting process. The final instructions for the emotions and feelings measure, which from this point forward will be referred to as the “Emotional Responses Scale” (ERS) measure, were as follows: “Using the scale above, rate how likely you are to feel these emotions if you read, see or hear about people around the world who lack basic resources, opportunities and rights”. Participants answered items on a 7 point Likert ranging from

(1) very unlikely to (7) very likely. All 32 items in the measure are visible in the appendices.

5.1. Emotional Responses Scale (ERS) – study 1: exploratory factor analysis

In order to determine possible factor structures, principal axis factor analyses was carried out in SPSS on the 32 items of the ERS using oblique (direct oblimin) rotation.

Method

Participants

In sample A, 301 participants had complete data for the ERS. Of these, 66% were female with an average age of 31 years (SD 13.1). In terms of geographical location: UK (76%), Europe (9%), North America (10%). Regarding ethnicity: White (81%), Mixed (6%), Asian (6%). In terms of highest level of education: GCSE's or A' levels (38%), postgraduate degree (30%), undergraduate degree (28%).

Material and procedure

See section 2.8.

Results

The initial Kaiser–Meyer–Olkin (KMO) index of sampling adequacy was .909, indicating that the correlation matrix was suitable for factor analysis. The number of eigenvalues above 1 was 7 and while the scree plot only suggested extracting 3 factors, parallel analysis, using PAF, suggested extracting 8 factors. However parallel analysis using PCA suggested extracting 3. The different methods for determining the number of factors to be extracted gave different results (3, 3, 7 and 8). As a number of rounds of EFA were anticipated, seven factors were extracted in the first instance. In order to produce a brief measure, items were removed through several rounds of EFA following the guidelines described in chapter 2.

The final measure derived from EFA consisted of 16 items across 5 factors. In total the 5 factors accounted for 58.53% of the variance. The full scale had an overall Cronbach α coefficient of .78. The rotated factor solution of the pattern matrix can be seen in Table 10, along with further information about the percentage of variance explained, reliabilities and both mean and standard deviation scores of the full scale measure and factors.

In terms of the make up of the 5 factors themselves, the first factor, labelled annoyance, included 3 items: annoyed, cross, irate. The second, labelled indifference, included 4 items: indifferent, unconcerned, apathetic, dismissive. The third, labelled

embarrassment, included 3 items: embarrassed, ashamed, guilty. The fourth, labelled sympathy, included 3 items: sympathetic, empathetic, caring. The fifth, labelled depression: included 3 items, depressed, dejected, gloomy.

Table 10. Factor loadings for exploratory factor analysis with oblique rotation of the original Emotional Responses Scale (ERS) measure, also including information on variance explained, reliability, means and standard deviations.

Item	F1	F2	F3	F4	F5
Annoyed	.89	.07	-.06	.05	.04
Cross	.84	-.04	.02	.04	-.02
Irate	.51	-.13	.16	-.09	-.18
Indifferent	-.04	.79	-.11	.03	-.20
Unconcerned	.02	.70	-.02	-.03	.08
Apathetic	.03	.66	.08	-.07	-.03
Dismissive	-.02	.65	.03	.01	.05
Embarrassed	.03	-.04	.79	-.08	-.02
Ashamed	-.01	.03	.78	.08	.07
Guilty	.01	.02	.64	.08	-.18
Sympathetic	.05	.01	.03	.73	.14
Empathetic	.00	-.03	.04	.72	-.11
Caring	.02	-.12	.00	.52	-.21
Depressed	.07	.03	.04	.04	-.78
Dejected	.02	.04	.02	-.01	-.74
Gloomy	.12	-.02	.13	.10	-.59
% explained variance	30.42	13.73	5.34	5.00	4.04
Coefficient alpha for factors	.83	.76	.81	.75	.83
Coefficient alpha for scale	.78				
Sub scale mean	13.51	10.63	12.33	16.38	11.67
Sub scale SD	4.17	5.00	4.40	3.16	4.15
Full scale mean	64.60				
Full scale SD	12.20				

Note. Factor loadings >.40 are in boldface. Factor labels: F1 Annoyed, F2 Indifferent, F3 Ashamed, F4 Sympathy, F5 Depressed (n = 301).

5.2. Emotional Responses Scale (ERS) – study 2: confirmatory factor analysis

Confirmatory factor analysis was performed on two separate and independent samples: sample C and B (in that order). In the case of sample C, CFA was performed in order to test the fit of the data to the EFA model of the ERS derived from sample A. In the case of sample B, CFA was performed in order to test the fit of the data to the revised CFA model from sample C.

Method

Participants

The initial CFA was carried out on a subset of sample C using those participants who had complete data for the ERS. These were 435 participants, 61% of whom were female, with an average age of: 24 years (SD 9.4). In terms of geographical location: UK (93%), Europe (6%). Regarding ethnicity: White (82%), Mixed (8%), Black (5%). In terms of highest level of education: GCSE's or A' levels (89%), undergraduate degree (10%), postgraduate degree (6%).

Before conducting the CFA on the data from sample C, the data was tested for multivariate normality. As a result of this process, data from 7 participants was removed due to participants having high Mahalanobis distance scores. This left n=428 participants remaining.

The follow up CFA was carried out on a subset of sample B, again using those participants who had complete data for the ERS measure. These were 267 participants, 72% of whom were female, with an average age of: 30 years (SD 12.4). In terms of geographical location: UK (75%), North America (13%), Europe (9%). Regarding ethnicity: White (82%), Asian (9%). In terms of highest level of education: GCSE's or A' levels (44%), undergraduate degree (25%), postgraduate degree (27%).

Again, before conducting the CFA on the data from sample B, the data was tested for multivariate normality. As a result of this process, data from 5 participants was removed due to participants having high Mahalanobis distance scores. This left n=262 participants remaining.

Material and procedure

See section 2.8.

Results

The initial fit of the data from Sample C to the model from the EFA was unsatisfactory. Examining the results of the CFA, it was noted that item "Apathetic" had one relatively poor standardised residual covariance (>1.98) score and a number of others above >1.5 . As a result of this, the item was removed. In further rounds of CFA, error covariances were added to the error terms linking items 12 and 13, as well as items 3 and 4 through the suggestion of the modification indices. No further modifications were made.

As a modification to the original EFA model was made, the CFA model using sample C was also tested using independent sample B. CFA results from sample C and sample B are presented in Table 11 below. The CFA path diagrams from both models

are also presented on the following pages.

Table 11. Confirmatory factor analyses results for the ERS across two samples

Model	X ²	X ² ratio	CFI	RMSEA	RMSEA - CI	SMSR
Sample C (n = 428)	186.3 (**)	2.388	.955	.057	.047 / .068	.0431
Sample B (n = 262)	143.4 (**)	1.839	.964	.057	.042 / .071	.0547

Note. X² ratio, X² / df (2); CFI, comparative fit index; RMSEA, root-mean-square error of approximation; SRMR, standardised root-mean-square residual; ns, not significant; *p < .05, **p < .01.

The results shown in Table 11 indicate that the five factor model for the ERS fits the data relatively well. The X² ratio is below 3 in both and below 2 in one, the CFI is greater than .95 in both and the SMSR is less than .08 in both. However, the X² score is significant in both samples, and the RMSEA just exceeds .05 in both.

As a result of the changes to the original ERS derived from an EFA using sample A, a further EFA using the new factor outline from the CFA was performed, again using sample A. This is shown in Table 12, following the path diagrams (Figures 7 and 8).

Figure 7. Confirmatory factor analysis of the Emotional Responses Scale (ERS) using sample C

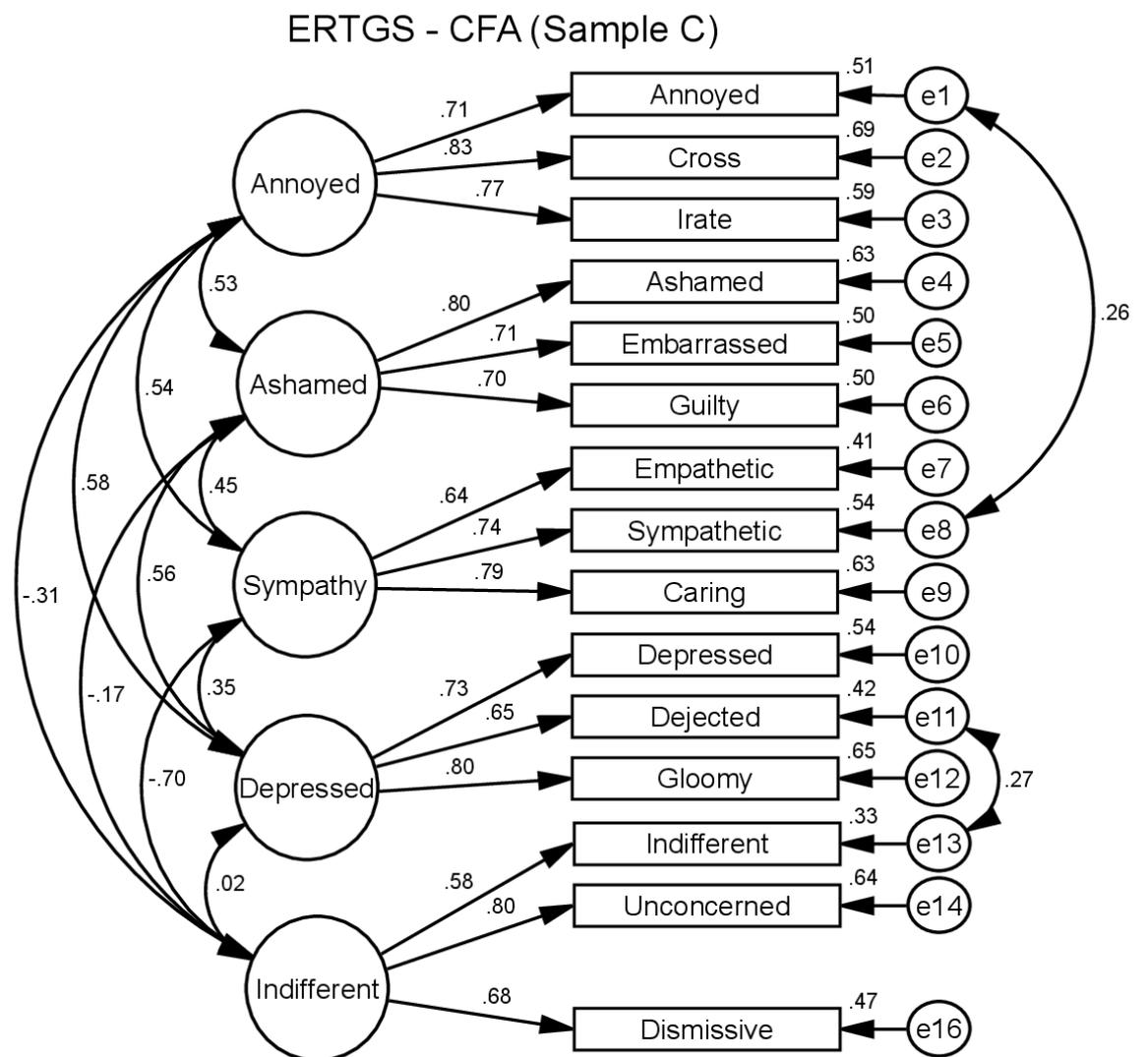


Figure 8. Confirmatory factor analysis of the Emotional Responses Scale (ERS) using sample B

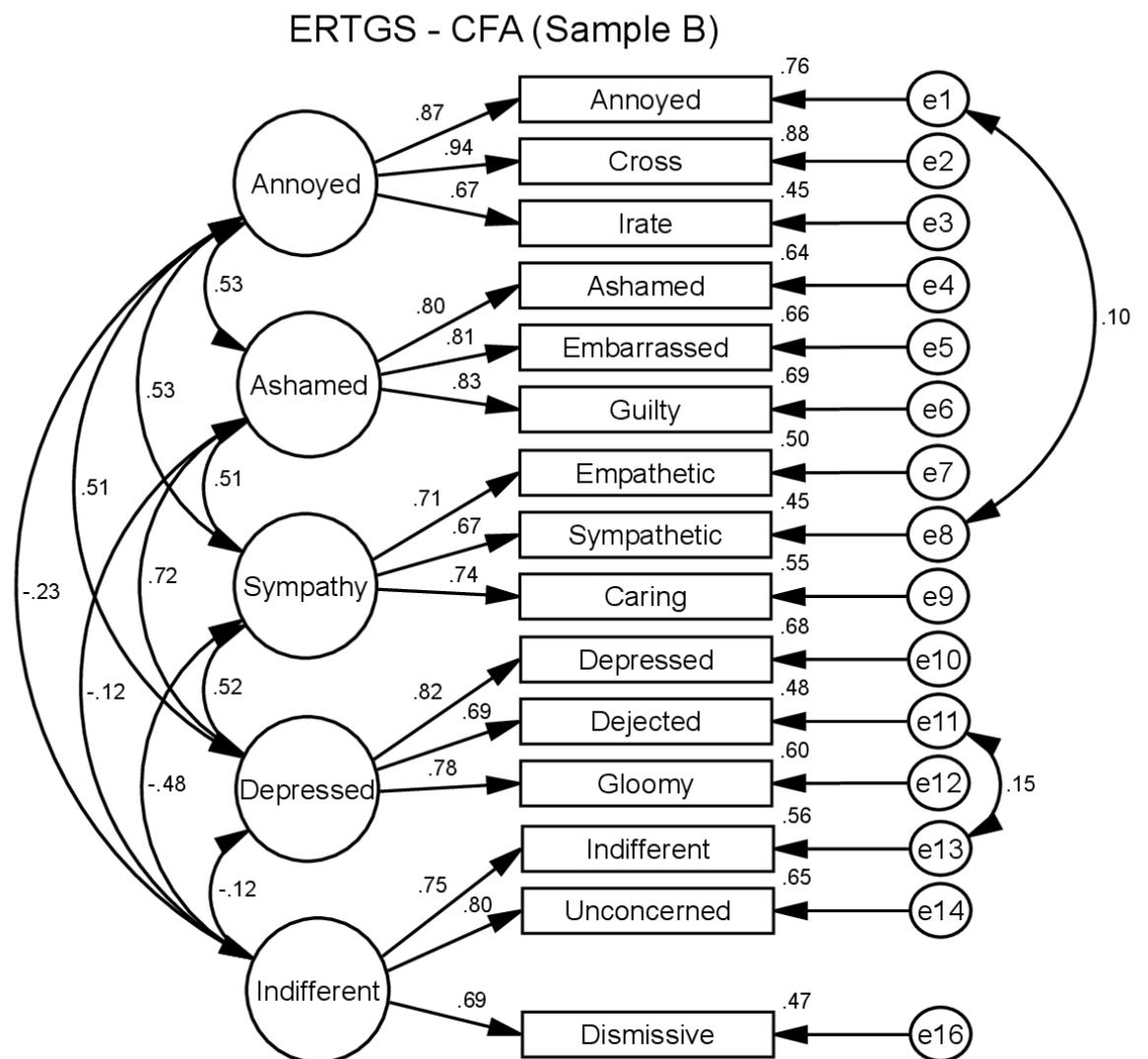


Table 12: Factor loadings for exploratory factor analysis with oblique rotation of the revised Emotional Responses Scale (ERS), also including information on variance explained, reliability, means and standard deviations.

Item	F1	F2	F3	F4	F5
Annoyed	.89	.07	-.06	.04	.04
Cross	.83	-.06	.01	.03	-.02
Irate	.53	-.09	.17	-.08	-.16
Unconcerned	.03	.74	.00	-.03	.08
Indifferent	-.04	.73	-.08	-.02	-.21
Dismissive (Apathetic)	-.01	.66	.06	-.01	.04
Ashamed	-.01	.06	.80	.08	.07
Embarrassed	.03	-.06	.77	-.09	-.03
Guilty	.01	-.01	.62	.07	-.19
Sympathetic	.05	.02	.03	.74	.14
Empathetic	.00	-.02	.03	.72	-.11
Caring	.01	-.14	-.02	.52	-.21
Depressed	.08	.02	.05	.04	-.77
Dejected	.03	.04	.03	-.01	-.74
Gloomy	.13	-.02	.14	.10	-.59
% explained variance	32.25	11.92	5.70	5.28	4.19
Coefficient alpha for factors	.83	.76	.81	.75	.83
Coefficient alpha for scale	.80				
Sub scale mean	13.56	7.50	12.26	16.51	11.64
Sub scale SD	4.16	3.83	4.41	3.08	4.20
Full scale mean	61.48				
Full scale SD	11.91				

Note. Factor loadings >.40 are in boldface. Factor labels: F1 Annoyed, F2 Indifferent, F3 Ashamed, F4 Sympathetic, F5 Depressed (n = 301).

Finally, Table 13 below shows the inter-correlations between the factors of the emotional responses scale. These relationships will be highlighted in the discussion.

Table 13 Summary of the inter scale correlations of the Emotional Response Scale (ERS) using sample B.

Measure	ERS Total	ERS Annoyed	ERS Ashamed	ERS Sympathy	ERS Depressed
Annoyed					
B	.79*** [.74, .84]	-			
C	.80*** [.76, .83]				
Ashamed					
B	.83*** [.78, .87]	.50*** [.39, .50]	-		
C	.78*** [.74, .82]	.43*** [.35, .51]			
Sympathetic					
B	.69*** [.61, .76]	.47*** [.34, .59]	.41*** [.29, .52]	-	
C	.64*** [.57, .71]	.44*** [.36, .54]	.35*** [.26, .44]		
Depressed					
B	.80*** [.75, .84]	.47*** [.36, .58]	.60** [.50, .69]	.40*** [.30, .50]	-
C	.75*** [.69, .79]	.45*** [.37, .53]	.46*** [.38, .55]	.27*** [.16, .36]	
Indifferent					
B	-.23*** [-.38, -.07]	-.21* [-.35, -.07]	-.10*** [-.23, .03]	-.36*** [-.48, -.23]	-.09 ns [-.24, .06]
C	-.23*** [-.33, -.12]	-.21* [-.31, -.11]	-.10*** [-.21, .01]	-.51*** [-.60, -.41]	-.06 ns [-.06, .17]

Note. ns= not significant ($p > .05$), * $p < .05$, ** $p < .01$, *** $p < .001$. BCa bootstrap 95%, 1000 samples, CIs reported in brackets. Sample B, $n = 262$, Sample C, $n = 428$.

Discussion

In the two studies reported above, the Emotional Responses Scale (ERS) underwent design and preliminary validation. It began as a 32 statement item pool and ended as a 15 item, 5 factor measure. During interim stages of development, an EFA produced a slightly longer 16 item measure, which contained the same 5 factors. Those five factors are labelled as: Annoyed (F1), Indifferent (F2), Ashamed (F3), Sympathetic (F4) and Depressed (F5). In total, in the final EFA, all factors account for 61.47% of the variance (F1. 13.56%, F2. 7.50%, F3. 12.26%, F4. 16.51, F5 11.64). Reliability, measured using alpha was also good at .80 for the total measure: .83 for F1, .76 for F2 and .81 for F3, .75 for F4 and .83 for F5. The fit indices across the different CFA

samples also produced levels of satisfactory fit.

The five factors in the final measure (annoyed, indifferent, ashamed, sympathetic and depressed) cover a range of possible emotional responses in response to global suffering, but like other measures in this thesis, do not aim to be exhaustive in their scope. It is important to note that the inter-factor correlations (shown in Table 13) produced some interesting results. While the four factors: annoyed, ashamed, sympathetic and depressed have positive and moderate to strong correlations with each other, the same is not true of the fifth factor: indifference. The indifference sub-scale has either non-significant or negative correlations with the other four factors and the total score. This is consistent across both sample B and sample C. In many ways this feels consistent with the factor labels. Specifically, annoyed, ashamed, sympathetic and depressed are definite emotional responses of one kind or another to a lack of global freedoms, whereas indifference, while still being a response, seems to indicate more of an absence or gap where an emotional response might otherwise be. As a result of the indifference factors relationship with the other factor scores and total score, it makes sense to remove the factor from the ERS total score calculations. To leave it in might result in a diminished understanding of the impact of the other four factors. However, it also seems important to keep the items of the indifference scale within the ERS itself to understand the relationship between it and other measures. Accordingly, while the ERS will continue to contain five factors, the total score will be calculated from four (annoyed, ashamed, sympathetic and depressed) alone. The indifference score will be presented independently.

The ERS, like other measures in this thesis, hopes to add something to the existing literature on global freedoms. The ERS deliberately isolates the emotions component sometimes found in attitudes and examines it independently. Similarly, the ERS does not focus on empathy alone as there is some debate as to whether empathy and empathy measures contain a cognitive, an emotional and even a behavioural component (Davis, 1983, p.113; Lawrence et al., 2004; Spreng et al., 2009). As a result, although “empathetic” is included as an item within one factor of the ERS, the ERS focuses on a wider range of possible emotional responses. In this way, the ERS differs to pre-existing measures such as the Interpersonal Reactivity Index (IRI; Davis) or the Empathy Quotient (EQ; Baron-Cohen & Wheelwright, 2004). With the above in mind, it is hoped that the ERS offers something new to researchers interested in how private internal emotional events impact on global freedoms. However the exact relationship

between the ERS and other measures will only be established with the collection of more data in later chapters.

6. Values measure – initial psychometric findings

Abstract

This chapter sought to develop a self-report measure of values related to the area of global freedoms. The existing literature was examined and while relevant examples of measures related to values were found, none were deemed suitable for this research. As a result an initial item pool of 28 statements referring to things that people around the world should have (e.g. basic sanitation, basic medical care, basic education) as well as things that people should be safe from (e.g. intimidation, arbitrary arrest, torture) formed the basis for a new measure named: Socio-Political Values (SPV). In the first study, data from 336 participants were entered into an exploratory factor analysis (EFA). While the EFA suggested that all items clustered on one factor, a further examination of the data suggested a strong ceiling effect with low score variability. As a result the items with both the most central mean scores and the largest standard deviations were selected and re-entered into an EFA. This resulted in a 5 item uni-dimensional measure. In a second study, a confirmatory factor analysis (CFA) was carried out using a sample of 460 participants. Following modifications, a relatively good set of fit indices were produced, and this was backed up by a further independent CFA involving 249 participants. The final SPV measure is a four item uni-dimensional measure with an alpha of .89. The brief discussion explores a number of issues pertinent to the development of this measure.

Measure scope

The three previous measures: Helping Behaviour (HB), Reasons For Not Helping (RFNH) and Emotional Responses to Suffering (ERS), could potentially be part of any psychological research into global freedoms. The final two measures: values and psychological flexibility relate more closely to ACT. Very simply, the values scale seeks to measure the extent to which participants find the topic of global freedoms personally important to them. One assumption that will be tested as part of this research is that people who attest to caring more about these issues will engage in more helping behaviour. Although this sounds obvious, it is still an empirical question. Equally, as research into ACT and psychological flexibility makes us aware, individuals do not always behave in accordance with their values and their goals.

Literature review

As was made clear in section 1.6.2.3 of this thesis, values are invoked at the heart of the notion of psychological flexibility when reference is made to “that which matters most to us” (see Luoma, et al., 2007; Wilson & Murrell, 2004). However values measures exist both inside and outside of the ACT community. The literature contains a number of ACT-based values measures. These include the Valued Living Questionnaire, the Chronic Pain Values Inventory, and the recently developed Values Questionnaire.

The Valued Living Questionnaire (VLQ; Wilson, Sandoz, Kitchens, & Roberts, 2011) is a 10 item measure that simply gets participants to rate 10 areas of life, on a 10 point scale, according to personal importance. The areas are: 1. Family, 2. Intimate relationships, 3. Parenting, 4. Friendship, 5. Work, 6. Education, 7. Recreation, 8. Spirituality, 9. Citizenship, and 10. Physical self-care. The Chronic Pain Values Inventory (CPVI; McCracken & Yang, 2006), was originally developed for a chronic pain population, but the scale itself is not pain specific. It measures both importance and success on separate 6 point scales across 6 areas. The areas are: 1. Family, 2. Intimate relations, 3. Friends, 4. Work, 5. Health, 6. Growth and learning. As well as individual scores of success and importance, a discrepancy score between the success and importance score can also be calculated. Finally, the Values Questionnaire (VQ; Smout, Davies, Burns, & Christie, 2014), is a 10 item questionnaire measuring two factors: progress in valued living and obstruction to valued living. The items are assessed on 7 point Likert scales from 0=not at all true, to 6=completely true. Rather than measuring different values domains, the VQ talks more generally about “activities that matter to

me” and “areas of my life I care most about”.

While the relevance of these measures to clinical populations is hopefully apparent, it is less clear how useful these three measures would be to the area of global freedoms. Naturally, neither the VLQ nor the CPVI assess value domains relevant to global freedoms. Equally, although the VQ assesses values more generally, it is unclear whether participants would freely place global freedoms under this heading. Or, if they did, how it would be balanced out against other domains such as friends, family and intimate relationships.

As mentioned above, it should be noted that the study of values is not restricted to the ACT literature alone. Other measures exist in the wider therapeutic literature. These include: the Pleasant Events Schedule (MacPhillamy & Lewinsohn, 1982), Action Control Scale (Kuhl, 1994) and the Personal Strivings Assessment (Emmons, 1986). However, these are of limited use to the particular research questions in this thesis for similar reasons to the ACT values measures above.

However values have also been studied in psychology more generally. For example, the Rokeach Values survey was developed by Milton Rokeach in 1968. It contains two sets of items. One related to “terminal” values, the other “instrumental” values. Terminal values, talk about desired end-states for example: true friendship. While Instrumental values refer to more day to day modes of behaviour such as cheerfulness. Items are ranked by participants in order of personal importance. Understandably, none of the instrumental values relate to global freedoms. Equally, the terminal values are not directly related either. The closest item seems to be item 16 which talks about a world at peace. Indeed the lack of reference to individual rights and justice has been cited as a potential shortcoming of the measure (see Feather & Hutton, 1974; Ng, 1982).

In contrast, the work of Schwartz (Schwartz, 1992) focuses on 10 values that he believes to be universal. More specifically they are: 1. Self-Direction, 2. Stimulation, 3. Hedonism, 4. Achievement, 5. Power, 6. Security, 7. Conformity, 8. Tradition, 9. Benevolence, 10. Universalism. The scale that comes from this work is known as the Schwartz Value Survey (SVS; Schwartz, 1992). It presents participants with 56 items. According to Schwartz, the first 30 items are nouns (e.g. equality and social justice), the last 26 are adjectives (protecting the environment). When completing the SVS, as well as the individual term, participants read a short explanatory phrase alongside it in brackets: for example: ‘EQUALITY (equal opportunity for all)’. Participants rate each

item on a 9-point scale from 7 = of supreme importance to -1 = opposed to my values. Two areas seem potentially relevant to this thesis: Benevolence and Universalism. Whereas benevolence refers to welfare of the individuals 'in-group', universalism refers to an "understanding, appreciation, tolerance, and protection for the welfare of all people and for nature" (Schwartz, 1992, p.12). The term benevolence is expanded on using the following terms and phrases: equality, unity with nature, wisdom, a world of beauty, social justice, broad-minded, protecting the environment, a world at peace.

While the work of Schwartz and the SVS does present items that are more relevant to global freedoms than the measures explored earlier, the items are probably still not specific and focused enough. For example, the items related to universalism also include items related to beauty, war and the environment. It is also probably unnecessary for this research to collect data on all 9 of Schwartz other values areas.

Of course, these are not the only values measures. Braithwaite and Scott (1991) dedicate a whole chapter to values measures and in it review 15 different measures. However, the pattern described above is repeated throughout. Specifically although "concern for the welfare of others" (p.667) is a theme that they highlight in their review, what is actually measured under this heading varies considerably. For example it includes: benevolence (Survey of Interpersonal Values; Gordon, 1960), kindness (Personal Values Scales: Scott, 1965), social orientation (The Study of Values; Allport, 1960; Life Role Inventory; Fitzsimmons, Macnab, & Casserly, 1985), "equalitarianism" (Values Profile; Bales & Couch, 1969), humanistic orientation (Conceptions of the Desirable; Lorr, Suziedelis, & Tonesk, 1973), a positive orientation to others (The Goal and Mode Values Inventories; Braithwaite & Law, 1985) and receptivity and concern (Ways to Live; Morris, 1956; from Braithwaite & Scott, 1991). Like the measures by Rokeach and Schwartz, the above measures appear to lack the specificity required for this thesis.

Item pool

Based on the measure scope and the search of the literature above, it seems that there is not a pre-existing global freedoms specific values measure that can be used in this research. Accordingly, it seems that part of this thesis will need to develop a measure of values in the area of global freedoms. With this in mind, it seems sensible to go back to the Human Development Report of 2000 which deliberately united both global poverty and human rights abuse and talked about the seven freedoms mentioned towards the end of section 1.1 of this thesis. Specifically:

Freedom from want
Freedom from discrimination
Freedom from fear
Freedom from injustice
Freedom of participation, expression and association
Freedom to develop and realize one's human potential
Freedom to work, without exploitation

(United Nations Development Programme, 2000, p.1)

Working with the seven freedoms as a starting point, they were expanded to create over 25 items that were thought to be both easy to understand and rate. So, for example, "freedom from want" was expanded to separate items including: decent living standards, adequate food and nutrition, safe drinking water.

Through separate consultations with my first and second supervisor, this initial list was checked and items were added and revised. A final list of 28 items were produced. These clustered into 2 themes, 15 items which referred to things that people should have (e.g. basic sanitation, basic medical care, basic education) and 13 items which referred to things that people should be safe from (e.g. intimidation, arbitrary arrest, torture). This final list was sent out for pilot. No items were changed during the piloting process.

The final instructions for the "should have" items were: "Using the scale above, how important is it to you that everyone around the world has:". While, the final instructions for the "should be safe from" items were: "Using the scale at the top of the page, how important is it to you that everyone around the world is safe from". Participants answered items on a 7 point Likert ranging from (1) strongly disagree to (7) strongly agree. All 28 items in the measure are visible in the appendices.

6.1. Values measure – study 1: exploratory factor analysis

In order to determine possible factor structures within the initial values measure, principal axis factor analyses was carried out in SPSS on the 28 items of the values measure using oblique (direct oblimin) rotation.

Method

Participants

In sample A, 336 participants had complete data for the values measure. Of these 67% were female, with an average age of 31 years (SD 13.5). In terms of geographical location: UK (76%), Europe (10%), North America (9%). Regarding

ethnicity: White (82%), Mixed (6%), Asian (6%). In terms of highest level of education: GCSE's or A' levels (37%), undergraduate degree (30%), postgraduate degree (29%).

Material and procedure

See section 2.8.

Results

The initial Kaiser–Meyer–Olkin (KMO) index of sampling adequacy was .972, indicating that the correlation matrix was suitable for factor analysis. The number of eigenvalues above 1 was 3, the scree plot also suggested extracting 3 factors. Parallel analysis, using PAF, suggested extracting 3 factors, while parallel analysis using PCA suggested extracting 2. As a result 3 factors were extracted in the first instance.

Although the aim was to produce a brief measure by removing potentially unnecessary items following the framework described in chapter 2, this proved difficult for this measure. To begin with, although 3 factors were initially extracted, no discernible third factor emerged. Any items which did exist all cross-loaded on the second factor at above .4. Equally, the overall level of inter-correlation between factors one and two was worryingly high at .80.

Examination of the statistics for items themselves also indicated that they had both high skew and kurtosis. Most participants indicated that they “strongly agreed” that individuals should have basic rights and freedoms and should be free from injustices and hardships. Although this kind of distribution can be overcome within the framework of factor analysis through transformation, a wider problem presented itself in terms of creating a viable, useful measure. The measure as it stood appeared to have a strong ceiling effect with low score variability. This presented significant challenges in terms of it becoming a workable measure, irrespective of the “factor-ability” of the items.

With the above in mind, the decision was taken to reduce the item pool to only include the items which had the most central mean scores (range: 5.20-6.17) and the largest standard deviations (range: 1.27-1.49). The rationale for this is based on DeVellis (2012) who notes the importance of having items with a mean “close to the centre of the range of possible scores” (p.107) and with a “relatively high variance” (p.107). It is also in line with the notion of “item discrimination” from Item Response Theory (IRT; DeVellis, 2012, p.164), where it is important to use items that are most discriminating.

This reduced the item pool to five items. Then an exploratory factor analysis was performed again. Now, the Kaiser–Meyer–Olkin (KMO) index of sampling adequacy

was .855. This still indicated that the correlation matrix was suitable for factor analysis. The number of eigenvalues above 1 was 1, the scree plot also suggested extracting one factor, as did both versions of parallel analysis. Accordingly, just a single factor was extracted.

The final measure consisted of all five items loading on just a single factor. In total this accounted for 66.60% of the variance. The full scale had an overall Cronbach α coefficient of .90. The factor solution can be seen in Table 14, along with further information about the percentage of variance explained, reliability and both mean and standard deviation scores. In terms of the make up of the factor itself, the five items that were included were:

Equal pay for equal work

The ability to participate in society

(e.g. to vote or be involved in decision-making)

Free and fair elections

An independent media

Union representation

The content of these items are some what more socio-political in nature than other items in the original measure. For example: compare “union representation” to “adequate food and nutrition” and “safe drinking water” (see the appendices for the full original list). As such as it seems appropriate to rename the measure the Socio-Political Values (SPV) measure.

Table 14. Factor loadings for exploratory factor analysis with oblique rotation of the socio-political values (SPV) measure, also including information on variance explained, reliability, means and standard deviations.

Item	F1
Equal pay for equal work	.87
The ability to participate in society (e.g. to vote or be involved in decision-making)	.87
Free and fair elections	.85
An independent media	.76
Union representation	.72
	% explained variance 66.60
	Coefficient alpha for scale .90
	Scale Mean 29.29
	Scale SD 5.66

Note. Factor loadings >.40 are in boldface (n = 336).

6.2. Socio-Political Values (SPV) – study 2: confirmatory factor analysis

Confirmatory factor analysis was performed on two separate and independent samples: sample C and B (in that order). In the case of sample C, CFA was performed in order to test the fit of the data to the EFA model of the SPV measure derived from sample A. In the case of sample B, CFA was performed in order to test the fit of the data to the revised CFA model from sample C.

Method

Participants

The initial CFA was carried out on a subset of sample C using those participants who had complete data for the SPV measure. These were 465 participants, 61% of whom were female, with an average age of 24 years (SD 9.3). In terms of geographical location: UK (94%), Europe (5%). Regarding ethnicity: White (84%), Mixed (7%), Black (5%). In terms of highest level of education: GCSE's or A' levels (82%), undergraduate degree (11%), postgraduate degree (6%).

Before conducting the CFA on the data from sample C, the data was tested for multivariate normality. As a result of this process, data from five participants was removed due to participants having high Mahalanobis distance scores. This left n=460 participants remaining.

The follow up CFA was carried out on a subset of sample B, again using those participants who had complete data for the SPV measure. These were 265 participants, 73% of whom were female, with an average age of 30 years (SD 12.4). In terms of

geographical location: UK (75%), North America (13%), Europe (9%). Regarding ethnicity: White (82%), Asian (9%). In terms of highest level of education: GCSE's or A' levels (44%), undergraduate degree (25%), postgraduate degree (26%).

Again, before conducting the CFA on the data from sample B, the data was tested for multivariate normality. As a result of this process, data from 16 participants was removed due to participants having high Mahalanobis distance scores. This left n=249 participants remaining.

Material and procedure

See section 2.8.

Results

The initial fit of the data from Sample C to the model from the EFA was unsatisfactory. Examining the results of the CFA, it was noted that item “An independent media” had a relatively poor correlation with the factor as a whole (.57). As a result this item was removed. The fit improved. No further modifications were made to the model.

CFA results from sample C and sample B are presented in Table 15 below. The CFA path diagrams from both models are also presented on the following pages.

Table 15. Confirmatory factor analyses results for the Socio-Political Values (SPV) measure across two samples

Model	X ²	X ² ratio	CFI	RMSEA	RMSEA – CI	SMSR
Sample C (n = 460) (ns)	4.161	2.080	.998	.049	.000 / . 115	.010
Sample B (n = 249) (ns)	5.206	2.603	.994	.080	.000 / . 169	.017

Note. X² ratio, X² / df (2); CFI, comparative fit index; RMSEA, root-mean-square error of approximation; SRMR, standardised root-mean-square residual; ns, not significant; *p < .05, **p < .01.

The results shown in Table 15 indicate that the one factor model for the SPV fits the data relatively well. The X² score is non-significant in both samples, the X² ratio is below 3 in both, the CFI is greater than .95 in both and the SMSR is less than .08 in both. However, while the RMSEA is just below .05 in Sample C, it is .08 in Sample B. It should also be noted that for both samples, while the lower confidence interval hits .000, the higher confidence interval is higher than .10.

As a result of the changes to the original one factor SPV measure from sample A, a further EFA was performed for the purposes of comparison, again using sample A. This is shown in Table 16, following the path diagrams (Figures 9 and 10).

Figure 9. Confirmatory factor analysis of the Socio-Political Values (SPV) measure using sample C

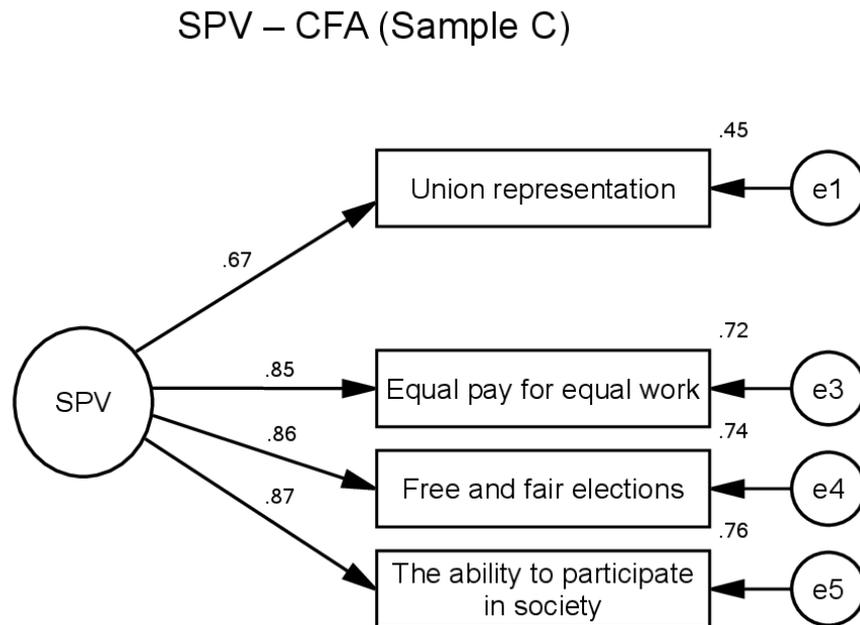


Figure 10. Confirmatory factor analysis of the Socio-Political Values (SPV) measure using sample B

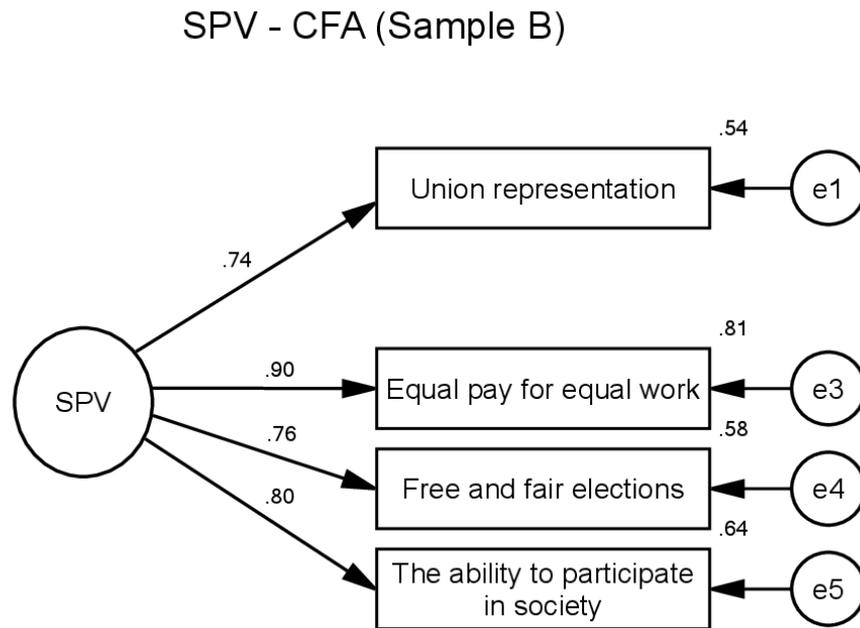


Table 16. Factor loadings for exploratory factor analysis with oblique rotation of the revised Socio-Political Values (SPV) measure, also including information on variance explained, reliability, means and standard deviations.

Item	F1
Equal pay for equal work	.90
The ability to participate in society (e.g. to vote or be involved in decision-making)	.89
Free and fair elections (An independent media)	.85
Union representation	.68
	% explained variance
	69.19
	Coefficient alpha for scale
	.89
	Scale Mean
	23.61
	Scale SD
	4.62

Note. Factor loadings >.40 are in boldface. Sample N=336.

Discussion

In the two studies reported above, the Socio-Political Values (SPV) measure has taken shape. It began as a series of 28 statements concerned with the importance of things that all people around the world should have and things that they should be safe from. However, descriptive statistics associated with the first EFA showed many items had a ceiling effect: i.e. high item mean, low item standard deviation and low item variance. Instead a new EFA containing only the items with the most central mean scores and the largest standard deviations was performed. After two CFAs, this resulted in a 4 item uni-dimensional measure, which accounted for 66.60% of the variance. Reliability, measured using alpha, was good, at .90. The fit indices across the different CFA samples also produced levels of satisfactory fit.

Despite these positive results, it is noteworthy that in some way the items in this measure were not really formed by the initial EFA. Instead the items were picked by default and built out of necessity from those items that were less skewed. It remains to be seen how this will influence the ability of this measure to capture the relationships between valuing issues related to global freedoms on the one hand and behaviour related to global freedoms on the other. While it does seem to be the case that the title of the measure: “Socio-Political Values” accurately reflects the item content of the measure, it is not clear whether the SPV will suitably capture wider issues related to global freedoms more generally. Further research will be required to establish this.

One of the things the SPV measure does already do, is add to the literature on valuing, specifically in this instance by providing another specific values measure. Many of the measures in the ACT arena, like the VLQ (Wilson et al., 2011), CPVI (McCracken & Yang, 2006) and Values questionnaire (Smout et al., 2014) measure multiple different areas in life, or progress in life generally. Even wider measures such as the Schwartz Value Survey (SVS; Schwartz, 1992) do not really focus in on areas like global freedoms in any detail. In this way, it is hoped that the SPV will make a useful addition to the literature specific to global freedoms. Naturally this can only be ascertained through the collection of data in later chapters.

7. Psychological flexibility measure – initial psychometric findings

Abstract

This chapter sought to develop a new self-report measure of psychological inflexibility known as the Everyday Psychological Inflexibility Checklist (EPIC). While the existing literature contains pre-existing measures such as the Acceptance and Action Questionnaire (AAQ-II), it was felt that this and other measures might be less suited to the context of global freedoms. As a result, an initial item pool of 50 statements was devised describing how an individual might deal with private internal events and the wider world in a psychologically inflexible way. In the first study, data from 274 participants were entered into an exploratory factor analysis (EFA). This resulted in a 10 item measure spread over two factors named: Avoidance and Behavioural Rigidity. One further item was added to bolster the Behavioural Rigidity component. In a second study, a small number of items underwent slight word changes. Checks were made comparing old and new versions in a sample of 523 participants using correlation and EFA. Finally, in a third study, confirmatory factor analysis (CFA) was carried out using a sample of 396 participants. Following modifications, a relatively good set of fit indices was produced, and this was backed up by a further independent CFA involving 267 participants. The final EPIC contains eight items across two factor scale measuring Avoidance and Behavioural Rigidity. The brief discussion explores a number of issues pertinent to the development of this measure.

Measure scope

Being able to measure psychological flexibility, is key to this thesis being able to answer its research questions. Only then can an assessment be made about psychological flexibility's relationships with and potential impacts on the measures already developed in this thesis. The behaviour known as psychological flexibility was introduced in section 1.6.1. To paraphrase that section, psychological flexibility refers to an ability to sustainably move towards that which matters, whilst being in full contact with private internal events occurring in the present moment (Thompson & McCracken, 2011).

Literature review

The most common measure of psychological flexibility is the Acceptance and Action Questionnaire (AAQ). The first version of this measure was published in 2004 (Hayes et al., 2004). In the literature it ranged in length from 9 to 16 items. However, as stated by Bond et al. (2011), the measure had issues with comprehension and reliability (p. 677). Specifically, the alpha reliability of the AAQ was relatively low. According to Bond et al. (2011), this low reliability may have been a result of item complexity. For example, the original version of the AAQ included some items with close to double negative wording (p. 678) which may have made them hard to understand. As a result of these possible shortcomings, the AAQ-II was designed and validated before being published in 2011. The revised measure is uni-dimensional, 7 items in length and demonstrates much better reliability.

A number of condition-specific psychological flexibility measures also exist. Some of these measures, for example, the 20 item Chronic Pain Acceptance Questionnaire (CPAQ; McCracken, Vowles, & Eccleston, 2004), have been widely used in the field for so long, that shorter versions of the measures have been published and validated (CPAQ-8; Fish, McGuire, Hogan, Morrison, & Stewart, 2010; Rovner, Årestedt, Gerdle, Børsbo, & McCracken, 2014). Other measures are more recently developed, for example the Body Image-Acceptance and Action Questionnaire (BI-AAQ; Sandoz, Wilson, Merwin, & Kellum (2013) and the Acceptance and Action Questionnaire – Stigma (AAQ-S; Levin, Luoma, Lillis, Hayes, & Vilardaga, 2014). The Work related Acceptance and Action Questionnaire has also been developed to be used in occupational contexts (Bond et al., 2013).

Other related psychometric measures capture aspects of behaviour similar to psychological flexibility. For example the White Bear Suppression Inventory (WBSI;

Wegner & Zanakos, 1994) measures thought suppression. Also the 62 item Multidimensional Experiential Avoidance Questionnaire (MEAQ; Gámez, Chmielewski, Kotov, Ruggero, & Watson, 2011) and the more recently developed 15 item Brief Experiential Avoidance Questionnaire (BEAQ; Gámez et al., 2014) both examine aspects of experiential avoidance. However it is important to note that neither the MEAQ nor the BEAQ devote much if any item content towards success in pursuing values. This is one way to differentiate psychological flexibility, and the AAQ that measures it, from experiential avoidance (see below for other distinctions). So as this thesis is specifically trying to capture: 1. psychological flexibility in 2. the context of global freedoms, it is possible that none of the above measures are totally satisfactory for this purpose.

To expand on the above point about the differences between psychological flexibility and experiential avoidance: it is also important to note that a complete measure of psychological inflexibility would need to include behaviour that is being dominated by and led by thoughts. Not just behaviour that is trying to suppress or avoid the occurrence of private internal events. For example, while experiential avoidance tends to focus on negative private internal events, psychological inflexibility could also be occasioned by neutral or even positive private internal events. In this way, the behaviour of an individual may detrimentally be influenced by thoughts of “knowing better than everyone else”, “being right”, or by feelings of “confidence” or “superiority”.

Returning to the AAQ-II, because of its widespread use and proliferation in the ACT literature, it seems sensible to use this measure as part of the current research. However, a closer examination of the item content of the measure (below) reveals a potential problem.

1. My painful experiences and memories make it difficult for me to live a life that I would value
 2. I'm afraid of my feelings
 3. I worry about not being able to control my worries and feelings
 4. My painful memories prevent me from having a fulfilling life
 5. Emotions cause problems in my life
 6. It seems like most people are handling their lives better than I am
 7. Worries get in the way of my success
- (from Bond et al., 2011)

Notice how items 1 and 4 contains the word painful, how item 2 uses the word afraid, and how items 3 and 7 contain the word: worry or worries. Worry, pain and being afraid suggest a related cluster of private internal events. It seems possible to argue that many of the items of the AAQ-II relate most closely to anxiety and pain. However it is not clear that anxiety and pain are going to be key in relation to global freedoms. If this is the case, then it seems possible that the AAQ-II will be less than ideal in measuring psychological inflexibility in this particular research context. As a result, it seems potentially useful to construct a more general and generic measure of psychological inflexibility. Not one which focuses on anxiety and pain per se, but one which attempts to capture aspects of psychological inflexibility as it may occur in aspects of everyday life, within the general population. In this way, if the AAQ-II is a measure that is well suited to populations where the above item content is relevant, it may also be useful to try and design a new measure to capture other aspects of psychological inflexibility distinct from worry, pain and being afraid.

Please note, while it is tempting to describe the AAQ-II as being well suited to “clinical populations” and this new measure as being potentially more suited to “non-clinical populations”: this might be a mistake. It must be noted that the AAQ-II performs well in other non-clinical contexts, for example workplace settings (Bond et al., 2015), so a neat clinical / non-clinical division does not seem appropriate.

Item pool

While the above literature review indicates that there are measures related to psychological inflexibility in general and specific groups, it seems likely that a more everyday measure of psychological inflexibility might be needed for the specific context of this thesis. With this in mind, an initial long list of possible items was drawn up. Like the AAQ-II, items were drawn up as statements describing how an individual might deal with private internal events and the wider world. Some item statements described being avoidant of private internal events (e.g. “If my mind starts thinking about something difficult I try to distract myself”), other items described being generally fused with or pushed around by private internal events (e.g. “My emotions guide my actions”). In terms of private internal events, some items focused on thoughts, others feelings and emotions, and some others memories. Some items also focused on things in the real world (e.g. “if things are tricky”, or “facing issues”, or “topics that might be awkward”). Through the item list, statements referred to thoughts, feeling and memories generally

rather than specific emotions like anxiety or a type of memories such as painful ones.

Through separate consultations with my first and second supervisor, this initial list was checked and items were added and revised as deemed appropriate. A final list of 50 items were produced. The final list was sent out for pilot. No items were changed during the piloting process.

Echoing the instructions for the AAQ-II, the final instructions for the Everyday Psychological Inflexibility Checklist, here after known as the EPIC were: “Please rate how true each statement is for you in your everyday life by clicking on a number next to it”. Participants answered items on a 7 point Likert ranging from (1) never true to (7) always true. All 50 items in the measure are visible in the appendices.

7.1. Everyday Psychological Inflexibility Checklist (EPIC) – study 1: exploratory factor analysis

In order to determine possible factor structures within the initial Everyday Psychological Inflexibility Checklist (EPIC), principal axis factor analyses were carried out in SPSS on the 50 items of the EPIC measure using oblique (direct oblimin) rotation.

Method

Participants

In sample A, 274 participants had complete data for the EPIC. Of these 67% were female, with an average age of 30 years (SD 11.9). In terms of geographical location: UK (75%), Europe (11%), North America (10%). Regarding ethnicity: White (82%), Mixed (7%), Asian (6%). In terms of highest level of education: GCSE's or A' levels (39%), postgraduate degree (29%), undergraduate degree (28%).

Material and procedure

See section 2.8.

Results

The initial Kaiser–Meyer–Olkin (KMO) index of sampling adequacy was .972, indicating that the correlation matrix was suitable for factor analysis. The number of eigenvalues above 1 was 10, the scree plot was hard to interpret but suggested extracting between 4 and 12 factors. Parallel analysis, using PAF, suggested extracting 10 factors, while parallel analysis using PCA suggested extracting 7. Although no clear pattern emerges, 10 factors were initially extracted. Following this, in order to produce a brief measure, items were removed through several rounds of EFA following the guidelines described in chapter 2.

The final measure derived from EFA consisted of 10 items across 2 factors. In total the 2 factors accounted for 59.18% of the variance. The full scale had an overall Cronbach α coefficient of .82. The rotated factor solution of the pattern matrix can be seen in Table 17, along with further information about the percentage of variance explained, reliabilities and both mean and standard deviation scores of the full scale measure and factors.

In terms of the make up of the 2 factors themselves, the first factor, labelled Avoidance, included 7 items describing the avoidance of private internal events or difficult situations that might occasion them. The second, labelled Behavioural Rigidity, included 3 items, describing doing tasks in a particular order or set pattern.

Table 17. Factor loadings for exploratory factor analysis with oblique rotation of the original Everyday Psychological Inflexibility Checklist (EPIC), also including information on variance explained, reliability, means and standard deviations.

	F1	F2
I try to avoid thinking about difficult topics	.87	-.02
When awkward thoughts occur I try and block them out	.82	.05
If difficult situations come to mind I think about something else	.78	.01
If my mind starts thinking about something difficult I try to distract myself	.76	-.02
In my personal life I steer clear of conversations that I find difficult	.68	.05
I try and avoid having to make difficult decisions	.67	-.09
I try not to bring up topics that might be awkward	.66	.05
Although I have never been told to I find I perform certain tasks in a set order	-.05	.93
I notice I do certain everyday tasks in a particular order	-.07	.87
I find I follow rigid patterns when doing some tasks	.13	.54
% explained variance	42.12	17.06
Coefficient alpha for factors	.89	.82
Coefficient alpha for scale	.82	
Sub scale mean	22.45	13.00
Sub scale SD	8.15	4.04
Full scale mean	35.45	
Full scale SD	10.14	

Note. Factor loadings >.40 are in boldface. Factor labels: F1 Avoidance, F2 Behavioural Rigidity (n = 308).

The measure of psychological flexibility is integral to the research questions in this thesis. With this in mind, it seems important to ensure both factors are as strong as possible. Accordingly investigations took place to see whether it was possible to strengthen the second factor: behavioural rigidity. The original 50 item list was examined to see if there was any other item(s) that might potentially strengthen this factor. One item: “I am aware I have certain ways of doing things” seemed to be a possibility. The final factor analysis was run again with this item included to see how it performed. Of course, it was possible that the item might not load on either factor. The results of this second factor analysis are presented in Table 18 alongside the results of the original factor analysis. The percentage of explained variance increased in the new solution from 59.18% to 63.38%. The overall alpha reliability of the scale also increased

from .82 to .86. Although it must be remembered that alpha tends to increase when new items are added. Safe in the knowledge that the structure of this measures could be revised during the confirmatory factor analysis stage, it was decided to adopt the 11 item version of the EPIC for the time being.

Table 18. Factor loadings for exploratory factor analysis with oblique rotation of two variations of the Everyday Psychological Inflexibility Checklist (EPIC), also including information on variance explained, reliability, means and standard deviations.

	10 item		11 item	
	F1	F2	F1	F2
I try to avoid thinking about difficult topics	.87	-.02	.88	-.04
When awkward thoughts occur I try and block them out	.82	.05	.82	.06
If difficult situations come to mind I think about something else	.78	.01	.78	.01
If my mind starts thinking about something difficult I try to distract myself	.76	-.02	.76	-.04
In my personal life I steer clear of conversations that I find difficult	.68	.05	.68	.07
I try and avoid having to make difficult decisions	.67	-.09	.66	.06
I try not to bring up topics that might be awkward	.66	.05	.66	-.08
Although I have never been told to I find I perform certain tasks in a set order	-.05	.93	.01	.86
I notice I do certain everyday tasks in a particular order	-.07	.87	-.03	.86
I find I follow rigid patterns when doing some tasks	.13	.54	.15	.59
I am aware I have certain ways of doing things	-	-	-.07	.54
% explained variance	42.12	17.06	42.22	21.16
Coefficient alpha for factors	.90	.82	.90	.81
Coefficient alpha for scale	.82		.85	
Sub scale mean	22.45	13.00	22.43	18.27
Sub scale SD	8.15	4.04	8.01	4.73
Full scale mean	35.45		39.56	
Full scale SD	10.14		10.69	

7.2. Everyday Psychological Inflexibility Checklist (EPIC) – study 2: examining the influence of item word changes

During the process of measure development, it is expected that a scale will move from an initial item pool with a relatively large number of items to a final item pool which a much smaller number of items. Naturally, due to factor analysis, the researcher is not in total control of which items form that final item pool. It may, in some instances, be the case that the researcher would like to make small changes to the wording of items that appear in the final item pool. However, doing so may have an influence on the measure itself: its relationships with underlying factors and its wider performance. As a result, making any changes to the content of items should not be done without adequate data driven checks.

The wording of the items from the EPIC measure that resulted from the EFA gave some cause for concern (see Table 19 below).

Table 19. Original EPIC item wording

	Factor A / B
I try and avoid having to make difficult decisions	A
I find I follow rigid patterns when doing some tasks	B
When awkward thoughts occur I try and block them out	A
In my personal life I steer clear of conversations that I find difficult	A
I am aware I have certain ways of doing things	B
If difficult situations come to mind I think about something else	A
I try to avoid thinking about difficult topics	A
Although I have never been told to I find I perform certain tasks in a set order	B
I try not to bring up topics that might be awkward	A
If my mind starts thinking about something difficult I try to distract myself	A
I notice I do certain everyday tasks in a particular order	B

Note. A = avoidance factor, B = behavioural rigidity factor

Specifically, examination of the items reveals that of the 7 items in the avoidance factor, 5 use the word “difficult” and the other two use the word “awkward”. Similarly, in terms of the wording of the behavioural rigidity factor, of the 4 items, 3 used the word “tasks”. There was a worry that repetition of these words could lead to a

“method effect” (Brown, 2006, p. 3) and additionally could be both noticeable and / or distracting to people completing the questionnaire. Either may result in participants responding differently to how they might otherwise complete the EPIC. With that in mind, the decision was taken to try and dilute the potential influence of these terms.

Table 20. Revised EPIC item wording

Revised EPIC item wording	Factor A / B
I try and avoid having to make difficult decisions	A
I find I follow rigid patterns when doing some tasks	B
When awkward thoughts occur I try and block them out	A
In my personal life I steer clear of conversations that I find uncomfortable	A
I am aware I have certain ways of doing things	B
If unpleasant situations come to mind I think about something else	A
I try to avoid thinking about difficult topics	A
Although I have never been told to I find I perform certain activities in a set order	B
I try not to bring up topics that might be awkward	A
If my mind starts thinking about something disagreeable I try to distract myself	A
I notice I do certain everyday tasks in a particular order	B

Note. A = avoidance factor, B = behavioural rigidity factor

Specifically, as show in Table 20, three of the instances of difficult were changed, to uncomfortable, unpleasant and disagreeable. This still leaves two instances of the word difficult and two of the word awkward, but hopefully overall the focus on the word difficult is lessened. Similarly, one of the three instances of the word tasks was changed to activities. Again, this was done to lessen the potential influence and / or distraction of an identical term.

However, easy as it is to make these changes, it is also important to examine the results of these changes. It was decided to present both old and new versions of the EPIC questionnaire, in different orders, to participants, and to examine the results. As yet, the EPIC is yet to undergo confirmatory factor analysis or to be examined against other self-report measures. As a result, it was decided to focus on the correlations between the two different versions of the EPIC as well as examining the exploratory factor analysis results of both sets of items combined. It is hoped that the correlations of

the original and revised items within subjects will be similar to the correlations of items which were not changed and that the total scale correlation between the two versions will be within acceptable test-re-test limits. It is also hoped that the exploratory factor analyses will produce similar results for the original and revised items and that when the items are combined the same factor structure will be preserved.

Method

Participants

Participants for this study included 523 participants, who had complete data for both versions of the EPIC. Of these: 66% were female, with an average age of: 27 years (SD 10.64). In terms of geographical location: UK (76%), Europe (19%). Regarding ethnicity: White (92%). In terms of highest level of education: GCSE's or A' levels (64%), undergraduate degree (24%), postgraduate degree (10%).

It should be noted, that the data in this study does not include any from samples A, B or C. No data that is used in this study have been previously analysed or is used again in the rest of this thesis. This dataset constitutes an independent sample: sample D.

Measures

This study concerns two different versions of the Everyday Psychological Inflexibility Checklist (EPIC). The EPIC is an 11 item, two factor measure that assesses aspects of psychological inflexibility in an every day context. The two factors (A & B), measure Avoidance and Behavioural Rigidity. Higher scores indicate higher levels of psychological inflexibility. The two different versions of the EPIC differ only in term of the wording of specific items. Details of these wording differences are presented in the introduction (Tables 19 & 20).

Procedure

Data was collected as part of the research projects of final year undergraduate psychology students supervised by the author during the 2012-2013 academic year. The questionnaires, designed by the author, collected data from participants using the online survey platform Limesurvey (<http://www.limesurvey.org/en/>). The different undergraduate research projects also involved other questionnaires, but all began and ended with a different version of the EPIC (see appendices for an illustration of how this might look). Whether the original or revised version of the EPIC was at the beginning of the package of questionnaires varied from student project to student project in order to counter balance potential order effects across the entire data set. Ethical permission was sought and received for each of the student projects from the

psychology department at Canterbury Christ Church University. Data was screened to remove any participants who may have contributed data to more than one student research project.

Results

In order to determine the potential influence of the word changes within the EPIC questionnaires, checks based on correlation and on exploratory factor analysis were performed.

Correlation analyses

Table 21. Test re-test correlations results for the two differently worded versions of the items of the Everyday Psychological Inflexibility Checklist (EPIC). Items in order of decreasing strength of correlations,

Item content	A/		
	B	<i>r</i>	*
I try not to bring up topics that might be awkward	A	.74	
I notice I do certain everyday tasks in a particular order	B	.73	
I try and avoid having to make difficult decisions	A	.71	
In my personal life I steer clear of conversations that I find difficult/uncomfortable	A	.69	*
I try to avoid thinking about difficult topics	A	.69	
If my mind starts thinking about something difficult/disagreeable I try to distract myself	A	.67	*
I find I follow rigid patterns when doing some tasks	B	.64	
When awkward thoughts occur I try and block them out	A	.64	
If difficult/unpleasant situations come to mind I think about something else	A	.63	*
Although I have never been told to I find I perform certain tasks/activities in a set order	B	.61	*
I am aware I have certain ways of doing things	B	.52	

Note. A/B = item from factor A or B. *r* = Pearson correlation. * = an item with modified wording

The above table indicates that the instant test re-test correlations for all items of the EPIC ranged from .52 to .74. The correlations for the modified items ranged from .61 to .69. In this way, the modified items seem to produce correlations of equivalent size to the items which stayed consistent across versions. The correlation between the total scores from original and revised questionnaire was $r=.84$, $p<.001$. The correlations between the original and revised Avoidance sub-scale was $r=.86$, $p<.001$ and between the Behavioural Rigidity sub-scale $r=.79$, $p<.001$.

Exploratory factor analysis

Three separate exploratory principal axis factor analyses were carried out in SPSS on the 11 items of the EPIC reported earlier using oblique (direct oblimin)

rotation. They examined:

1. The original items
2. The revised items
3. The original and revised items combined.

The original items

In short this solution, using sample D, replicates the solution reported earlier using sample A (see also Table 22). In more detail: the initial Kaiser–Meyer–Olkin (KMO) index of sampling adequacy was .876, indicating that the correlation matrix was suitable for factor analysis. The number of eigenvalues above 1 was 2, the scree plot also suggested extracting 2 factors. The final measure derived from EFA consisted of 11 items across 2 factors. In total the 2 factors accounted for 62.54% of the variance. The full scale measure had an overall Cronbach α coefficient of .88. The rotated factor solution of the pattern matrix can be seen in Table 22, along with further information about the percentage of variance explained, reliabilities and both mean and standard deviation scores of the full scale measure and factors.

The revised items

In short, like above, this solution using the revised items and sample D replicates the solution reported earlier using sample A (see also Table 22). In more detail: the initial Kaiser–Meyer–Olkin (KMO) index of sampling adequacy was .889, indicating that the correlation matrix was suitable for factor analysis. The number of eigenvalues above 1 was 2, the scree plot suggested extracting 2 factors. Again, the final measure derived from EFA consisted of 11 items across 2 factors. In total the 2 factors accounted for 65.82% of the variance. The full scale also had an overall Cronbach α coefficient of .86. The rotated factor solution of the pattern matrix can be seen in Table 22, along with further information about the percentage of variance explained, reliabilities and both mean and standard deviation scores of the full scale measure and factors. As stated above, the solution was remarkably similar to the one found above. Very few items even change order (although items which do are indicated in italics in Table 22).

The original and revised items combined

In short, when original and revised items are combined and submitted to an EFA, the revised items are always found in the same factors as their original paired items. (see also Table 23). In more detail: the initial Kaiser–Meyer–Olkin (KMO) index of sampling adequacy was .928, indicating that the correlation matrix was suitable for

factor analysis. The number of eigenvalues above 1 was 3 as one eigenvalue was 1.208, although the scree plot suggested only extracting 2 factors.

When three factors were extracted, both items related to item one formed a third factor by themselves. It is worth noting that item one was not modified as part of this process. However, when the factor solution was constrained to only extracting two factors these two factors joined the bottom of the first factor representing Avoidance. It was decided to limit the number of factors to be extracted to two.

The final measure derived from EFA consisted of 22 items across two factors. In total the two factors accounted for 58.52% of the variance. The full scale had an overall Cronbach α coefficient of .93. The rotated factor solution of the pattern matrix can be seen in Table 23, along with further information about the percentage of variance explained, reliabilities and both mean and standard deviation scores of the full scale measure and factors.

In terms of the make up of the two factors themselves, it is noteworthy that the revised items contribute to the same factors as the original items. They replicate the solution found in sample A (shown in Tables 17 & 18).

Table 22. Factor loadings for exploratory factor analysis with oblique rotation of the original and revised versions of the Everyday Psychological Inflexibility Checklist (EPIC), also including information on variance explained, reliability, means and standard deviations.

	F1 (Orig)	F2 (Orig)	F1 (Rev)	F2 (Rev)
I try to avoid thinking about difficult topics	.835	-.013	.796	.037
If my mind starts thinking about something <i>difficult / disagreeable</i> I try to distract myself	.817	-.012	.766	-.044
If <i>difficult / unpleasant</i> situations come to mind I think about something else	.816	-.043	.741	.013
When awkward thoughts occur I try and block them out	.749	.022	.771	-.043
In my personal life I steer clear of conversations that I find <i>difficult / uncomfortable</i>	.693	.036	.721	.015
I try not to bring up topics that might be awkward	.682	.003	.723	-.016
I try and avoid having to make difficult decisions	.658	.012	.570	.047
I notice I do certain everyday tasks in a particular order	.000	.839	-.063	.845
Although I have never been told to I find I perform certain <i>tasks / activities</i> in a set order	.040	.786	.028	.802
I find I follow rigid patterns when doing some tasks	.058	.730	.023	.660
I am aware I have certain ways of doing things	-.068	.712	.017	.688
% explained variance	45.316	19.915	42.93	19.61
Coefficient alpha for factors	.90	.85	.89	.84
Coefficient alpha for scale	.88		.86	
Sub scale mean	26.99	17.86	27.44	18.38
Sub scale SD	8.87	5.11	8.50	4.90
Full scale mean	44.851		45.82	
Full scale SD	11.60		11.05	

Note. Factor loadings >.40 are in boldface. Factor labels: F1 Avoidance, F2 Behavioural Rigidity (n = 629).

Table 23. Factor loadings for exploratory factor analysis with oblique rotation of the original and revised versions of the Everyday Psychological Inflexibility Checklist (EPIC), also including information on variance explained, reliability, means and standard deviations.

		F1	F2
If my mind starts thinking about something difficult I try to distract myself	1	.804	-.011
I try to avoid thinking about difficult topics		.800	-.026
If difficult situations come to mind I think about something else	2	.785	-.053
I try to avoid thinking about difficult topics		.779	.066
When awkward thoughts occur I try and block them out		.754	.007
When awkward thoughts occur I try and block them out		.737	-.012
If my mind starts thinking about something disagreeable I try to distract myself	1	.732	-.021
I try not to bring up topics that might be awkward		.723	-.026
In my personal life I steer clear of conversations that I find difficult	3	.707	.027
In my personal life I steer clear of conversations that I find uncomfortable	3	.704	.034
If unpleasant situations come to mind I think about something else	2	.704	.023
I try not to bring up topics that might be awkward		.699	-.020
I try and avoid having to make difficult decisions		.678	-.008
I try and avoid having to make difficult decisions		.611	.049
I notice I do certain everyday tasks in a particular order		-.073	.828
I notice I do certain everyday tasks in a particular order		.025	.822
Although I have never been told to I find I perform certain activities in a set order	4	.028	.771
Although I have never been told to I find I perform certain tasks in a set order	4	.058	.742
I find I follow rigid patterns when doing some tasks		.077	.722
I find I follow rigid patterns when doing some tasks		-.007	.704
I am aware I have certain ways of doing things		-.055	.693
I am aware I have certain ways of doing things		-.006	.655
	% explained variance	40.76	17.76
	Coefficient alpha for factors	.94	.91
	Coefficient alpha for scale	.93	

Note. Factor loadings >.40 are in boldface. Factor labels: F1 Avoidance, F2 Behavioural Rigidity (n = 629).

Discussion

All of the above results suggest that the small number of changes to the wording of items on the EPIC does not have a substantial change to its performance in so far as it has currently been examined. As such the revised items were used in future research studies.

7.3. Everyday Psychological Inflexibility Checklist (EPIC) – study 3: confirmatory factor analysis

Confirmatory factor analysis was performed on two separate and independent samples: sample C and B (in that order). In the case of sample C, CFA was performed in order to test the fit of the data to the EFA model that used sample D (Table 22). In the case of sample B, a second CFA was performed in order to test the fit of the data to the revised CFA model from sample C.

Method

Participants

The initial CFA was carried out on a subset of sample C using those participants who had complete data for the EPIC measure. These were 396 participants, 56% of whom were female, with an average age of 26 years (SD 11.3). In terms of geographical location: UK (94%), Europe (5%). Regarding ethnicity: White (88%), Mixed (5%). In terms of highest level of education: GCSE's or A' levels (76%), undergraduate degree (11%), postgraduate degree (7%).

Before conducting the CFA on the data from sample C, the data was tested for multivariate normality. As a result of this process, data from 17 participant was removed due to participants having high Mahalanobis distance scores. This left $n=379$ participants remaining.

The follow up CFA was carried out on a subset of sample B, again using those participants who had complete data for the EPIC measure. These were 267 participants, 72% of whom were female, with an average age of 30 years (SD 12.4). In terms of geographical location: UK (75%), North America (13%), Europe (9%). Regarding ethnicity: White (81%), Asian (9%). In terms of highest level of education: GCSE's or A' levels (44%), undergraduate degree (25%), postgraduate degree (27%).

Again, before conducting the CFA on the data from sample B, the data was tested for multivariate normality. As a result of this process, data from 7 participants was removed due to participants having high Mahalanobis distance scores. This left $n=262$ participants remaining.

Material and procedure

See section 2.8.

Results

The initial fit of the data from sample C to the model from the EFA was unsatisfactory. Examining the results of the CFA, it was noted that some of the items

had problems with standardised residual covariances, skew and kurtosis and relatively poor loadings on the factor. As a result of this, three items were removed. Two on the avoidance sub-scale “I try not to bring up topics that might be awkward” and “I try and avoid having to make difficult decisions”, and one on the rigidity sub-scale: “I am aware I have certain ways of doing things”. I should be noted that the item on the behavioural rigidity sub-scale was added after the results of the original EFA in an effort to strengthen the original behavioural rigidity sub-scale. A single error covariance was also added between two items. No further modifications were made. CFA results from sample C and sample B are presented in Table 24 below. The CFA path diagrams from both models are also presented on the following pages.

Table 24. Confirmatory factor analyses results for EPIC across two samples

Model	X ²	X ² ratio	CFI	RMSEA	RMSEA – CI	SMSR
Sample C (n = 450)	25.45 (ns)	1.414	.994	.033	.000 / .061	.0236
Sample B (n = 254)	34.46 (*)	1.914	.987	.060	.028 / .090	.0499

Note. X² ratio, X² / df (2); CFI, comparative fit index; RMSEA, root-mean-square error of approximation; SRMR, standardised root-mean-square residual; ns, not significant; *p < .05, **p < .01.

The results shown in Table 24 indicate that the two factor model for the EPIC measure fits the data relatively well. The X² ratio is below 2 in both, the CFI is greater than .95 in both and the SMSR is less than .08 in both. However, the X² score is significant in sample B, although not sample C, and the RMSEA exceeds .05 in sample B, although again not sample C.

As a result of the change to the original one factor EPIC measure from sample A, a further EFA on the EPIC measure was performed again on sample A for comparison purposes. This is shown in Table 25, following the path diagrams (Figures 11 and 12).

Figure 11. Confirmatory factor analysis of the Everyday Psychological Checklist (EPIC) using sample C

EPIC - CFA (Sample C)

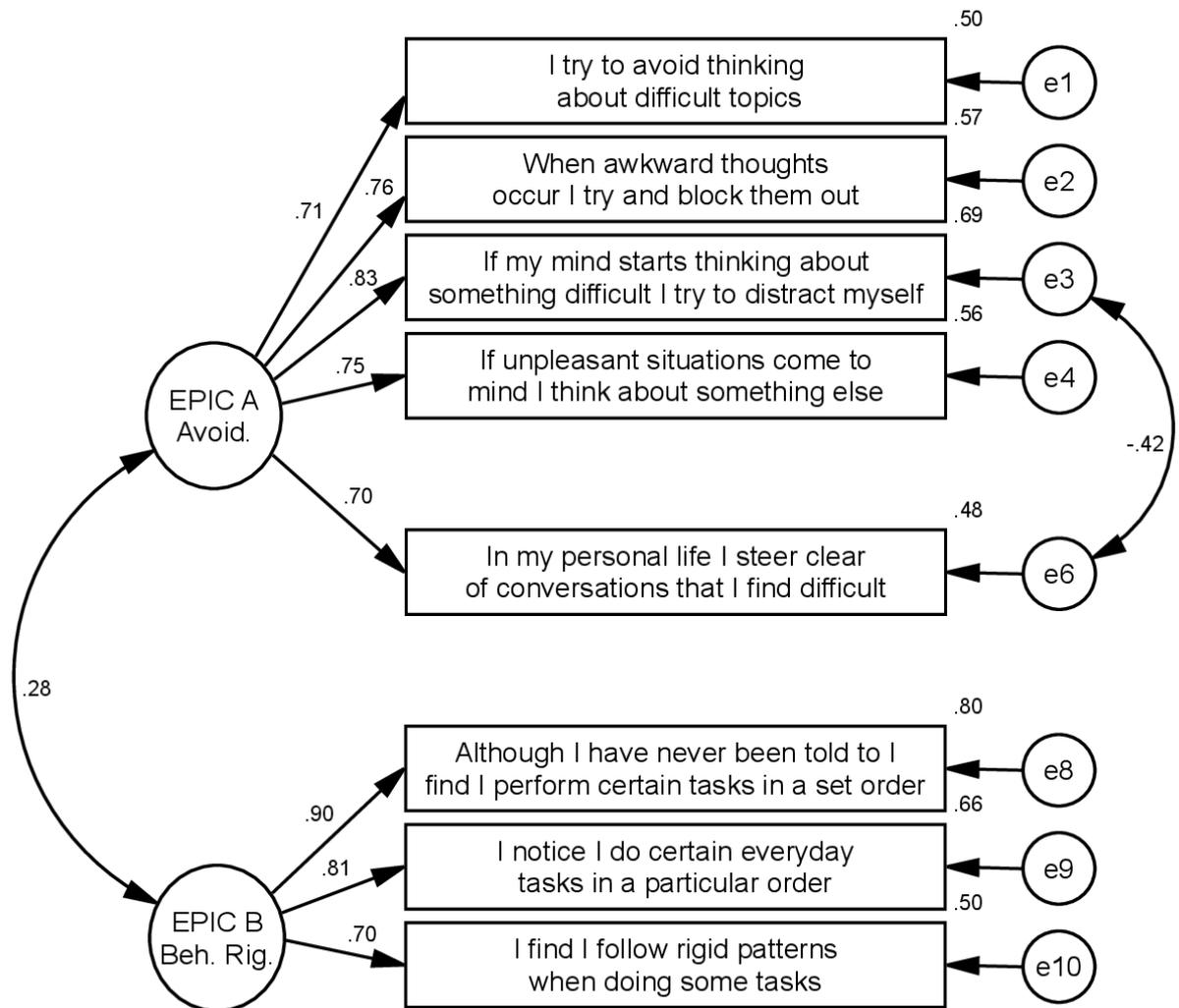


Figure 12. Confirmatory factor analysis of the Everyday Psychological Checklist (EPIC) using sample B

EPIC - CFA (Sample B)

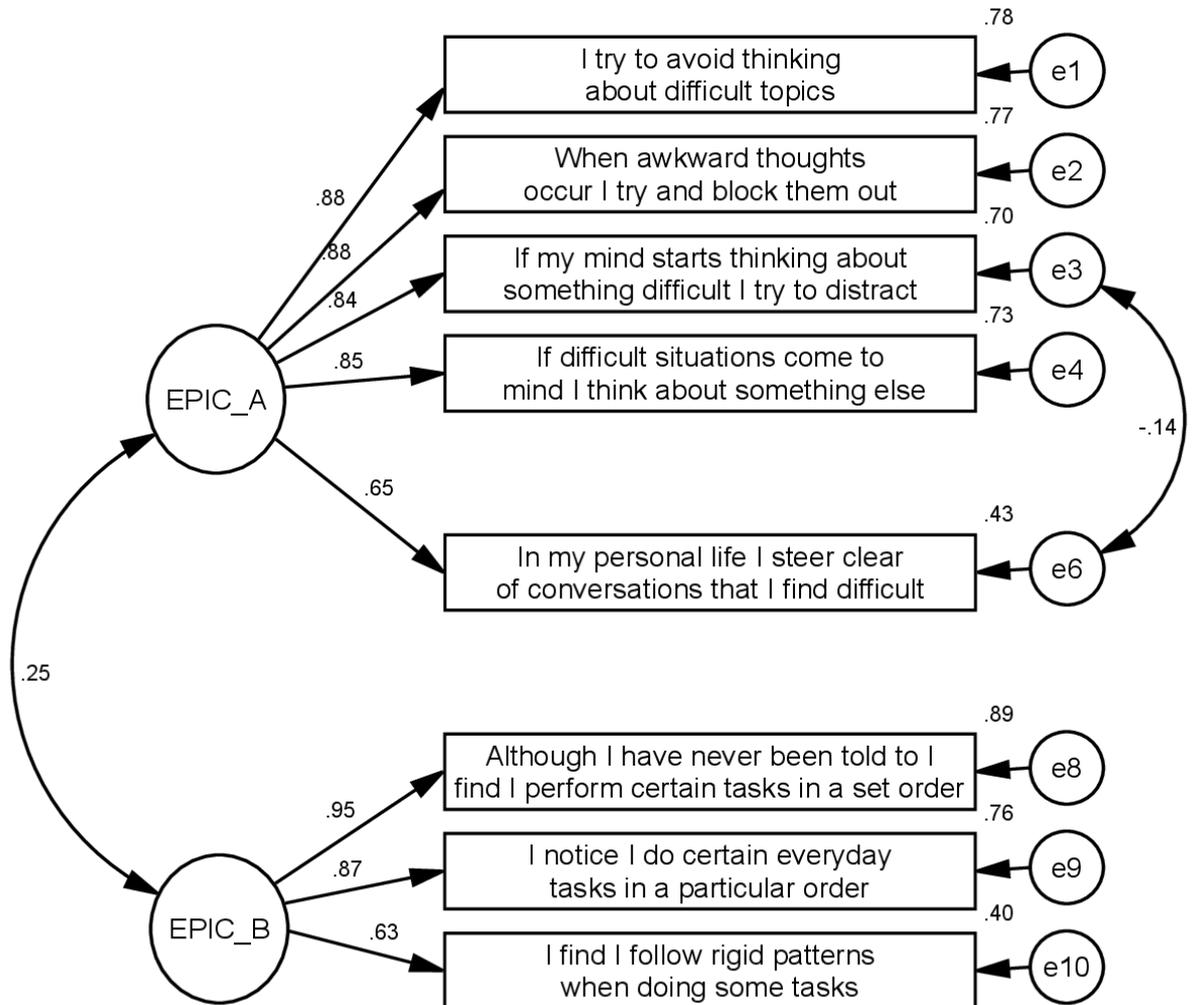


Table 25. Factor loadings for exploratory factor analysis with oblique rotation of the revised Everyday Psychological Inflexibility Checklist (EPIC), also including information on variance explained, reliability, means and standard deviations.

	F1	F2
I try to avoid thinking about difficult topics	.913	-.045
When awkward thoughts occur I try and block them out	.840	.027
If unpleasant situations come to mind I think about something else	.801	-.005
If my mind starts thinking about something difficult I try to distract myself	.773	-.032
In my personal life I steer clear of conversations that I find difficult	.603	.054
(I try and avoid having to make difficult decisions)	-	-
(I try not to bring up topics that might be awkward)	-	-
Although I have never been told to I find I perform certain tasks in a set order	-.037	.915
I notice I do certain everyday tasks in a particular order	-.075	.883
I find I follow rigid patterns when doing some tasks	.109	.550
(I am aware I have certain ways of doing things)	-	-
% explained variance	42.72	20.43
Coefficient alpha for factors	.89	.82
Coefficient alpha for scale	.83	
Sub scale mean	15.51	13.06
Sub scale SD	5.95	3.92
Full scale mean	28.57	
Full scale SD	7.89	

Note. Factor loadings >.40 are in boldface. Sample N=274. Factor labels: F1 Avoidance, F2 Behavioural Rigidity

Finally, Table 26 below shows the inter-correlations between the factors of the EPIC. These relationships will be highlighted in the discussion.

Table 26. Summary of the inter scale correlations of the Everyday Psychological Inflexibility Checklist (EPIC) using sample B.

Measure	EPIC Total	EPIC Avoidance	EPIC Behavioural rigidity
EPIC Avoidance B	.87*** [.84, .89]		
C	.87*** [.85, .90]	-	
EPIC Beh. rigidity B	.72*** [.65, .77.]	.28*** [.15, .38]	
C	.68*** [.61, .74.]	.23*** [.11, .34]	-

Note. ns= not significant ($p > .05$), * $p < .05$, ** $p < .01$, *** $p < .001$. BCa bootstrap 95%, 1000 samples, CIs reported in brackets. Sample B, $n = 254$, Sample C, $n = 379$.

Discussion

The studies reported above detail the preliminary construction and validation of a new measure of psychological inflexibility: the Everyday Psychological Inflexibility Checklist (EPIC). A 50 statement item pool was reduced to a final measure that consisted of 8 items across two factors. Those two factors were labelled: Avoidance (F1) and Behavioural Rigidity (F2). In total, in the final EFA, they together accounted for 63.15% of the variance (F1. 42.72%, F2. 20.43). Reliability, measured using alpha was good at .83 for the total measure, .89 for F1, .82 for F2. The fit indices across the different CFA samples also produced levels of satisfactory fit.

The inter-relationship between factors was relatively consistent across samples (see Table 26). It is worth noting that the relationship between the avoidance and behavioural rigidity factors is not large (.28 - .23). It will be interesting to monitor this relationship in periods of future data collection using the EPIC. Between the initial EFA and later CFAs, an extra study investigated the influence of making some small changes to the wording of a small number of items. Correlations and further exploratory analyses suggest that this is not problematic. For example, when all items (original and revised) were combined, and two factors are extracted from an EFA, the original and revised items all loaded on the same factors as each other.

It is worth spending a little time discussing the two factors and the potential relationship between them. The items related to the first factor: avoidance, describe occasions when thoughts, memories or conversations that may be difficult are avoided, blocked out or distracted from. As noted earlier, the wordings of these items deliberately avoid content related directly to fear, worry and anxiety. The second factor: behavioural rigidity, contains items related to performing tasks in a particular order or

rigid pattern. These items are attempting to measure a general rigidity in behaviour, in other words behaviour that might show “less response to changes in the environment” (Hayes & Gifford, 1997, p. 172). It has been shown experimentally that behaviour that is governed by rules is less sensitive to changes in the environment (e.g. Hayes, Brownstein, Zettle, Rosenfarb, & Korn, 1986). It is suggested by Hayes and Gifford (1997) that “overarching verbal rules”, might lead to a more general “insensitivity effect” in behaviour (Catania, Shimoff, & Matthews, 1989). Hayes and Gifford (1997) suggest that it is this effect, that may help explain why experiential avoidance is maintained despite it potentially causing problems in life (p. 172). While it would be very challenging to measure an individual's awareness of the presence of overarching verbal rules, there is more potential for them being more aware of their own behavioural rigidity. Further empirical work will need to assess the usefulness of this factor and its contribution to psychological inflexibility.

While psychological inflexibility is said to occur when we are pre-occupied with avoiding private internal events (avoidance) or our behaviour is being dictated by those same events (rigidity), there is no suggestion that the two factors of the EPIC, by themselves, measure psychological inflexibility in its entirety. For one, as noted in the introduction, the definition of psychological inflexibility tends to also include mention of our current behaviour being inconsistent with our values and goals. Such content is missing from the EPIC. It should also be noted that the introduction highlights how psychological inflexibility could also include behaviour being dominated or led by more neutral or positive private internal events. These items are also not included in the EPIC. As noted in the title of Factor A, the EPIC tends to measure avoidance alone. Rather than claiming to measure all aspects of psychological inflexibility, more modestly the two factors of the EPIC simply represent those items and factors which performed most strongly in the exploratory and confirmatory factor analyses.

The literature already contains a widely used general measure of psychological inflexibility (AAQ-II, Bond et al., 2011), along with other measures for more specific areas such as chronic pain (CPAQ; McCracken et al., 2004), body image (BI-AAQ; Sandoz et al., 2013) and stigma (AAQ-S; Levin et al., 2014). However, in contrast to the AAQ-II, the wording of the EPIC items makes no reference to anxiety or worry in its item content. Future research is necessary to help determine the usefulness of the EPIC in comparison to other measures like the AAQ-II and the extent to which AAQ-II / EPIC items measure psychological flexibility differently and perform differently

with other measures. Of course, it is not enough to say that the presence or absence of words in items relating to fear, worry or anxiety will make a measure more or less sensitive. This is an empirical question which needs to be investigated through the collection of data. As such the further usefulness of the EPIC measure, not just to the area of global poverty but also to other areas will need to be established through further data collection. A small part of this process will take place in the following chapters of this thesis where data will be collecting using both the AAQ-II and the EPIC in conjunction with the other measures developed as part of this thesis.

8. Relationships within and between the measures

Abstract

The following study examined three research questions central to this thesis: 1. Do private internal events, such as thoughts and feelings, have a relationship with helping behaviour connected to global freedoms? 2. Does psychological flexibility relate directly to helping behaviour connected to global freedoms? 3. Does psychological flexibility play any indirect role in the relationship with other variables and helping behaviour connected to global freedoms? To answer these questions this study examined the relationships between the measures developed up until this point as part of this thesis. More specifically it examined the inter-relationships between the self-report measures: Helping Behaviour (HB), Reasons For Not Helping (RFNH), Emotional Response Scale (ERS), Socio-Political Values (SPV), along with two measures of psychological inflexibility, the Acceptance and Action Questionnaire II (AAQ-II) and the Everyday Psychological Inflexibility Checklist (EPIC). In a sample of 309 participants, correlations and multiple regressions showed that emotional responses and reasons for not helping had the strongest and most significant relationships with helping behaviour. However, neither of the measures psychological inflexibility produced any significant direct relationships with self-reported helping behaviour. That said, in mediation analyses, psychological inflexibility as measured by the EPIC (X), did appear to transmit its influence on helping behaviour (Y) through reasons for not helping (M). Although neither psychological inflexibility measure was found to have any moderating role to play in the relationships between other self-report measures and helping behaviour. The limitations and implications of these preliminary results are discussed along with possibilities for future research.

The data driven chapters (3-7) so far in this thesis have been dedicated to multiple, parallel processes of preliminary scale development. The following chapter explores the inter relationships between these newly developed measures and, in doing so, begins to provide answers to some of the research questions central to this thesis.

To be more specific, the previous chapters involved the preliminary development of five new measures:

Helping Behaviour (HB)

Reasons For Not Helping (RFNH)

Emotional Responses Scale (ERS)

Socio-Political Values (SPV)

Everyday Psychological Inflexibility Checklist (EPIC)

As section 2.04 of this thesis discussed, there are typically thought to be four stages of scale development and related areas of validity. Namely:

A. Initial scale design (content validity)

i. scale conceptualisation

ii. item pool

iii. review and pilot

iv. data collection

B. Exploratory factor analysis and initial reliability checks

(factorial validity)

C. Confirmatory factor analysis and further reliability checks

(factorial validity)

D. Examining measure performance against other measures / behaviour

(convergent, discriminant and predictive validity)

While the previous chapters progressed through areas A-C above, area D remains as yet unexplored. Examining area D is one of the primary purposes of this chapter.

The existing literature shows a number of areas where experiential avoidance and psychological inflexibility appear to have a role in forms of human pathology. For example, in 1996, Hayes et al. explored the relationships between experiential avoidance and areas such as substance abuse and dependence, OCD, panic disorder with agoraphobia, borderline personality disorder, suicide and reactions to childhood sexual abuse. A decade later, Chawla and Ostafin (2007) updated the 1996 review, exploring relationships in areas including: substance abuse, trauma and post-traumatic stress

disorder, the sequelae of child sexual abuse, generalized anxiety disorder and anxiety related pathology, trichotillomania, and deliberate self-harm. Much less research has been conducted exploring the relationships between experiential avoidance and psychological inflexibility in non-clinical and non-health psychology related areas although the evidence in occupational psychology and work place well-being is noteworthy (Bond et al., 2015).

As explored in each of the introductions to chapters 3-7, the existing literature does not contain many adequately developed and valid self-report measures in the area of global freedoms. Hence the development of the above five measures. This chapter aims to use these new measures to explore the role of psychological inflexibility in the area of global freedoms. As such it hopes to move research interested in the variable of psychological inflexibility into a new domain. This chapter will be the first time that the inter-relationships of these new measures has been assessed, and thus the first time their concurrent / criterion-related validity is examined. It also provides the first opportunity to begin to explore the research questions posed at the start of this thesis. Namely:

1. Do private internal events, such as thoughts and feelings, have a relationship with helping behaviour connected to global freedoms?
2. Does psychological flexibility relate directly to helping behaviour connected to global freedoms?
3. Does psychological flexibility play any indirect role in the relationship with other variables and helping behaviour connected to global freedoms?
4. Can helping behaviour connected to global freedoms be increased through a brief ACT based intervention?
5. Does an increase in psychological flexibility mediate the benefits of the ACT intervention?

Preliminary explorations of the first three research questions (1-3) will be made as part of this chapter. This will be done using a combination of analyses based around correlation, multiple regression, mediation and moderation.

Method

Participants

Participants for this chapter, were drawn from a subset of sample C. The reasons samples A and B were not used, is twofold. Firstly, neither sample A or B used the AAQ-II. Instead they only measured psychological inflexibility using the EPIC. This somewhat limits the ability of these samples to answer research questions 2 and 3.

Secondly, samples A and B are considered to be development samples. As such they contain the full item pools of all preliminary measures. Accordingly, they include many more items than the final set of measures that emerged from the exploratory and confirmatory factor analyses of chapters 3-7. In order to avoid any possible contextual contamination effects of these items it was felt to be important to use a data set that more closely resembled the actual number of items in the final versions of the above measures. Finally, the reason a “subset” of sample C was used rather than the entire sample, is because data from 83 of the participants from sample C is examined in chapter 9 in order to answer research questions 4 and 5. For this reason, these participants are not included in this chapter.

As in other chapters, the following analysis were carried out on those participants who had complete data for all relevant measures: (HB, ERS, RFNH, SPV, IND [the indifference subscale of the ERS], EPIC and AAQ-II. In total there were 309 participants, 60.2% of whom were female, with an average age of 23 years (SD 8.9). In terms of geographical location: UK (96%), Europe (4%). Regarding ethnicity: White (83%), Mixed (8%), Black (5%). In terms of highest level of education: GCSE's or A' levels (85%), undergraduate degree (9%), postgraduate degree (5%).

Measures

This chapter utilises six self-report measures. Specifically, they are: the Helping Behaviour (HB) measure, the Reasons For Not Helping (RFNH) scale, the Emotional Responses Scale (ERS), the Socio-Political Values (SPV) measure and two measures of psychological inflexibility, the Everyday Psychological Inflexibility Checklist (EPIC) and the second version of the Acceptance and Action Questionnaire (AAQ-II).

The Helping Behaviour (HB) measure contains 10 items over three factors. The three factors, in increasing order of commitment relate to: Learning More, Donating and Protesting. Participants are presented with the following instructions: “How likely are you to take the following action in the next three months to help those around the world who lack basic resources, opportunities and rights?”. Participants answer items on a 7 point Likert ranging from (1) very unlikely to (7) very likely. Higher scores indicate higher levels of helping behaviour. Within the present sample, the HB ($M = 38.25$, $SD = 12.42$) had very good internal consistency ($\alpha = .90$; DeVellis, 2012, p. 109).

The Reasons For Not Helping (RFNH) measure is a nine item, three factor scale that assesses participant agreement with possible reasons for not helping. The three factors, each representing a cluster of reasons, are: Not Caring, Leaders Responsibility

and Personal Priorities. Participants are presented with the following instructions: “The statements below are possible reasons why other people do not help those around the world who lack basic resources, opportunities and rights. Use the scale above to rate how much you personally disagree or agree with each reason”. Participants answer items on a 7 point Likert ranging from (1) strongly disagree to (7) strongly agree. Higher scores indicate higher levels of agreement with the statements and so higher reasons for not helping. Within the present sample, the RFNH ($M = 32.09$, $SD = 10.00$) had very good internal consistency ($\alpha = .85$).

The Emotional Responses Scale (ERS) is a 15 item, five factor measure that assesses various emotional responses. The five factors are: Annoyed, Indifferent, Ashamed, Sympathy and Depressed. Participants are presented with the following instructions: “Using the scale above, rate how likely you are to feel these emotions if you read, see or hear about people around the world who lack basic resources, opportunities and rights”. Participants answer items on a 7 point Likert ranging from (1) very unlikely to (7) very likely. Higher scores indicate higher levels of emotion. Previous research has indicated that the indifference factor does not correlate with the other four factors (see chapter 5). As such it is not included in the ERS overall total score. Within the present sample, the four factors of the ERS ($M = 50.92$, $SD = 11.61$) had very good internal consistency ($\alpha = .86$), while the indifference scale (IND; $M = 8.80$, $SD = 3.65$) had respectable internal consistency ($\alpha = .74$).

The Socio-Political Values (SPV) measure is a short, three item scale that assesses how important participants feel universal access to certain rights and freedom is. Participants are presented with the following instructions: “Using the scale above, how important is it to you that everyone around the world has”. Participants answer items on a 7 point Likert ranging from (1) strongly disagree (7) strongly agree. Higher scores indicate higher levels of agreement that these rights and freedoms are important. Within the present sample, the SPV ($M = 24.22$, $SD = 4.38$) had very good internal consistency ($\alpha = .89$).

Psychological flexibility is measured using two scales. Specifically: the Everyday Psychological Inflexibility Checklist (EPIC) and the second version of the Acceptance and Action Questionnaire (AAQ-II). The EPIC is an eight item, two factor measure that assesses aspects of psychological inflexibility in an every day context. The two factors measure: avoidance and behavioural rigidity. Participants are presented with the following instructions: “Please rate how true each statement is for you in your

everyday life by clicking on a number next to it". Participants answer items on a 7 point Likert ranging from (1) never true to (7) always true. Higher scores indicate higher levels of psychological inflexibility. Within the present sample, the EPIC ($M = 33.54$, $SD = 8.51$) had very good internal consistency ($\alpha = .84$).

The second version of the Acceptance and Action Questionnaire.(AAQ-II) is a seven item, single factor measure that assesses psychological inflexibility. Participants are presented with the following instructions: "Below you will find a list of statements. Please rate how true each statement is for you. Use the scale below to make your choice". Participants answer items on a 7 point Likert ranging from (1) never true to (7) always true. Higher scores indicate higher levels of helping behaviour. Within the present sample, the AAQ ($M = 21.07$, $SD = 9.10$) had internal consistency so high that DeVellis suggests there is potential for shortening the scale ($\alpha = .91$).

Procedure

The data was collected as part of the research projects of the author and of final year undergraduate psychology students supervised by the author during the 2012-2013 and 2013-2014 academic years. It should be noted that there is no overlap between this data and the data in sample D (see chapter 7). The questionnaires, designed by the author, collected data from participants using the online survey platform Limesurvey (<http://www.limesurvey.org/en/>). Ethical permission was sought and received for each of the projects from the psychology department at Canterbury Christ Church University. Data was screened to remove any participants who may have contributed data to more than one student research project.

Results

Correlation analyses

To examine the relationship between helping behaviour and the scales measuring both private internal events (RFNH, ERS, SPV) and psychological inflexibility (AAQ-II, EPIC) a series of correlations were calculated. In line with Field (2013: chapter 7), Pearson correlations were used in conjunction with bias corrected and accelerated bootstrapping. Table 27 below shows the results.

Table 27. Summary of the inter scale correlations.

Measure	HB	RFNH	ERS	Indiff.	SPV	AAQ-II
RFNH	-.46*** [-.55, -.34]	-				
ERS	.45*** [.31, .56]	-.24*** [-.34, -.13]	-			
Indiff.	-.34*** [-.44, -.23]	.37*** [.27, .47]	-.28** [-.40, -.14]	-		
SPV	.19** [.04, .33.]	-.05 ns [-.15, .08]	.18** [.05, .31]	-.14* [-.29, -.01]	-	
AAQ-II	-.02 ns [-.13, .11]	.13* [.03, .24]	.14* [-.02, .25]	.06 ns [-.08, .18]	-.09 ns [-.25, .06]	-
EPIC	.03 ns [-.11, .16]	.14* [.02, .25]	.13* [-.02, .28]	.09 ns [-.02, .21]	.14* [.01, .26]	.38*** [.27, .47]

Note. ns= not significant ($p > .05$), * $p < .05$, ** $p < .01$, *** $p < .001$. BCa bootstrap 95%, 1000 samples, CIs reported in brackets. HB = Helping Behaviour. RFNH = Reasons for Not Helping. ERS = Emotional Responses Scale. Indiff. = Indifference. SPV = Socio Political Values. AAQ-II = Acceptance and Action Questionnaire. EPIC = Everyday Psychological Inflexibility Checklist (n = 309, sample C).

Examining the relationships of all measures with self-reported helping behaviour as shown in Table 27, it can be seen that reasons for not helping and emotional responses have the two strongest relationships with helping behaviour. However the direction of this relationship differs from measure to measure. Reasons For Not Helping scores have a medium to strong negative relationship with helping behaviour ($r = -.46$), suggesting more agreement with different reasons for not helping is related to less reported helping behaviour. However, emotional responses have a medium to strong positive relationship with helping behaviour ($r = .45$), suggesting the more that participants report feeling annoyed, ashamed, sympathetic or depressed in light of global suffering, the more they are likely to report more helping behaviour. Slightly smaller in nature is the relationship between the indifference sub-scale of the ERS and helping behaviour. It is also noteworthy that this relationship is negative ($r = -.34$), suggesting more indifference relates to less helping behaviour. Smaller again, is the positive relationship found between socio-political values and helping behaviour ($r = .19$). In terms of the wider thesis, it is noteworthy that neither measure of psychological inflexibility had a direct significant relationship with helping behaviour. This will be further explored in the discussion.

Multiple regression analysis

Multiple regression allows for the prediction of helping behaviour from the other self-report measures in combination. It can help provide a clearer understanding of both the unique and shared relationship between helping behaviour and these other measures. As the measures used in this chapter are still under development and there is little other developed literature in this area, it is difficult to build hierarchical models based on past data established from pre-existing research (Field, 2013, p.322). As such, forced entry will be used, whereby all independent variables are entered into the regression equation in one single step (Field, 2013, p.322). In terms of preliminary checks before carrying out multiple regression, Field (2013, p.313) reports power calculations suggesting that a sample of over 120 will be adequate for uncovering a medium effect size with up to six predictors. Participant numbers in this chapter are in excess of these numbers.

A standard multiple regression was carried out with helping behaviour as the dependent variable and the other measures and independent variables. Specifically the independent variables were the Reasons For Not Helping (RFNH) scale, the Emotional Responses Scale (ERS), the Socio-Political Values (SPV) measure and two measures of psychological inflexibility, the Everyday Psychological Inflexibility Checklist (EPIC) and the second version of the Acceptance and Action Questionnaire (AAQ-II). A number of preliminary checks of the dataset were made following guidelines from Field (2013; chapter 8). From an examination of scatterplots, the relationships between IVs and DV appeared to be linear. Then followed checks for independent errors, multicollinearity and the role of outliers and other influential cases. The Durbin-Watson test was used to check for independent errors. Having a potential range of 0-4, ideal scores are close to 2; not less than 1, nor greater than 3. This sample produced an acceptable score of 1.69. Multicollinearity is tested through Variance Inflation Factor (VIF) and tolerance scores. Ideally, VIF scores should be less than 10, and the average around 1.0. In this sample all VIF scores were less than 1.3. Tolerance scores should be higher than 0.2 or 0.1, all figures in this sample were above 0.8. As such no problems were found regarding the independence of errors nor multicollinearity.

The online data collection procedure reduced any problems for out of range data leading to outliers. However the dataset might contain outliers and influential cases of other forms. An examination of the standardised residuals (outliers) and Mahalanobis distance (influential cases) was made. Five variables were found to have a standardised residual in excess of 3, so these cases were dropped. Six further variables were also

dropped having been found to have significant Mahalanobis distance scores even when using the conservative probability level of .001 (Tabachnick & Fidell, 2007, p. 74). A further check of the sample revealed one further case with a standardised residual over 3, which was also dropped leaving a final data set of n=297. For this final set all previous tests (Dubrin-Watson, VIF, Tolerance) remained as good or improved.

Table 28. Multiple regression of predictors of Helping Behaviour using sample C.

	b	BCa 95%	SE B	β	p
Constant	23.64	[12.61, 34.68]	5.46		p = .001
RFNH	-.49	[-.61, -.38]	.06	-.41	p = .001
ERS	.37	[.27, .47]	.05	.36	p = .001
Indiff.	-.14	[-.48, .19]	.17	-.04	p = .391
SPV	.44	[.13, .76]	.16	.13	p = .006
EPIC	-.11	[-.03, .24]	.07	.07	p = .132
AAQ-II	-.05	[-.17, .08]	.07	-.03	P = .491

Note. R = .67, R² = .44. BCa bootstrap 95% CIs reported in brackets. RFNH = Reasons For Not Helping. ERS = Emotional Responses Scale. Indiff. = Indifference. SPV = Socio-Political Values. EPIC = Everyday Psychological Inflexibility Checklist. AAQ-II = Acceptance and Action Questionnaire II. Sample C, n=297

Table 28, above, shows the unstandardised regression coefficients (b), the bootstrapped 95% confidence intervals (BCa 95%), the standardised error for the regression coefficient (SE B), the standardised regression coefficients (β) and the significance levels (p). The ANOVA for this regression model was significantly different to zero, $F(6, 290) = 38.61, p < .001$ with an overall R of .67, suggesting that 44% of the variance of helping behaviour was explained by the six variables. However only three of the regression coefficients differed significantly from zero. Neither indifference, nor the two measures of psychological inflexibility were significant predictors in this regression.

Tabachnick and Fidell (2007; p.122) note that regression is best performed with independent variables that are uncorrelated with each other. It is clear from Table 27 that this is not the case. In instances like this Tabachnick and Fidell (2007; p.122) recommend using semi-partial correlations to estimate the unique relationship of the IVs to DV. With this in mind, of the 44% of Helping Behaviour that is explained by the independent variables, .18 or 41% of it is shared variance. Looking at the unique contributions: 14% comes from RFNH, 10% from ERS and 2% from SPV.

Although the correlations between Indifference and Helping Behaviour were significantly different to zero (as shown in Table 27) this was not found to be significant in the above multiple regression. It seems likely that the variance between Indifference and Helping Behaviour can also be explained by Reasons For Not Helping, Emotional Responses Scale and Socio-Political Values scores. It is perhaps less surprising that the EPIC and AAQ-II were not significant predictors as neither measure of psychological inflexibility had a significant correlation with helping behaviour in Table 27.

The preliminary checks for the multiple regressions reported earlier resulted in a small number of participants being removed before the multiple regressions were reported. As a check, it seems sensible to check the correlations from the original sample (n=309; Table 27) against the samples in the revised sample (n=297) to check for any substantial differences. The correlations from both samples are shown in Table 29 below.

The general patterns between sample C1 and sample C2 shown in Table 29 is of little change. Generally, in almost all cases, the relationships between the scales that do not measure psychological inflexibility are strengthened. However, for psychological inflexibility, this picture is more mixed, with relationships with the AAQ-II and EPIC becoming marginally less strong on the ERS, Indifference scale and SPV. That said, comparing the pairs of correlations, both coefficients within each pair fall within the others confidence interval. Moreover when the four pairs of correlations with the largest differences between C1 and C2, i.e. i. HB & RFNH; ii. HB & ERS; iii. IND & SPV; iv. EPIC & SPV, were tested using an on-line calculator that utilises the Fisher r-to-z transformation (Preacher, 2002), no coefficient was found to be significantly different to the other.

Table 29. Summary of the inter scale correlations – examining the differences between the Sample C1 and C2.

Measure		HB	RFNH	ERS	Indiff.	SPV	AAQ-II
RFNH	C1	-.46*** [-.55, -.34]	-				
	C2	-.53***[-.61, -.44]					
ERS	C1	.45*** [.31, .56]	-.24*** [-.34, -.13]	-			
	C2	.51*** [.41, .59]	-.28*** [-.38, -.17]				
Indiff	C1	-.34*** [-.44, -.23]	.37*** [.27, .47]	-.28** [-.40, -.14]	-		
	C2	-.35*** [-.44, -.25]	.38*** [.27, .28]	-.34*** [-.45, -.23]			
SPV	C1	.19** [.04, .33.]	-.05 ns [-.15, .08]	.18** [.05, .31]	-.14* [-.29, -.01]	-	
	C2	.22*** [.11, .32]	-.06 ns [-.16, .05]	.14* [.00, .27]	-.25*** [-.36, -.12]		
AAQ-II	C1	-.02 ns [-.13, .11]	.13* [.03, .24]	.14* [-.02, .25]	.06 ns [-.08, .18]	-.09 ns [-.25, .06]	-
	C2	-.01 ns [-.13, .10]	.11 ns [.00, .22]	.12* [.00, .23]	.02 ns [-.12, .15]	-.05 ns [-.16, .07]	
EPIC	C1	.03 ns [-.11, .16]	.14* [.02, .25]	.13* [-.02, .28]	.09 ns [-.02, .21]	.14* [.01, .26]	.38*** [.27, .47]
	C2	.04 ns [-.10, .17]	.15 * [.03, .26]	.10 ns [-.03, .22]	.06 ns [-.07, .17]	.04 ns [-.09, .16]	.41*** [.32, .49]

Note. ns= not significant ($p > .05$), * $p < .05$, ** $p < .01$, *** $p < .001$. BCa bootstrap (1000) 95% CIs reported in brackets. HB = Helping Behaviour. RFNH = Reasons For Not Helping. ERS = Emotional Responses Scale. Indiff. = Indifference. SPV = Socio Political Values. EPIC = Everyday Psychological Inflexibility Checklist. AAQ-II = Acceptance and Action Questionnaire. Sample C1, n = 309; Sample C2, n = 297.

Mediation and moderation analysis

As A. F. Hayes notes, establishing a direct association between X and Y does not necessarily translate into a "deep understanding" (2013, p.6). He goes on to argue that this deep understanding comes not just from knowing if X affects Y, but more widely by knowing how X affects Y, and when (2013, p.6). Hayes argues that this deeper understanding can come, in part, from exploring indirect relationships. It is for this reason that having examined both correlations and multiple regressions, attention now turns to examining both mediation and moderation. While correlations test the direct relationships between variables, mediation and moderation can examine more indirect relationships. Doing such work, is also of interest to the CBS community who highlight the importance of exploring potential processes of change (e.g. Hayes et al., 2006; Hayes et al., 2013). Moreover, even though this particular data set is only cross sectional in nature, conducting an initial exploration of indirect processes may prove useful for the next chapter in this thesis which seeks to directly increase helping behaviour using ACT; hopefully in a way that is mediated through an increase in psychological flexibility. Finally, both mediation and moderation analysis need to be carried out in order to answer research question: 3. Does psychological flexibility play any indirect role in the relationship with other variables and helping behaviour connected to global freedoms?

In practical terms, mediation and moderation let us know how and under what circumstances the IV relates to the DV. Of course, it must be noted that even within zero order correlations, relationships may still be influenced by unmeasured variables and reported relationships may still be shared or influenced by other factors. This notwithstanding, mediators can help explain the relationship found between variables, while moderators can alter the relationship (Field, 2013: chapter 10). In a little more detail: mediators stand between an IV and DV and help transmit influence between the two. Moderators, on the other hand, alter the direction or strength of the relationship between IV and DV. Both mediation and moderation can be examined using the PROCESS macro for SPSS written by Andrew Hayes (<http://www.afhayes.com/spss-sas-and-mplus-macros-and-code.html>). Mediation will be explored first, followed by moderation. In both mediation and moderation, the focus will be on whether either of the measures of psychological inflexibility (EPIC, AAQ) have any indirect influence on the relationship between helping behaviour and other variables.

Mediation

Mediation analyses examine direct and indirect pathways where at least one intervening variable (M) sits between X and Y. As Hayes notes (2013, p.7); variation in X, results in variation in M, which results in variation in Y. It is important to make clear at the outset, that while the reader may be expecting psychological inflexibility to sit in position M, as an intervening variable between X and Y, this is not the focus of this particular mediation analysis. As just noted by Hayes: variation in X, results in variation in M which again results in variation in Y. In this respect, it may seem odd to suggest that: variation in "reasons for not helping" (X; for example), results in variation in "psychological inflexibility" (M), which in turn results in variation in "helping behaviour" (Y). Such a relationship would seem to beg the question: how and why would variation in reasons in not helping result in variations in the more general behaviour of psychological inflexibility? Instead, in the following analysis, psychological inflexibility will be placed in position X and variables such as reasons for not helping will placed in position M. In this way, the question this mediation analysis will be examining is: does the effect of X occur via M. Or, in other words, does psychological inflexibility (M) transmit its influence through variables like reasons for not helping (Y). It is important to note that mediation will be explored by examining indirect effects, not by using Baron and Kennys causal steps approach. The reasons for this will be explored in the discussion.

The first focus was on the potential role of the EPIC in position X. Initially a multiple mediation analysis was carried out using ordinary least squares path analysis. The other questionnaire measures were entered as potential mediating variables (M) after the EPIC (X) and before Helping Behaviour (Y): specifically: the Reasons For Not Helping measure, the Emotional Response scale, Socio-Political Values and the Indifference sub-scale of the ERS. As can be seen from Table 30, only the Reasons For Not Helping measure had an indirect effect, in that its value did not include zero between the upper and lower confidence intervals. Figure 13 also shows that same measure is the only one to have significant pathways ($<.05$) on both a and b.

Table 30: Analysis of the effect of psychological inflexibility (X: EPIC) on helping behaviour (Y) through other mediating variables (M).

Variables			95% CI		
X	M	Y	Indirect effect	Lower	Upper
EPIC	Emotional Responses		0.048	-0.011	0.117
	Reasons For Not Helping	Helping Behaviour	-0.088	-0.167	-0.019
	Socio-Political values		0.006	-0.013	0.041
	Indifference		-0.003	-0.029	0.044

Note. Bias-corrected bootstrapping. 10000 samples. * indicates range does not include zero and, therefore, may function as a partial mediator. EPIC = Everyday Psychological Inflexibility Checklist.

The result from Table 30 and figure 13 suggests that participants with higher levels of psychological inflexibility, as measured by the EPIC, tended to agree more strongly with potential reasons for not helping (path a = 0.18), and participants who tended to agree more strongly with potential reasons for not helping, reported less helping behaviour (path b = -0.50). The bias-corrected bootstrap confidence intervals for the indirect effect did not include zero (-0.167 to -0.019) and the point estimate was -0.088.

As it is not possible to obtain an effect size of the indirect pathway using a multiple mediation model in PROCESS, a more simple mediation was carried out, again in PROCESS, which just included the Reasons For Not Helping mediation pathway. As expected and as shown in Figure 14 (next page, below Figure 13), this produced very similar results to those shown in Figure 13 (also next page). Namely significant a and b pathways (<.05), an indirect effect which did not include zero (-0.213 to -0.023), and a point estimate of -0.115. The new information from this calculation concerns the effect size (K^2 : kappa-squared), which provides information on the indirect effect as a ratio of the total possible effect (Field, 2013, p.413). In this sample: $K^2 = .096$, 95% BCa CI (.021, .167). Overall, this just represents a medium effect (threshold >.09; Field, 2013, p.413), with the data suggesting that this indirect effect is about 9.6% of the value it could have been (p.417).

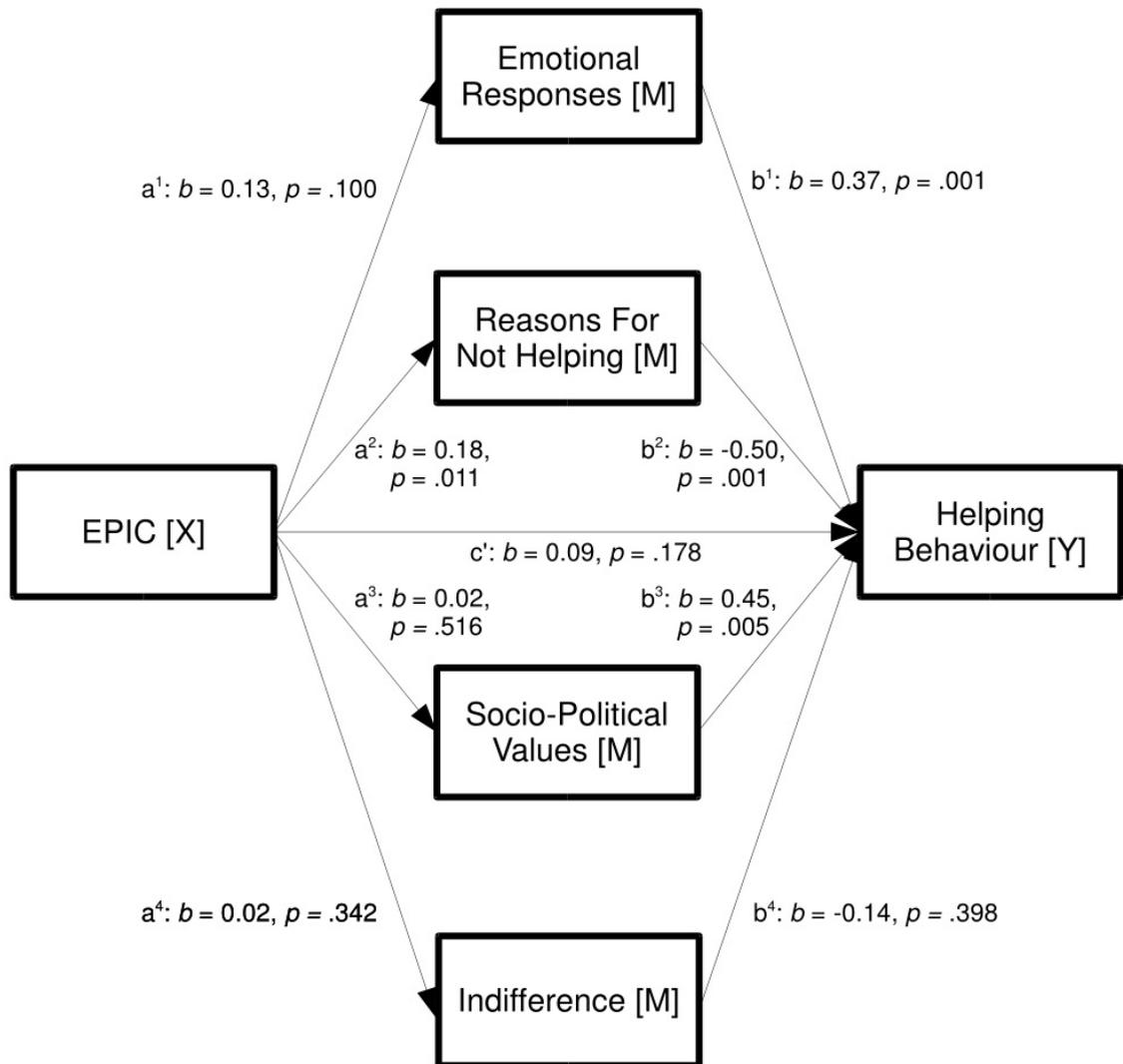


Figure 13: Analysis of the effect of psychological inflexibility (X: EPIC) on helping behaviour (Y) through other mediating variables (M).

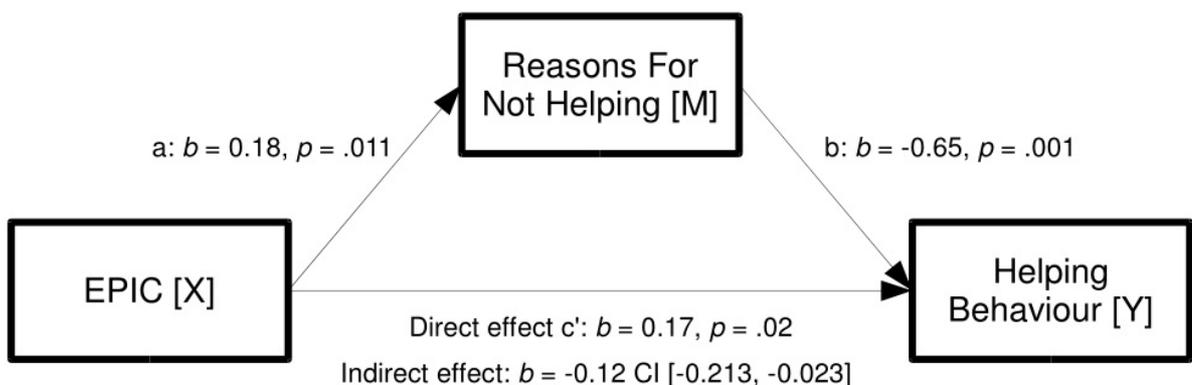


Figure 14. Analysis of the effect of psychological inflexibility (X: EPIC) on helping behaviour (Y) through reasons for not helping (M).

Secondly the potential role of the AAQ was explored. As with the EPIC, initially a multiple mediation analysis was carried out using ordinary least squares path analysis. As before, the Reasons For Not Helping Measure, the Emotional Response Scale, Socio-Political Values and the Indifference sub-scale of the ERS were all entered as potential mediating variables (M) after the AAQ-II (X) and before Helping Behaviour (Y). As can be seen from Figure 15 and Table 31, only when the Emotional Response Scale was entered as a mediator was a just significant pathway found on both a and b. However, it must be noted that “path a” recorded a significance level of only $p=.049$. Also, more importantly from the point of view of in-direct effects, the indirect effect of the AAQ-II on helping behaviour through the ERS did include zero between its upper and lower confidence intervals. As the indirect effect includes zero it seems inappropriate to investigate this lack of effect any further.

Table 31. Analysis of the effect of psychological inflexibility (X: AAQ) on helping behaviour (Y) through other mediating variables (M).

Variables			95% CI		
X	M	Y	Indirect effect	Lower	Upper
AAQ	Emotional Responses		0.056	0.000	0.124
	Reasons For Not Helping	Helping Behaviour	-0.058	-0.125	0.005
	Socio-Political values		-0.008	-0.037	0.011
	Indifference		-0.001	-0.021	0.012

Note. Bias-corrected bootstrapping. 10000 samples. * indicates range does not include zero.

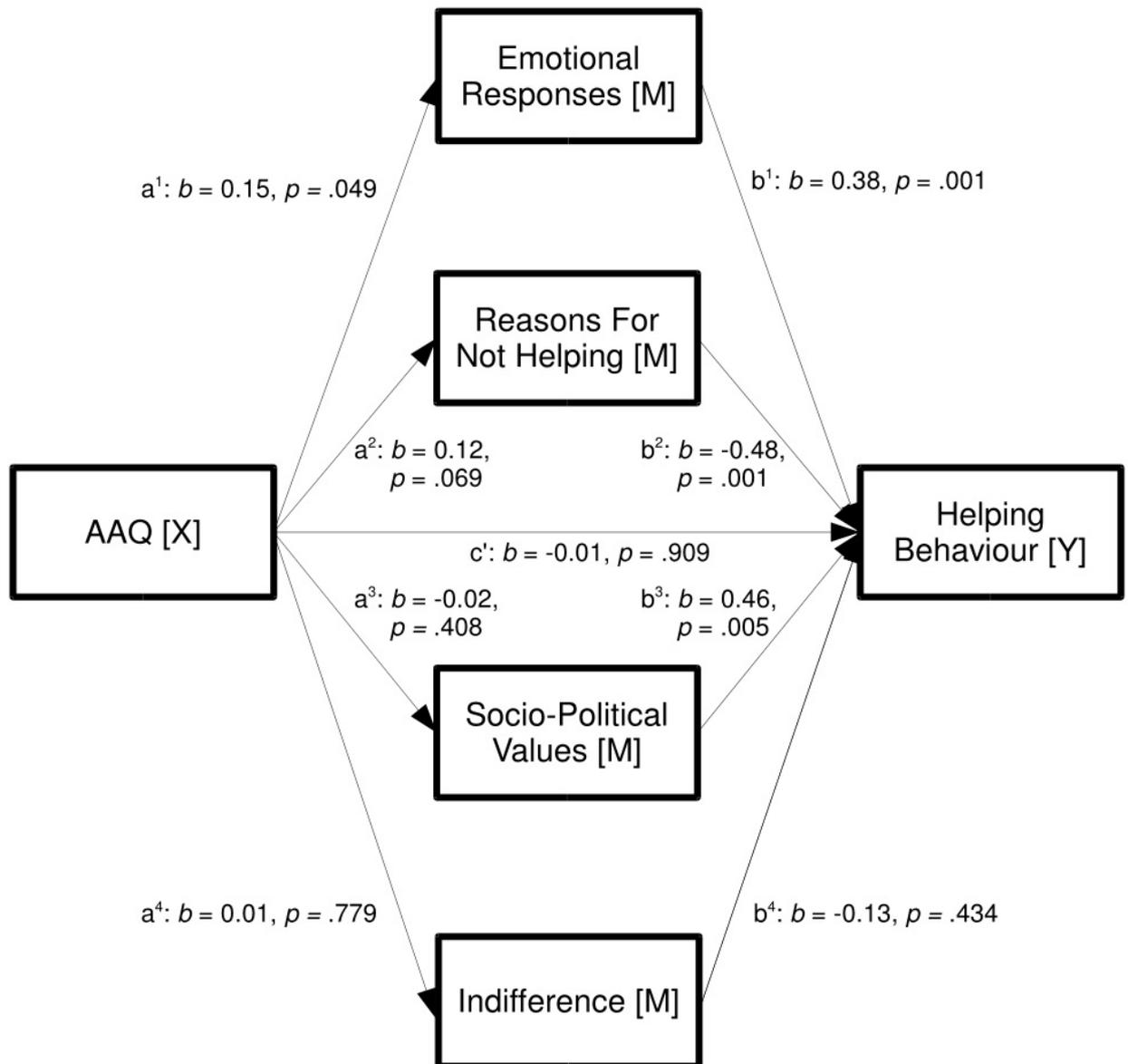


Figure 15: Analysis of the effect of psychological inflexibility (X: AAQ) on helping behaviour (Y) through other mediating variables (M).

Moderation

Although neither psychological flexibility measure was retained in the multiple regression predicting helping behaviour, it could still moderate the relationships between other IVs and helping behaviour. For example, a lack of relationship might be due to differently valenced relationships at different levels of psychological flexibility. For example, for those with a high degree of psychological flexibility there may be a positive relationship between socio-political values and helping behaviour, but for those with a low degree of psychological flexibility this relationship might be reversed. Overall, this might result in no overall relationship between psychological flexibility

and other variables when examining all levels at once. Accordingly, follow up checks for the moderating influence of psychological inflexibility on other variables with helping behaviour were carried out (i.e. the Reasons For Not Helping measure, the Emotional Response scale, Socio-Political Values and the Indifference sub-scale of the ERS). With two psychological inflexibility measures (EPIC and AAQ) and four other IVs, this involved eight different linear multiple regressions checking for moderation.

Moderation equations involve the calculation of an interaction term between the IV and the potential moderating variable. The key result of interest, is whether any of the interaction terms are significant. As is clear from the regression tables below (Tables 32 to 39), this was not the case in any of the eight checks. As such, no further examinations of simple slopes nor Johnson-Neyman took place. These results suggest that psychological inflexibility, as measured by both the EPIC and the AAQ, does not play a moderating role on the influence of the other measures on Helping Behaviour.

Table 32. Linear model of predictors of Helping Behaviour (Y) including a test for the moderating interaction of ERS (X) and the EPIC (M).

	b	SE B	t	p
Constant	38.89 [37.70, 40.08]	0.603	64.44	p < .001
EPIC (centred)	-0.02 [-0.18, 0.14]	0.082	-0.25	p = .803
ERS (centred)	0.52 [0.41, 0.63]	0.058	9.00	p < .001
ERS x EPIC	-0.01 [-0.02, 0.01]	0.007	-1.30	p = .195

Note. R = .51, R² = .26. BCa bootstrap 95% CIs reported in brackets. Sample C, n = 297.

Table 33. Linear model of predictors of Helping Behaviour (Y) including a test for the moderating interaction of ERS (X) and the AAQ (M).

	b	SE B	t	p
Constant	38.91 [37.70, 40.08]	0.592	65.73	p < .001
AAQ (centred)	-0.10 [-0.24, 0.05]	0.072	-1.34	p = .180
ERS (centred)	0.54 [0.43, 0.65]	0.055	9.74	p < .001
ERS x AAQ	-0.01 [-0.02, 0.00]	0.006	-1.43	p = .154

Note. R = .52, R² = .27. BCa bootstrap 95% CIs reported in brackets. Sample C, n = 297.

Table 34. Linear model of predictors of Helping Behaviour (Y) including a test for the moderating interaction of RFNH (X) and the EPIC (M).

	b	SE B	t	p
Constant	38.70 [37.55, 39.84]	0.581	66.64	p < .001
EPIC (centred)	0.10 [0.29, 0.30]	0.070	2.39	p = .017
RFNH (centred)	-0.54 [-0.76, -0.53]	0.060	-10.81	p < .001
RFNH x EPIC	0.01 [0.00, 0.02]	0.007	1.34	p = .180

Note. R = .55, R² = .30. BCa bootstrap 95% CIs reported in brackets. Sample C, n=297.

Table 35. Linear model of predictors of Helping Behaviour (Y) including a test for the moderating interaction of RFNH (X) and the AAQ (M).

	b	SE B	t	p
Constant	38.26 [37.65, 40.00]	0.596	65.11	p < .001
AAQ (centred)	.60 [-0.07, 0.19]	0.068	0.88	p = .382
RFNH (centred)	-.64 [-0.76, -0.52]	0.062	-10.31	p < .001
RFNH x AAQ	0.00 [-0.02, 0.01]	0.007	-0.34	p = .733

Note. R = .53, R² = .28. BCa bootstrap 95% CIs reported in brackets. Sample C, n = 297.

Table 36. Linear model of predictors of Helping Behaviour (Y) including a test for the moderating interaction of SPV (X) and the EPIC (M).

	b	SE B	t	p
Constant	38.82 [37.48, 40.16]	0.682	56.89	p < .001
EPIC (centred)	0.04 [-0.15, 0.22]	0.094	0.41	p = .681
SPV (centred)	.74 [0.35, 1.14]	0.201	3.68	p < .001
SPV x EPIC	-0.02 [-0.06, 0.03]	0.023	-0.67	p = .50

Note. R = .22, R² = .05. BCa bootstrap 95% CIs reported in brackets. Sample C, n = 297.

i. Table 37. Linear model of predictors of Helping Behaviour (Y) including a test for the moderating interaction of SPV (X) and the AAQ (M).

	b	SE B	t	p
Constant	38.77 [37.44, 40.10]	0.677	57.25	p < .001
AAQ (centred)	-0.01 [-0.16, 0.15]	0.079	-0.09	p = .929
SPV (centred)	0.78 [0.39, -1.18]	0.201	3.90	p < .001
SPV x AAQ	-0.03 [-0.07, 0.02]	0.023	-1.11	p = .267

Note. R = .23, R² = .05. BCa bootstrap 95% CIs reported in brackets. Sample C, n = 297.

Table 38. Linear model of predictors of Helping Behaviour (Y) including a test for the moderating interaction of IND (X) and the EPIC (M).

	b	SE B	t	p
Constant	38.80 [37.52, 40.07]	0.646	60.07	p < .001
EPIC (centred)	0.08 [-0.11, 0.26]	0.094	0.83	p = .409
IND (centred)	-1.18 [-1.56, -0.80]	0.192	-6.13	p < .001
IND x EPIC	0.01 [-0.04, 0.06]	0.025	0.236	p = .814

Note. R = .35, R² = .13. BCa bootstrap 95% CIs reported in brackets. Sample C, n = 297.

Table 39. Linear model of predictors of Helping Behaviour (Y) including a test for the moderating interaction of IND (X) and the AAQ (M).

	b	SE B	t	p
Constant	38.81 [37.52, 40.09]	0.651	59-.57	p < .001
AAQ (centred)	-0.01 [-0.15, 0.13]	0.073	-0.13	p = .894
IND (centred)	-1.16 [-1.55, -0.78]	0.195	-5.97	p < .001
IND x AAQ	0.00 [-0.04, 0.03]	0.020	-0.15	p = .879

Note. R = .35, R² = .12. BCa bootstrap 95% CIs reported in brackets. Sample C, n = 297.

Discussion

This chapter was the first occasion where the building blocks constructed earlier in the thesis could be used together to begin to address the research questions that are key to it. More specifically three research questions, central to this thesis, relate directly to the results above:

1. Do private internal events, such as thoughts and feelings, have a relationship with helping behaviour connected to global freedoms?
2. Does psychological flexibility relate directly to helping behaviour connected to global freedoms?
3. Does psychological flexibility play any indirect role in the relationship with other variables and helping behaviour connected to global freedoms?

Findings suggest that the answer to the first research question is yes. Data from the correlations and multiple regressions together support the assertion that private internal events such as emotional responses and reasons for not helping have a significant relationship with helping behaviour. It is also noteworthy that socio-political values appears to have a more modest, but still significant relationship with helping behaviour, even when the variance for the other factors has been taken into account. Moving on to the second research question, the evidence suggests that neither the EPIC nor the AAQ-II have a significant direct relationship with helping behaviour itself. Not only were the measures of psychological inflexibility not retained in the multiple regression where they compete for variance with other IVs, but they also did not

produce significant results in the original correlation matrices.

In terms of the final research question related to mediation and moderation: neither measure of psychological inflexibility appears to moderate the relationship between any IV and helping behaviour. Equally, the AAQ-II did not successfully transmit any of its influence through any mediating variables either, although it came close with the Emotional Responses Scale, but $p = .049$ and the confidence interval included zero. However the data did suggest a mediation between the EPIC, Reasons For Not Helping and Helping Behaviour. In other words the effect of the effect of the EPIC on Helping Behaviour appears to occur via Reasons For Not Helping. So, in summary, the three research questions can be answered: in order – 1. yes, 2. no, and 3. yes – but in a limited way. Of course, it should be noted that this is the first occasion where the relationship between psychological inflexibility and self-report measures related to global freedoms has been examined.

Research question 1

The discussion will now examine the first research question in more detail. While the main focus of this thesis is on the potential role of psychological inflexibility in global freedoms, an important prerequisite for the influence of psychological flexibility is the inter-play between private events and helping behaviour generally. This latter relationship was searched for and found, with the strongest two contributors being a negative relationship between reasons for not helping and helping behaviour and a positive relationship between emotional responses and helping behaviour. While it may seem a little obvious to be able to say that private events such as emotional responses and reasons for not helping have relationships with helping behaviour, it is important to note that the literature reviews carried out as part of this thesis could find no clear evidence that this question had been empirically addressed previously. Of course, one of the reasons for this is a tendency to use concepts like “attitudes” which can conflate cognitions, emotions, behavioural intention and even overt behaviour all together under one heading. Separating these factors out, we see that reasons and emotions together with socio-political values explain around 45% of the variance in behaviour as measured by the Helping Behaviour scale. Although, it must also be noted that this finding contains no evidence of causality, this remains an impressive association. Equally, it must also be noted the data is both cross sectional and correlational. As such, while it is plausible to suggest that the presence of emotions and reasons leads to an increase in helping behaviour, it is as possible to suggest that helping behaviour itself

leads to an increased occurrence of, or endorsement of, relevant items related to emotions and reasons. A third explanation, of course, might be that these factors co-evolve together or are explained by an as yet unmeasured, 'third', variable.

It is also important to note that socio-political values had a positive relationship with helping behaviour and was retained in the multiple regression. However, in terms of unique variance it only accounted for 2%. It is worth briefly considering the reasons for this. One possibility is that the variance of helping behaviour explained by valuing these issues co-exists with related responses in terms of reasons and emotions and so a lot of the variance explained by socio-political values is shared with these other measures. Another possibility is that this relatively small amount of unique variance is an indication of a weakness within the original SPV scale itself. It should be remembered from previous chapters that the original set of socio-political value items were generally highly skewed with little variation in score and so the items for this scale were generated from a smaller number of more socio-political items. It is possible that the measurement of values in this area needs to be assessed again using a different and as yet uncreated measure.

The above comments notwithstanding, explaining 2% of unique variance in terms of multiple regression when other relevant IVs are also entered into the equation is no small feat and should not be ignored. By way of illustrating this point, the Indifference sub-scale of the ERS had higher zero order correlations with helping behaviour than socio-political values. However, Indifference was not retained in the multiple regression. This is probably because the variance was already accounted for by reasons for not helping or emotional responses. Notice that the indifference sub-scale had correlational relationships of around +/- .3 with both of these scales.

One other important thing to note with regards the Indifference sub-scale is that all emotions related to global freedoms do not have a universally valenced relationship with helping behaviour. Some, such as the four factors within the main Emotional Responses Scale (i.e. annoyed, ashamed, sympathetic or depressed) have a positive relationship with helping behaviour, while indifference has a negative relationship. Again, while this is something that might seem obvious, it is unclear whether this has demonstrated in the literature before. Moreover, notice that emotion clusters such as ashamed and depressed have a positive relationship with helping behaviour. The more ashamed or depressed people feel, the more they help. What is interesting is that results suggest that the more these aversive emotions occur, the more helping behaviour takes

place. This is interesting in terms of psychological inflexibility and emotional avoidance, where it might be assumed that aversive emotions are going to be associated with a disengagement with or avoidance of stimuli that occasion aversive experiences. However, it could also be the case that helping behaviour is engaged in in order to avoid these ongoing aversive experiences.

Research question 2 / 3

With regards research question two, the overall direct relationship between psychological inflexibility and helping behaviour was non-significant in terms of correlations. While not as hypothesised, this may be explained by the fact that both measures of psychological inflexibility had small, significant, positive relationships with both the Reasons For Not Helping and the Emotional Responses Scales. It should be noted from earlier that these two measures themselves have opposing valenced relationships with the Helping Behaviour measure: specifically a positive relationship for the ERS and a negative relationship for RFNH. As this is the case, it seems quite possible, that any overall relationship for psychological inflexibility would be cancelled out when looking at Helping Behaviour itself. This notwithstanding, the second research question must be answered: no.

It is worth noting that even in clinical areas, not all studies have found significant relationships between experiential avoidance / psychological inflexibility and clinical conditions. For example when looking at the area of substance abuse, Chawla and Ostafin (2007) note that while some studies find a significant relationship (e.g. Stewart, Zvolensky, & Eifert, 2002), other studies have not (Forsyth, Parker, & Finlay, 2003). So it seems sensible not to draw too many firm conclusions from one study alone. It is also worth noting that other studies may have not found a relationship between psychological inflexibility and various factors, however due to journals and journal editors tending to only publish significant findings, these might not have been published (see Rothstein, Sutton, & Borenstein, 2006).

However this current research was not only interested in exploring the direct relationship between psychological inflexibility and helping behaviour (research question 2) but also the potential mediation and moderation roles that psychological inflexibility may have (research question 3).

Comparing the pre and post regression data from the second table of correlations (C1 & C2: Table 29), it can be seen that none of the correlational relationships psychological inflexibility has are very large. For example, at C2, the AAQ-II has a

significant, but small, positive relationship with the ERS ($r=.12$) and a slightly smaller ($r=.11$) but now non significant relationship with RFNH. However, it is worth noting that the bootstrapped confidence intervals for these correlations on both measures included zero, suggesting that in the wider population this correlation may have no discernible effect at all (Field, 2013, p.275). Indeed, looking at the psychological flexibility measure data at C2, the only relationship where the confidence intervals do not include zero, is between the EPIC and Reasons For Not Helping. This small, positive relationship suggests that greater psychological inflexibility relates to more agreement with reasons for not helping others. It is noteworthy that when the AAQ-II attempts to measure the same relationship it finds a similarly valenced relationship but it is not quite significant and the confidence interval includes zero. One possible reason for the better performance of the EPIC is that it deliberately does not use item content related to anxiety. It is possible, that framing items so they might be more applicable to an everyday context, is important to the EPIC being able to capture this significant relation. It provides some support for devising this new measure of psychological inflexibility. This seems similar to previous research in other areas of psychology. For example in occupational psychology, research using the work-related acceptance and action questionnaire (WAAQ) seemed to find this specific measure is better at capturing relationships with work-related outcomes than the more general AAQ-II (Bond et al., 2013).

As noted earlier, the correlational relationship between the EPIC and Reasons For Not Helping was matched by the finding of a significant mediational relationship and so enables a qualified positive response to the third research question. More specifically, it appears that participants with higher levels of psychological inflexibility on the EPIC, have stronger agreements with reasons for not helping, and those in that position report less helping behaviour.

However it is important not to place too much emphasis on this significant mediation finding. As others note: “just as correlation does not equal causation, mediation does not equal mechanism” (Nock & Janis, 2008, p.212). The mediation result found here was also based on cross-sectional data. Authors such as Bullock and Ha (2011), and Roe (2012) warn against the "temporal illusion" that can befall researchers when they forget that different arrangements of variables may produce different models that may explain the relationship between the variables equally well. Roe (2012) reminds researchers that the way of drawing mediator models is often

arbitrary and that the "sequence is in the eye of the beholder" (p.7). For example see Figure 16 below as another potential arrangement of the variables. This notwithstanding, any such finding will also need to be replicated in other samples. Moreover, and just as important if such insights are going to be useful from a functional contextual standpoint, such findings need to be replicated in outcome studies or laboratory based experiments where one can directly manipulate psychological flexibility in order to determine if such experimental variation significantly influences reasons and / or helping behaviour.

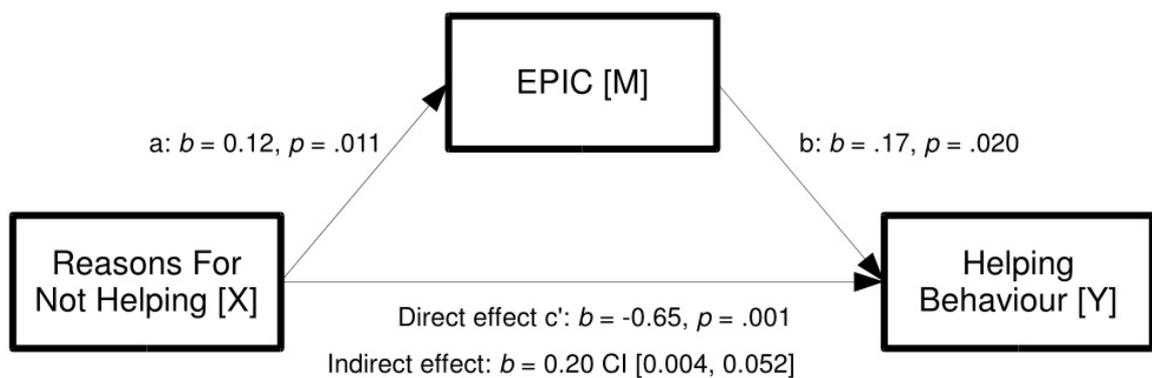


Figure 16. Analysis of the effect of reasons for not helping (X) on helping behaviour (Y) through psychological inflexibility (M: EPIC).

Finally, it is worth noting that when the correlations were first calculated, the EPIC had a significant positive relationship with Socio-Political Values. This suggested that those who were more psychologically inflexible were more likely to express care about socio-political values. However, when the relationships were explored in a wider context, in comparison with other variables, using the slightly smaller sample from the multiple regressions, this relationship shrank and became non-significant.

Related implications

One somewhat counter intuitive implication of this research stems from the relationships reported above. In short: feelings of being annoyed, ashamed, sympathetic or depressed were associated with greater instances of helping behaviour. In other words, on the whole, feeling badly, was associated with positive action. One of the arguments traditionally made by the ACT community is that if psychological inflexibility is present, bad feelings can occasion avoidance, and that avoidance can lead away from values led behaviour. Or, more simply, that generally we avoid negative

affect and avoid negative private experiences (Chawla & Ostafin, 2007, p.872). Oddly the relationship from this dataset appears to suggest that difficult feelings, can occasion good behaviour and, at the same time, the same difficult feelings themselves have a relationship with psychological inflexibility that borders on being positive and significant.

A knee-jerk response may assume that this is not what would be predicted by ACT theory. However this would seem to depend on what the 'bad' feelings are and how they relate to avoidance. For example, if the negative affect makes individuals feel like they are a 'bad' person, then perhaps endorsing 'good' behaviour (like Helping Behaviour) - whether or not they really wish to engage in it – may function to help them to avoid these 'bad' feelings. In other words, engaging in helping behaviour is potentially one way of dealing with difficult feelings. So, people feel bad, do not like feeling bad, and so engage in helping behaviour in order to feel less bad.

Another possibility is that those who are more psychologically inflexible, tend to experience more emotional responses generally including those that are difficult or negative. This would fit with the evidence that suggests that greater levels of emotional experience is a counter-intuitive result of experiential avoidance (Wenzlaff & Wegner, 2000). For example research suggests that greater experiential avoidance might lead to higher levels of distress (e.g. Marcks & Woods, 2005). Perhaps because thought suppression ironically leads to an increase in the unwanted thoughts. But this by itself does not explain the relationship with increased helping behaviour.

At this stage, any hypotheses would be speculation. It should be remembered that the results involving psychological flexibility were not strong and were only recorded using self-report measures which are currently the only valid and reliable measures we have of psychological flexibility. However it may be interesting to clarify whether greater endorsement of the clusters of emotions present in the ERS, parallels higher levels of distress more generally. What does seem more solidly suggested by the data is that these clusters of emotions had a positive relationship with helping behaviour. In some ways, of course, this makes a lot of sense. After all, if you failed to have any strong emotional reaction to seeing a lack of global freedoms, why would you do anything about it? However this also raises questions around why the ERS appears to tap into peoples level of engagement with global freedoms more successfully than the Socio-Political Values measure does. Again this perhaps suggests a weakness in the SPV. Alternatively, it may indicate that emotional responses are more important than

socio-political values. Such possibilities require further empirical investigation.

Limitations

The findings of this study are subject to a number of limitations, some of which have been touched on already. Fundamentally, the study was correlational and cross-sectional in nature. No causal claims can be made about the relationships found, nor can the influence of third variables not measured be discounted. It should also be noted that the data collection originated within an academic setting and data was collected as part of final year undergraduate research projects. Although the research did not solely collect data from undergraduates, a significant number fell into that demographic category. The extent to which these findings can be generalised to the population as a whole is an empirical question that can only be answered with further data collection. Also, the data recorded in this research was only self-report measures and no measures of actual helping behaviour were involved.

It is also noteworthy, that the majority of measures used, aside from the AAQ-II, were designed within this thesis. In some ways this is a limitation, because comparisons are not being made against established measures from the existing literature. In other words convergent / criterion-related validity has not been assessed comprehensively. One of the particular places where this may be a limitation is with the SPV – whose items did not perform as expected through the scale development stages. At the same time, it is the case that the literature in this area is sparse, and where alternative measures do exist at all they often lack regular use, consistent findings and / or are unclear in terms of what exactly they measure. Indeed it was for these reasons that the first part of this thesis was dedicated to the construction of a new set of measures. This aside, it is still the case that this set of measures lacked a wider body of scales to be compared against.

Finally, it is possible that some researchers may see testing for mediation without using the causal steps approach popularised by Baron and Kenny to be a methodological weakness (Baron & Kenny, 1986). However it should be noted that this technique, popular as it has been, is increasingly being replaced by *indirect effects* (Hayes, 2009). The causal steps approach has a number of problems. One is its reliance on significant results, which could mean that a move from .049 to .051 was seen as mediation whereas a move from .001 to .049 was not (Field, 2013). Other criticisms include the fact that the causal steps approach does not actually measure the mediation effect. Instead it is inferred through a series of logical if steps (Hayes, 2009, p.410). For

these and other reasons, the indirect effects approach to measuring mediation was used.

Future research

It should be noted that this is the first time that these measures have been used and examined in a research study. As such, as already noted, any results that have been found should be followed up again in similar and other samples, perhaps utilising non undergraduate participants if possible. This would help further shape ideas about the concurrent, convergent and divergent validity of this collection of measures. It would be especially interesting to replicate the findings to see whether the relationships between the ERS and Helping Behaviour and, the ERS and EPIC are replicated.

However, as noted earlier, what is perhaps more important in the short term is to: i. examine the relationships of the Helping Behaviour self-report measure with an actual measure of overt helping behaviour (predictive validity); ii. to examine the relationship between the other self-report measures of private events and a form of actual helping behaviour; and iii. to not only examine what static role psychological flexibility plays in this relationship, but to examine whether psychological flexibility can play a role in increasing actual helping behaviour.

9. Single session lab based experiment

Abstract

A single session, lab based experiment sought to examine the differing roles of: i. education, ii. ACT and iii. a control, in terms of their influence on donations to charity. Eighty three participants were paid £5 for taking part in this research. After answering a self-report questionnaire, participants were introduced to the work of both Oxfam and Amnesty International and asked if they would donate any of their £5 payment to either charity (ask 1). Following this, participants listened to one of three ten minute audio recordings containing either: relevant ACT content, relevant education content, or a control condition featuring music. Then participants were again asked if they wished to donate any of their £5 payment to either charity (ask 2). Finally, participants were given their £5 and now had the opportunity to donate some, none or all the payment to either charity (ask 3). It is noteworthy that the donation data was bi modal in distribution which limited the statistical methods it could be explored with. Logistic regression did not pin-point any significant difference between any of the three audio recordings. Further non-parametric analyses suggested that the only significant difference was between ask one and ask three. The paper discusses possible reasons for the results and future avenues for research in this area.

Up until this point, the thesis has primarily been concerned with the design, development and preliminary evaluation of self-report measures in the area of global freedoms. This has been done to enable an investigation into the role of psychological flexibility in this area. The last chapter explored the inter-relationships of these self-report measures with both new and established measures of psychological flexibility. The results from the last chapter did not establish a clear relationship for psychological flexibility directly impacting on helping behaviour. However, even if it did, the cross sectional *prediction* of behaviour at one time point, is only one half of the principle of functional contextualism. Importantly, as explained in chapter one, functional contextualism is concerned with both the prediction and *influence* of behaviour (Biglan, 1995, p.34).

For these reasons, despite the results from the last chapter, this final data driven chapter will investigate the ability of an ACT based intervention to influence helping behaviour. With this in mind, a single session lab based experiment will be conducted to explore the differing roles of education, ACT and a control in terms of their influence on a specific helping behaviour: donations to charity. This study also directly investigates the last two research questions that were stated at the start of this thesis:

4. Can helping behaviour connected to global freedoms be increased through a brief ACT based intervention?
5. Does an increase in psychological flexibility mediate the benefits of the ACT intervention?

The introduction below will briefly recall the evidence base for ACT interventions generally, before highlighting the lab based component research that has taken place. It will then draw parallels with the existing psychological literature, independent of ACT, that investigates donations to charity, making reference to some of the assumptions explored in the first chapter of this thesis.

ACT literature

The evidence for the utility of ACT has been increasing over the years. As noted in chapter 1, reviews and meta-analyses of the ACT evidence base have tended to find medium to large effect sizes (e.g. Hayes et al., 2006; Powers et al., 2009). Equally, outside bodies such as Division 12 of the American Psychological Association consider ACT to have strong support in the area of chronic pain and modest support for depression, mixed anxiety, obsessive-compulsive disorder and psychosis (Society of Clinical Psychology, 2013). Furthermore, as of August 2014, there were 102 ACT

based randomised controlled trials (RCT) published or in press (see : http://contextualscience.org/ACT_Randomized_Controlled_Trials). However, the majority of this evidence has been amassed in areas of clinical or health psychology working with groups or individuals presenting with related problems. Of course exceptions exist. One example, as mentioned in chapter 1, is an RCT targeting stigma that can exist towards individuals with mental health problems in student populations (Masuda et al., 2007). Also, as described earlier in the thesis, other non-RCT interventions have taken place in non clinical and non health psychology areas. For example, an intervention designed to reduce ethnic minority prejudice in student populations (Lillis & Hayes, 2007) and stigma towards clients within drug and alcohol counsellors (Hayes, Bissett, et al., 2004).

This thesis has been examining whether ACT and CBS have a role to play in the area of global freedoms with the rationale that private events such as thoughts and feelings may have an influence on existing values related to pro-social behaviour. Although the previous chapter did not find a direct relationship between psychological inflexibility and self-reported helping behaviour in cross sectional data, it may still be that an increase in psychological flexibility results in an increase in helping behaviour, irrespective of pre-intervention levels of psychological flexibility / inflexibility. One obvious method for examining the potential of ACT in the area of global freedoms would be to design a group based intervention (either RCT or non RCT) following the format of previous literature (e.g. Hayes, Bissett, et al., 2004; Lillis & Hayes, 2007 ; Masuda et al., 2007; Lillis & Hayes, 2007). This might, for example, deliver material in one day or across a number of sessions spread over a longer period. However, it is notable that all three studies above, only use self-report measures as their primary outcome. No more objective measure of the success of intervention is employed. This is not a criticism of these studies alone, as such a foundation is common across the psychological literature.

In light of this, another methodological option also exists. Alongside the group based interventions, there is also an established literature of conducting ACT based interventions under single session laboratory conditions. Many of these experiments focus on specific components of the ACT hexaflex (see figure 1, chapter 1; Levin et al., 2012, p.743). Indeed, as the literature in the component study area has become more developed, guidelines have been established about how to conduct this kind of laboratory-based intervention research (see

http://contextualscience.org/how_to_do_act_laboratory_based_component_studies).

While all of the guidelines might not be relevant to this particular study, they potentially provide a valuable framework against which to develop a relevant lab-based study. The literature in this area is now developed enough that a meta-analysis was published in 2012 that summarised 66 different laboratory-based component studies (Levin et al., 2012). Carrying out interventions in a lab based environment allows for the careful control and manipulation of certain variables, which may be more difficult, more time consuming or more costly to achieve in other types of outcome research (Levin et al., 2012, p3 / p4). More over, these kind of lab based interventions “can be conducted relatively early and throughout theory and treatment development” (Levin et al., 2012, p4). For these reasons, such a study is appealing in the context of this thesis. However, whereas the studies included in the meta-analyses only purport to target specific subsets of the hexaflex components (e.g. defusion in isolation), the current intervention would aim to focus on psychological flexibility more generally – that is, both the mindfulness and acceptance processes; and the commitment and behaviour change processes of flexibility (Hayes et al., 2006, p.8).

Non-ACT literature

Choosing to conduct a lab based study also opens up some potentially useful influence from the wider social psychology literature concerning donations. This literature seems relatively well established, although as is often the case in social psychology, multi-focused (Zagefka & James, 2015). For example, in 2011 an edited book called “the science of giving” was published. It explored numerous different psychological factors that might impact different aspects of different types of donating (Oppenheimer & Olivola, 2011). While the book highlights many potential influences: such as norms and social influence, size of previous contributions and the role of emotions, there was less of a focus on identifying factors that can be directly influenced. This is perhaps unsurprising because the authors and the wider field of social psychology do not necessarily come from or ascribe to a functional contextual perspective which puts a premium on examining manipulable variables. Equally studies in this area are sometimes purely correlational or non-experimental. Also, when asking about donations, they can sometimes simply ask participants to imagine they have money to donate, or ask if they are willing to donate, rather than actually measuring donating behaviour itself, which does not address the external validity of their findings. Indeed while this proxy to actual donations seems common (see Oppenheimer &

Olivola, 2011; Zagefka & James, 2015), at the same time, it remains one step removed from the actual behaviour that is the supposed focus of the research.

Despite these potential limitations, the literature does contain examples of research which use actual donations as primary outcome variables: for example, in two of four studies described in one 2011 paper. Here, Zagefka, Noor, Brown, De Moura and Hopthrow (2011) investigated the influence of “victim blame” on donating behaviour. Victim blame refers to the attribution of partial or total responsibility for a crime, to the person who suffered it. In two of the four studies investigating this area, only self-reported willingness to donate is measured. However in the third and fourth studies, subjects were compensated £3 for their time in 50p coins, which allowed them to donate varying amounts to charity. In one study, the researchers presented participants with scenarios where a disaster was either due to human or natural causes. In the other, both victim blame and victim self-help were varied across the scenarios presented to participants. The researchers were interested in how these variations influenced actual donation levels.

In a later study, Zagefka, Noor and Brown (2013) investigated the role of knowledge on donating. Similar to previous work, in two of three studies, willingness to donate was measured using self-report, in a correlational design. However in the other study, participants were compensated £5 for taking part, again in 50 pence pieces. Half the participants had previously answered a general knowledge test on Japan, while the other had half answered a quiz on Thailand. All participants were shown the correct answers for the quiz that they had taken part in, before all participants were shown a scenario regarding the tsunami in Thailand. On average, those who did the quiz and saw the answers about Thailand donated more to the victims of the tsunami than those who did the quiz and saw the answers about Japan. The authors suggest that “knowing more” about the area increased donations. Although it is not clear from the method how the result is necessarily a result of increase in knowledge and not simply due to prior recent exposure to the country in question. It is not apparent that the authors built in any checks or controls into their methodology to examine whether it was actually knowledge that had been manipulated. This kind of check is something that is explicitly recommended in the guidelines for ACT lab component studies that were mentioned earlier. Despite these concerns, both the ACT component literature and the wider social psychological literature related to donations seem to provide a useful foundation that could be built upon in terms of carrying out a preliminary single session lab based

protocol in the area of global freedoms.

It is also interesting to note that the last study (Zagefka et al., 2013) was concerned with the impact of possible increases in knowledge. This mirrors themes from the introduction to this thesis. Here it was noted that the literature surrounding the Millennium Development Goals spoke of "the importance of mobilizing greater domestic support in developed countries towards the fulfilment of their commitments, including through raising public awareness" (United Nations General Assembly, 2010 point 78-f, p.29). The introductory chapter of this thesis noted how the closing of a perceived knowledge deficit might not be all that is needed to increase helping behaviour (e.g. Kollmuss & Agyeman, 2002, p.241).

Accordingly, it seems useful to examine the different impacts that an education intervention that focuses on knowledge delivery, versus an ACT intervention has on donating behaviour. Specifically, this research will examine whether it is possible to differentially increase the amount of money that participants donate to charities associated with global poverty and human rights using separate audio recordings related to ACT and education. In order to provide an adequate control condition, a music audio recording will also be used. Together this study will allow an examination of the final two research questions in this thesis. Specifically:

4. Can helping behaviour connected to global freedoms be increased through a brief ACT based intervention?
5. Does an increase in psychological flexibility mediate the benefits of the ACT intervention?

In addition, the methodology employed in this research allows an additional re-examination of the relationships between the self-report measures developed earlier in this thesis and actual helping behaviour in the form of donations. This relates to the first two research questions.

1. Do private internal events, such as thoughts and feelings, have a relationship with helping behaviour connected to global freedoms?
2. Does psychological flexibility relate to helping behaviour connected to global freedoms?

Whereas previously, helping behaviour related to global freedoms was only measured using self-report measures, we can now explore the relationship between an actual helping behaviour related to global freedoms and self-report measures examining both private internal events and psychological flexibility.

Method

Participants

Participants for this study included 83 individuals. Of these: 53% were female, with an average age of: 25 years (SD 9.62). In terms of geographical location: UK (87%), Europe (13%). Regarding ethnicity: White (87%), Mixed (6%). In terms of highest level of education: GCSE's or A' levels (65%), undergraduate degree (18%), postgraduate degree (12%). All participants were paid £5 for taking part in this study.

Measures

Participants completed measures concerning: Helping Behaviour (HB), Reasons For Not Helping (RFNH), Emotional Responses Scale (ERS), Socio-Political Values (SPV) and two measures of psychological inflexibility: the Everyday Psychological Inflexibility Checklist (EPIC) and the second version of the Acceptance and Action Questionnaire (AAQ-II). In addition, participants were asked on three occasions to record the amount of their £5 payment that they would donate to Oxfam, Amnesty or keep for themselves (see procedure below). Participants also completed a short understanding measure that was created as part of this study. It functioned as a manipulation check, and explored participant understanding of the audio recording they had listened too (see below).

Helping Behaviour. The HB measure (chapter 3) assesses various aspects of helping behaviour. It contains ten items over three factors (Learning More, Donating and Protest). Participants answer items on a 7 point Likert ranging from (1) very unlikely to (7) very likely. Higher scores indicate higher levels of helping behaviour. Within the present sample, the HB ($M = 38.25$, $SD = 12.42$) had very good internal consistency ($\alpha = .87$; DeVellis, 2012, p. 109).

Reasons For Not Helping. The RFNH measure (chapter 4) assesses various reasons for not engaging in helping behaviour. It contains nine items over three factors (Not Caring, Leaders Responsibility and Personal Priorities). Participants answer items on a 7 point Likert ranging from (1) strongly disagree to (7) strongly agree. Higher scores indicate higher levels of agreement with the statements, so more reasons for not helping. Within the present sample, the RFNH ($M = 32.09$, $SD = 10.00$) had respectable consistency ($\alpha = .79$).

Emotional Responses Scale. The ERS (chapter 5) assesses feelings and emotions associated with lack of global freedoms. It contains 15 items over five factor measure (Annoyed, Indifferent, Ashamed, Sympathy and Depressed). Participants

answer items on a 7 point Likert ranging from (1) very unlikely to (7) very likely. Higher scores indicate higher levels of the emotion. Previous research (see chapter 5) has indicated that the indifference factor does not correlate with the other factors. As such it is not included in the overall ERS total score. Within the present sample, the four factors of the ERS had respectable internal consistency ($\alpha = .78$), while the indifference scale had an undesirable level of internal consistency ($\alpha = .64$).

Socio-Political Values. The SPV measure (chapter 6) assesses how important participants feel universal access to certain rights and freedoms are. It is a short uni-dimensional scale. Participants answer items on a 7 point Likert ranging from (1) strongly disagree (7) strongly agree. Higher scores indicate higher levels of agreement that these rights and freedoms are important. Within the present sample, the SPV had an undesirable level of internal consistency ($\alpha = .62$).

Psychological flexibility. In this study, psychological flexibility is measured using: the Everyday Psychological Inflexibility Checklist (EPIC) and the second version of the Acceptance and Action Questionnaire (AAQ-II).

The **EPIC** (chapter 7) assesses aspects of psychological inflexibility in an every day context. It contains eight items over two factors (Avoidance and Behavioural Rigidity). Participants answer items on a 7 point Likert ranging from (1) never true to (7) always true. Higher scores indicate higher levels of psychological inflexibility. Within the present sample, the EPIC had respectable levels of internal consistency ($\alpha = .79$).

The **AAQ-II** (Bond et al., 2011) is the standard measure of psychological inflexibility used in clinical contexts. It is a uni-dimensional seven item measure. Participants answer items on a 7 point Likert ranging from (1) never true to (7) always true. Higher scores indicate higher levels of helping behaviour. Within the present sample, the AAQ had very good levels of internal consistency ($\alpha = .89$).

Understanding measure. A new 10 item measure was designed for this study. It was completed by participants after they had listened to one of the three audio recordings. It asked if the audio recording had helped to increase their understanding of 10 different things. Five items related to the education recording (e.g. Global poverty; Oxfam) and five were related to the ACT recording (e.g. How my thoughts and feelings can hinder action; Not needing to let thoughts and feelings get in the way of donating). No items related directly to the music condition. Participants responded to each item on a 7 point Likert-type scale ranging from (1) strongly disagree to (7) strongly agree.

Higher scores indicate higher levels of understanding. Within the present sample, the education sub-scale had very good internal consistency ($\alpha = .95$) as did the ACT sub-scale ($\alpha = .91$).

Procedure

The data was collected using the online survey platform Limesurvey (<http://www.limesurvey.org/en/>). Participants undertook the experiment in one of the psychology labs at Canterbury Christ Church University. Ethical permission was sought and received from both Goldsmiths, University of London and Canterbury Christ Church University. Participants were recruited by posters and flyers around the campus and / or via e-mails to different departments.

Once settled in front of the computer, the research assistant would leave the room and the participant would control the progress of the study which was automated by the online survey platform. Participants began by reading a short amount of information about the study explaining that they would be asked to answer a series of questions and listen to one ten minute audio recording. Having consented to take part in the study, participants completed some demographic information followed by the questionnaires in the measures section above.

Then participants read a short amount of background information about global poverty and human rights before being provided with a one sentence introduction to the work of both Oxfam and Amnesty International (see appendices). The key dependent variable in this study was the amount of their £5 / 500p payment that participants were willing to donate to Oxfam, Amnesty or keep for themselves. In order to establish a baseline of donations, they were asked about donations on three separate occasions: i. before listening to the audio, ii. after listening to the audio and iii. after they had been given their payment. During ask one, instructions on the computer screen asked participants if they would consider donating any of their £5 / 500p to either charity. They then had to allocate all of their £5 / 500p to any combination of either i. Oxfam, ii. Amnesty International or iii. themselves. The screen would not progress until the three totals added up to £5 / 500p. However it is important to note that at all three asks, participants did not have to give any money to charity. They were always able to allocate all of the money to themselves.

Following this, participants listened to one of the three ten minute audio recordings either: i. an education intervention, ii. an ACT intervention, or iii. a control condition featuring relaxing music. The choice of audio recording was randomized by

the Limesurvey software. After the audio, participants completed the understanding measure. Then they were asked to either change or reconfirm their £5 / 500p donations to charity or self, by entering the amounts on a computer screen (ask two). Ask two took place on a computer screen in the same way ask one did, but after the participants had listened to one of three audio recordings. Information on the screen reminded them what they had donated at ask one. After ask two, participants were given their actual £5 / 500p for taking part and now had the opportunity to donate none, any or all of their actual payment to one of the charities for real or keep the money for themselves (ask three). Specifically, a message on the screen told participants that their payment was in a drawer on the desk in front of them and that, if they wished, they could donate any of that payment to either Oxfam or Amnesty International by leaving money in pre-labelled envelopes. The £5 / 500p payment was given to participants in coin denominations that enabled them to make any combination of donations to themselves, Oxfam or Amnesty International. At this point, participants had the opportunity to leave any feedback they had about the study, leave any donations in envelopes on the desk and to leave the room where the room where the experiment had taken place. Outside, the research assistant was waiting for them.

Audio recordings

Three audio recordings were prepared for this study: education, ACT and music. Each recording was approximately 10 minutes long. The music recording was the control condition and simply contained 10 minutes of non-lyrical, relaxing music. The education recording provided more information about global poverty, human rights and the work of Oxfam and Amnesty International.

The ACT audio contained a number of short experiential tasks related to ACT rather than instruction alone. This follows research by Levin et al. (2012) who found larger effect sizes for experiential tasks compared to rationale. The first task simply asked participants to notice whether global poverty and human rights mattered to them. Then they were asked to notice their likely response if asked to make a difference to poverty. Then experiential tasks from the ACT literature illustrated the conditional nature of thoughts (e.g. “Mary had a little...”; Hayes & Smith, 2005, p.73), before their attention was drawn to potential automatic reasons or excuses that might occur when asked to donate to charity. Participants were then asked to notice any private internal events that occurred when they were asked to to donate to charity. Then, the potential cost of automatic or fused behaviour was explored in terms of valued living before the

alternative of: i. simply noticing private events and: ii. acting in the direction of values was offered as a potential alternative way to act.

As well as making sure that all audio recordings were approximately the same length in terms of time, the education and ACT conditions were also matched in terms of the readability of the text that was used. Specifically the text from the transcripts was examined for passive sentences, calculations involving the average sentence length and average number of syllables were also made. Passive sentences were reduced and readability scores were brought down to ensure they were, on average, acceptable to 8th graders in the United States (UK equivalent, year nine).

Missing data

In research with a relatively small number of participants, the use of listwise deletion for missing cases can be costly (King, Honaker, Joseph, & Scheve, 1998). At the same time, authors such as Kline (2000), Schlomer, Bauman and Card (2010) and Tabachnick and Fidell (2007) note that missing data totalling less than 5 or 10% tends to be non-problematic. Examining all items contained in the seven questionnaire measures listed above, no single item had more than two pieces of missing data. In total, 21 items across all measures had missing data: 19 were missing one piece from one participant, the remaining two were missing two pieces. There appeared to be no obvious pattern of missing data. The 24 pieces of missing data represent just 0.36% of the data set (6723 items in total): far below the 5 / 10% threshold recommended above (Kline, 2000; Schlomer et al., 2010; Tabachnick & Fidell, 2007).

Accordingly, the small amount of missing data was managed using “hotdeck imputation” (Myers, 2011). This process uses a data sorting strategy to make a reasonable best guess of the missing value. In short, it replaces the missing value with the value used by a similar “donor” in the dataset that is matched on other variables (Myers, 2011, p301). In terms of potential advantages: it keeps all data and inserts a realistic new value that is within the range of possible values.

Results

To introduce the results, first there follows some orientation to the whole data set. This highlights issues related to change scores and bi-modal donation data. Only then will the results examine whether participants responded differently to the audio recordings in terms of donating: an important pre-requisite to the other research questions. Next, the relationship between donation data and the previously completed self-report measures is examined. Following this two logistic regressions are used to

explore whether the audio recordings had any difference on ask two compared to ask one; and ask three is also compared to ask two. Finally, further non-parametric tests are carried out as a result of unexpected results from the logistic regressions.

Donation data orientation

The key dependent variable in this research is the amount of money donated to Oxfam, Amnesty International or kept by participants. Participants could donate or keep any combination of money, up to 500p (£5). In these results we focus on the amount of money participants allocated to themselves. So when the results refer to “donations” – they are referring to “donations to self”. In other words: larger amounts of money donated to self indicate less helping behaviour as less money is given to charity. However before the results are explored, and before any examination of the influence of the audio recordings happens, it is important to note two points about the donation data regarding: 1. change scores and 2, its bi-modal nature.

Change scores. It might be assumed that one of the main ways of assessing the impact of the audio recordings on donations, would be to calculate a change or difference score amongst the three asks. However researchers cite methodological, statistical and psychometric problems using these scores (Edwards, 2001). These include but are not limited to: low reliability, poor internal consistency, problems with discriminant validity, spurious correlations and variance restriction (Peter, Churchill, & Brown, 1993; Chious & Spreng, 1996). As such difference scores will not be reported in this research. However, when they were calculated the pattern of results told a similar story to the one detailed below.

Bi modal data. A closer examination of the donation data, irrespective of audio condition, revealed an unexpectedly bi-modal pattern of data. At ask one, 36% of participants (n=30) allocated all of their money to themselves, while a further 35% (n=29) donated it all to charity. Similarly, at ask two and three, a decreasing number allocated it all to themselves (ask two 28%, n=23; ask three 17%, n=14), and an increasing number donated it all to charity (ask two 39%, n=32; ask three 42%, n=35). In other words, before any analysis of audio condition takes place, bi-modal peaks are present throughout the dependent variable. Moreover, as bi-modal data is not open to transformations, it is difficult to examine the donation data using parametric statistics. Instead, non parametric statistics will be used throughout these results. Having highlighted these issues, the results will now proceed to assess the influence of three different audio conditions (Education, ACT and Music), first checking whether they are

understood by participants.

Understanding of the audio recordings

It is important to check that participants understood and responded to the audio recordings differently. To examine this, Table 40 shows the scores for the sub-scales of the understanding measure (see measures section). This measure was completed after participants had listened to their allocated audio recording. It had five items related to an increase in knowledge (education sub-scale) and five related to an increase in psychological flexibility (ACT sub-scale).

Table 40. Mean and standard distribution scores for the sub-scales of the understanding measure across all three audio conditions.

	Education audio	ACT audio	Music audio	Total sample
Education sub-scale	28.03 (5.76)	13.72 (7.16)	13.11 (7.06)	18.69 (9.66)
ACT sub-scale	19.83 (6.54)	24.64 (5.36)	16.36 (8.38)	20.11 (7.60)

The top row of data in Table 40 shows that the highest scores on the education sub-scale were found when participants were listening to the education audio. This suggests an increase in knowledge around Oxfam and Amnesty as a result of the education recording. The second row of data in Table 40 shows the highest scores on the ACT sub-scale were found when participants listened to the ACT audio. Again, this suggests an increase in knowledge around psychological flexibility as a result of listening to the ACT recording. These results are as hoped: highest scores are found where the audio condition and sub-scale match. However were the differences in the data significant?

To check, two independent sample Kruskal-Wallis tests were performed, as the distribution of the data was non normal. For the education sub-scale a significant effect for audio was found $H(2) = 43.471, p < .001$. Pairwise comparisons, with adjusted significance levels, found no significant difference between the music and ACT audio conditions ($p = .78, r = .02$), but did find significant differences between music and education ($p < .001, r = .46$) and ACT and education ($p < .001, r = .42$). Again, for the ACT sub-scale a significant effect for the audio condition was found $H(2) = 16.167, p < .001$. As before, pairwise comparisons found no significant difference between the music and education audio conditions ($p = .48, r = .10$), but did find significant differences

between music and ACT ($p < .001$, $r = .31$) and ACT and education ($p < .008$, $r = .21$). In terms of effect size (small > 0.1 ; medium 0.3 ; large > 0.5), the education condition had larger results ($r = .42 / 46$) than the ACT condition ($r = .21 / .31$).

These results suggest that participants engaged and understood the content of the education and ACT audio conditions. Significant differences were related to the audio condition participants listened to. More specifically, where the audio condition and sub-scale matched, significant differences were found when compared to instances where the audio condition and sub-scale did not match. Moreover, when pairwise comparisons were made between data where both sides of the pair involved a mismatch between audio condition and sub-scale (e.g. scores on the education sub-scale when participants listened to either the music or the ACT audio) no significant difference emerged.

Correlations between donations and self-report measures

The relationship between the donations data across all three asks and the self-report measures used in this study are shown in Table 41 below. Kendall's tau is used in preference to Spearman, as it performs better in non parametric data sets with relatively small numbers and tied ranks (Field, 2013, p.278).

Table 41 Summary of the Kendalls tau correlations between donations to self and self-report measures

Measure / ask	HB Total	Learning more (HB)	Donation (HB)	Protest (HB)	RFNH	ERS	Indiff.	SPV	EPIC	AAQ-II	U-stand Education	U-stand ACT
Self (ask one)	-.09 ns [-.25, .08]	-.07 ns [-.24, .09]	-.10 ns [-.29, .06]	.03 ns [-.14, .19]	.14 ns [-.04, .30]	-.06 ns [-.22, .13]	.00 ns [-.15, .16]	-.03 ns [-.19, .14]	.13 ns [-.04, .29]	.01 ns [-.17, .18]	-	-
Self (ask two)	-.25 ** [-.39, -.09]	-.21 * [-.38, -.05]	-.21 * [-.38, -.03]	-.09 ns [-.25, .07]	.22 ** [.06, .37]	-.07 ns [-.23, .11]	.08 ns [-.09, .24]	-.03 ns [-.20, .15]	.14 ns [-.02, .29]	-.02 ns [-.20, .13]	-.16 ns [-.32, -.01]	-.15 ns [-.31, -.01]
Self (ask three)	-.22 ** [-.35, -.07]	-.18 * [-.34, -.01]	-.17 * [-.33, -.01]	-.08 ns [-.24, .11]	.20 * [.03, .36]	-.05 ns [-.20, .11]	.07 ns [-.11, .25]	-.06 ns [-.22, .12]	.08 ns [-.08, .24]	-.01 ns [-.17, .16]	-.10 ns [-.25, .05]	-.12 ns [-.29, .05]

Note. ns= not significant ($p > .05$), * $p < .05$, ** $p < .01$, *** $p < .001$. BCa bootstrap 95%, 1000 samples, CIs reported in brackets. HB = Helping Behaviour. U-stand = Understanding measure. RFNH = Reasons For Not Helping. ERS = Emotional Responses Scale. Indiff. = Indifference. SPV = Socio-Political Values. EPIC = Everyday Psychological Inflexibility Checklist. AAQ-II = Acceptance and Action Questionnaire II. Sample $n=83$.

As can be seen from Table 41, all correlations at ask one were non significant, with all bootstrapped confidence intervals including zero. At asks two and three, the Helping Behaviour and Reasons For Not Helping measure produced significant correlations. As the Helping Behaviour measure includes a sub-scale which specifically refers to donating money, an examination of the correlations between donations and the three sub-scales of the Helping Behaviour measure was also made. Like the Helping Behaviour total score, only non-significant correlations were found at ask one. However, at asks two and three both the Donation sub-scale and the Learning More sub-scale had similar sized correlations with actual donating. Table 41 also shows the correlations for the two factors of the Understanding measure that was completed after participants listened to the audio recording. Scores on these two sub-scales showed no significant correlation with actual donations at any time point.

In terms of the directions of the relationships of the correlations that were significant: the relationships are in the expected direction. As scores on the Helping Behaviour measure increase (more helping), so the level of donations to self decreases. Similarly, as scores on the Reasons For Not Helping Measure increase (more reasons), so donations to self increase.

Logistic regression

In order to examine the influence of the audio recordings on donations at asks two and three, two multinomial logistic regressions were carried out. The advantage of performing a regression is that other variables can be controlled for. So, for example, it can attempt to predict donations at ask two while controlling for donations at ask one. For logistic regression, the donation data must be divided into categories. Accordingly, the choice was taken to divide the data into three categories: i, giving between 0 and 49 pence to self (none) ii, giving between 50 and 450 pence to self (some) and iii, giving between 451 and 500 pence to self (all). Bearing in mind the bi modal nature of the data, these three categories seemed to make intuitive sense. In addition, it seemed sensible to not make the dividing line between three categories the difference between 0 and 1 pence, or 499 and 500 pence. But instead, to have a wider catchment of giving none “or nearly none” (i.e. 0 to 49 pence) and all “or nearly all” (i.e. 451 to 500 pence).

The first regression tried to predict donations at ask two (the DV). Donations at ask one were entered at step one and the audio condition (the IV) was entered at step two. Similarly, the second regression tried to predict donations at ask three, so donations at ask two were entered at step one and the audio condition was again entered at step two. As logistic regression has more stringent sample size requirements than multiple regression (Bewick, Cheek, & Ball, 2005; Garson, 2014; Peng, Lee, & Ingersoll, 2002), the number of predictors were kept to a minimum.

In terms of predicting donations at ask two: the first step of the model, donations at ask one, was significant, $\chi^2(4) = 98.14, p < .001$. Step two, where the audio conditions were entered also proved to be significant $\chi^2(4) = 9.90, p = .042$. However it must be noted that the significance of the second step ($p = .042$) is very close to the $p = .05$ threshold. In terms of pseudo R squared, both steps combined predicted between .72 (Cox and Snell) and .82 (Nagelkerke) of the data. The parameter estimates which attempt to explain the second step are shown in Table 42 below.

Table 42. Logistic regression examining the role of donations at ask one and the audio

condition on donations at ask two.

		<i>B</i> (SE)	Wald	OR	95% CI
None v all	Intercept	-3.94 (1.67)*	5.66		
	None at ask one	23.66 (3732.13)	0.00	1.89 x 10 ¹⁰	-
	Some at ask one	40.01 (1.40)***	816.80	2.36 x 10 ¹⁷	-
	Education audio	1.51 (1.51)	1.00	4.54	0.23, 87.88
	ACT audio	-17.81 (3732.13)	0.00	1.83 x 10 ⁻⁸	-
Some v all	Intercept	-.73 (0.71)	1.07		
	None at ask one	18.63 (3732.13)	0.00	1.23 x 10 ⁸	-
	Some at ask one	39.73 (0.00)	-	1.78 x 10 ¹⁷	-
	Education audio	-0.43 (0.95)	0.21	0.65	-
	ACT audio	-19.37 (3732.13)	0.00	3.86 x 10 ⁻⁹	0.10, 4.16
Some v none	Intercept	3.21 (1.56)*	4.23		
	None at ask one	-5.06 (1.58)**	10.15	0.01	0.00, 0.14
	Some at ask one	-0.28 (1.40)	0.04	0.76	0.05, 11.74
	Education audio	-1.95 (1.26)	2.38	0.14	0.01, 1.70
	ACT audio	-1.56 (1/28)	1.50	.211	0.01, 2.55

Note. ns= not significant ($p > .05$), * $p < .05$, ** $p < .01$, *** $p < .001$. -, unable to calculate or report due to size of number.

An examination of Table 42 reveals multiple high standard estimates and odd ratios. This was due to a quasi-complete separation in the data. This refers to when a predictor or combination of predictors accounts for the outcome variable very successfully. Logistic regression is unable to produce accurate estimates in such circumstances. In other words, the donation data from ask one is so good at predicting the donation data at ask two, that it is not possible to get a clear picture of how the different audio recordings may additionally influence the donation data. As such, whilst reported above for transparency, the results in Table 42 are unable to provide any adequate explanation of where any differences in step two come from. In more simple

terms, the results of the logistic regression above indicate that levels of donations at ask one significantly predict the level of donations at ask two. Adding in the potential influence of the audio recording may make a small, additional contribution, however due to the similarity of donation data at ask one and two, the regression is unable to provide any more specific information about where this occurs.

A second multinomial logistic regression was carried out to evaluate the success of predicting donations at ask three. This time the data encountered no problems with quasi-complete separation. The first step of the model, where donations at ask two were entered was significant, $\chi^2(4) = 72.40$, $p < .001$. However step two, where the audio condition was entered, was not significant and was not retained. In terms of the pseudo R squared for step one, the model predicted between .58 (Cox and Snell) and .66 (Nagelkerke) of the data. As the audio condition was not retained, the table of parameter estimates is not produced below.

In short, the results of the second logistic regression indicate that levels of donations at ask two significantly predict the level of donations at ask three. However adding in the potential influence of the audio recording provides no further significant information.

Additional non-parametric checks

Due to the failure of the first logistic regression to pin-point the influence of the audio recordings on ask two, the differences between all three asks was examined using both Friedman's ANOVAs and independent samples Kruskal-Wallis tests. First the Friedman's ANOVAs will check for differences in donation data without taking the audio conditions into account. Then, the independent samples Kruskal-Wallis test will explore for any differences caused by audio condition at each of the asks.

The Friedman's ANOVA found that the distribution of donations significantly changed over the course of the three asks $\chi^2(2) = 16.67$, $p < .001$. However pairwise comparisons found no significant differences between ask 1 and ask 2, when the audio conditions were listened to ($T = .241$, $p = .362$, $r = .08$), nor between ask 2 and ask 3 ($T = .151$, $p = .996$, $r = .12$). Instead, the only significant difference was between ask 1 and ask 3 ($T = .392$, $p = .012$, $r = .20$), and the difference was only a small effect size. Overall, this suggests that the donation data across all three asks relatively closely resembled each other. Only between ask 1 and ask 3 was a small significant difference found.

However, the above results are unable to tease out any differences as a result of the different audio conditions, so separate independent samples Kruskal-Wallis tests

were carried out. Here, no significant effect of audio condition was found for the levels of donating at ask two $H(2) = .168, p=.919$, or ask three $H(2) = .426, p=.808$. A third test was carried out for the data at ask one to check whether any significant differences existed prior to the audio condition taking place. It also found no significant results: $H(2) = .625, p=.732$. Overall this suggests the audio recordings did not differ in their influence on the donation data.

Discussion

This study was primarily conducted to explore whether level of donations could be increased through exposure to a brief ACT audio recording. This relates to two research questions posed at the start of this thesis. Specifically: 1. Do private internal events, such as thoughts and feelings, have a relationship with helping behaviour connected to global freedoms? 2. Does psychological flexibility relate to helping behaviour connected to global freedoms? The ability to move towards and answer the second research question is dependent on success in terms of the first. However, the answer to the first question, according to this data, is “no more than a control condition” and so the answer to the second questions is also no. In other words, in the research reported above, no evidence was found that the contents of either an ACT or an education audio recording moved donation data any more than a control condition featuring music. As a result, any enquiry as to whether an increase in psychological flexibility mediates any changes is not currently warranted.

This study also provided the opportunity to re-explore two earlier research questions using an actual helping behaviour, donations to charity as opposed to self-reported help behaviour alone. Specifically those questions asked: do either 1. private internal events or 2. psychological inflexibility have a relationship with global freedoms related helping behaviour? In answer to these questions, the only self-report measure that consistently formed a significant relationship with donating was the self-report Helping Behaviour measure itself. However even this most obvious of matches did not produce a significant relationship at ask one. In short, the results found a lack of direct significant relationships between most other self-report measures (i.e. Emotional Responses to Suffering, Indifference, Socio-Political Values), including those measuring psychological inflexibility, and actual donations to charity.

In terms of the donation data itself, the general pattern of results found no clear evidence for the significant influence of the contents of any one audio recording. Logistic regressions were performed, controlling for the influence of donations at ask

one on ask two, and, separately for donations of ask two on ask three. The results showed no clearly distinguished role for any of the three audio recording categories on either logistic regression. While the levels of significance in the first regression did suggest a role for the audio recording categories in terms of predicting donations at ask two while controlling for data at ask one ($p=0.42$), it was not possible to isolate the exact nature of this influence due to quasi-complete separation in the data. In other words, because the donation data at ask one did such a good job of predicting donating at ask two, it was not possible to estimate any additional influence that the contents of any of the audio recordings were having. By way of illustrating the quasi-complete separation found in the data, it is worth noting just how closely related donations at ask one and ask two data were. For example, the correlation between donations at ask one and two was $\tau=.80$. A correlation of this magnitude is high anyway, however it should be noted that correlations using Kendalls Tau, tend to be smaller than the equivalent parametric correlations performed using Pearson (Field, 2013, p.287). This suggests that the strength of this relationship could be even stronger. Finally, it must also be noted that the level of significance found for the influence of the audio recording was only $p=.042$, so it is likely that the effect size would only have been small.

Follow up non-parametric tests, looking at the data as a whole and not examining for the influence of the different audio recordings, only found a significant difference between donation levels at ask one and ask three. Even then, the effect size was only small. Importantly, no significant difference was found between ask one and ask two, which is the period when the audio recordings were played. That said, it is possible that one audio recording performed significantly differently to the others. However when these checks were made, no differences were found. In short, it does not seem that any audio condition influenced donations levels, never mind one being more influential than the other.

This result is equally disappointing in terms of the potential utility of both ACT and education based interventions. As stated at other points in this thesis, it has been suggested that increasing knowledge and raising awareness might be 'a' or even 'the' important step in terms of mobilising support to improve global freedoms (United Nations General Assembly, 2010 point 78-f, p.29). Indeed, other research has suggested that increasing knowledge, increases donation levels (Zagefka et al., 2013). Yet, in terms of the data from this study, education did not seem to perform significantly differently overall from the control condition: music.

One possible explanation is that neither active audio intervention (education or ACT) achieved what they set out to do. However this needs to be offset against the data from the understanding questionnaires, which suggest the opposite. These show, for example, that when participants listened to the ACT audio recording they later had higher scores on the ACT understanding questions. Similarly for the education audio recording and questions related to education. Despite this, no significant differences were found between ask one and ask two, nor was any significant role played by any individual audio recording. Perhaps it is possible that despite the audio recordings doing what they were designed to do, they simply were not potent enough to bring about changes in donations. In this way, perhaps the problem was not about the audio recordings not containing the right components but of them not containing an adequate “treatment dose” to achieve a response (Hansen, Lambert, & Forman, 2002). In other words, although the correct thing was achieved by the audio recordings, it was not sufficiently powerful to bring about a change in donating behaviour. Perhaps then, the intervention needed to be longer in terms of time, or more potent in terms of impact. Another possibility is that the same length audio recorded required longer to “sink in”, equivalent perhaps to a mental practice effect (Driskell, Copper, & Moran, 1994). Another potential explanation may be found in the experimental methodology. It is perhaps noteworthy that one of the things this research tried to do was not just compare donations across groups of participants (e.g. ACT v education audio) but to establish a baseline of donating prior to the intervention, carry out the intervention, check again, and then actually give participants their money. While the wider donation research (e.g. Oppenheimer & Olivola, 2011) contains a variety of different methodological forms, most lab based studies tend to only gather donation data at one time point (e.g. Zagefka et al., 2011; Zagefka et al., 2013). It is possible that the more elaborate methodology used in this research, unintentionally influenced the results of the study. For example, participants had volunteered to take part in this research, they knew it was a psychological study. It is likely that they would have expected some kind of manipulation to occur. It is also likely that they would have noted from taking part, that they were being asked about their donation behaviour on three separate occasions. It seems possible that these factors may have led to participants, consciously or unconsciously, to seek to maintain a relatively consistent level of donations throughout the experiment. A wider “preference for consistency” has been found elsewhere in the wider psychological literature (Cialdini, Trost, & Newsom, 1995). Indeed, examining

the data, irrespective of audio condition, only 30% (n=25) of participants changed the amount they donated between ask one and ask two. And across all three of the asks almost half of the participants (43%) did not alter the amounts they donated at all (n=36). Lack of movement potentially seems to be an issue. Perhaps, future studies may seek to tease out whether treatment dose and / or multiple asks influenced the make up of the data.

Without discounting the above discussion, it must be noted that the overall pattern of data did reveal an overall reduction in donations to self. Despite the bi-modal data, at ask one, the mean amount of money allocated to self was roughly half (244.89p, SD=220.46), at ask two this reduced to 223.01p (SD=212.85), and it reduced still further to 204.94p (SD=204.935) at ask three. Although the large standard deviations and limited effect size for the significant change between ask one and three must also be noted. However, if this change was not due to the audio conditions, a question remains as to why this drop occurred. It seems possible that the mere act of repeated asking led to a reduction due to compliance in the direction of perceived social norms. Such phenomena is not unheard of in the social psychological literature in relation to donations. For example, the foot-in-the-door method, refers to the increased chance of getting a person to agree to a large request if they have already agreed to a small one (Beaman, Cole, Preston, Klentz, & Steblay, 1983; Freedman & Fraser, 1966). However, the door-in-the-face method also exists (Cialdini et al., 1975). This is the reverse, where one starts with a large request, with the aim of securing a smaller one. Perhaps an underlying similarity across these techniques, also captured by this study, is that if a person is in a receptive context where they keep being asked for something, they end up giving more, irrespective of whether they are asked for large or small amounts to begin with. Perhaps it is the repeated ask that is important.

Generally speaking, the correlations between the donation data across the asks and the self-report data were weak. Only the Helping Behaviour measure and Reasons For Not Helping scale produced significant relationships with donations on more than one occasion, and even then not at ask one. In other words not before participants had listened to one of the randomly allocated audio recording. While perhaps underwhelming, it is at least encouraging that the self-report data around helping behaviour had a significant and negative relationship to the amount donated to self at asks two and three. It is also perhaps worth noting that as the data was bi-modal, correlations were performed using Kendall's Tau. This generally results in smaller sized,

and more conservative, correlations than when using Pearson or Spearman (Field, 2013, p.287).

Equally, although examples from elsewhere in the literature have used both self-report measures and actual donations (e.g. Zagefka et al., 2011; Zagefka et al., 2013), the results of those studies do not always report the correlations between the two types of behaviour: i.e. self-reported helping and actual helping. Indeed, in the literature referenced above, willingness to donate and actual donations are often examined as separate and unrelated outcomes. Their inter-correlation are often not reported (i.e. Zagefka et al., 2011). So the lack of numerous strong correlations between self-report measures and actual behaviour may not be limited to this study alone. Of course, the disconnect between self-report data and actual behaviour in psychology is widely known (Barnes-Holmes, Barnes-Holmes et al., 2010; Dasgupta et al., 2000). It is suggested that in certain instances participants may adopt contextual self presentation strategies, and so may not give their most immediate, or perhaps most honest, response(s). This may be particularly apparent where the participant is being asked about socially sensitive areas (Barnes-Holmes, Barnes-Holmes et al., 2010; Dasgupta et al., 2000). As a result some researchers conduct research using implicit measures such as the Implicit Association Test (IAT: Greenwald, McGhee, & Schwartz, 1998), or the Implicit Relational Association Protocol (IRAP: Barnes-Holmes, Barnes-Holmes et al., 2010; Power, Barnes-Holmes, Barnes-Holmes & Stewart, 2009). The use of these implicit measures may present future research pathways for the topic of psychological flexibility and global freedoms (see chapter 10).

Limitations

This study and the analysis of the data it produced has a number of limitations. As stated earlier, the bi-modal nature of the data was not expected. It limited the statistical options in terms of data analysis. It also may have limited the potential of participants to change the amount they donated. For example: looking at the donations to self from ask one, two thirds of participants donated at one of the two extremes: all or nothing. This means that they had limited directions in which they could move. Participants were not able to give more to charity or more to self beyond the £0 / 0p or 500p / £5 limit – and many were already at the position from ask one.

It must also be noted that the numbers of participants in this research were not huge. While the total sample size of 83 divided amongst 3 conditions was designed to be adequately statistically powered, it is possible that the bi modal nature of the data

reduced any ability to discover an effect that was present in the data. For example it was not anticipated that logistic regression was going to need to be carried out, and it has larger sample size requirements than traditional multiple regression (Bewick et al., 2005; Garson, 2014; Peng et al., 2002). There is no clear golden rule / rule of thumb for logistic regression (Peng et al., 2002, p.10) – and different sources vary, suggesting as few as N=50 (Peng et al., 2002, p.10) or as many as N=400 (Bewick et al., 2005; p.117). Equally, if the sample size was greater it would have been useful to include other variables such as the Helping Behaviour and Reasons For Not Helping measures in the logistic regressions due to their significant correlations with donating behaviour. It is also worth noting that there were slightly fewer participants in the ACT condition than in the education and music conditions. No participants dropped out during the experiment, this was simply due to the randomisation algorithm in the Limesurvey software. While, over time, the algorithm would have undoubtedly distributed participants evenly over the three conditions, there was a slight discrepancy for this condition at this level of participation. Schulz and Grimes (2002) note how these minor differences should be expected and they guard against “forcing cosmetic credibility”(p.966) on randomised groups.

It is also worth being aware that while it was important to this research to try and capture actual helping behaviour, this was actually only done at ask three. While participants were asked to state what they would donate at ask one and ask two, these were in effect “self-report asks”. In some ways, there might only be limited difference between this kind of data and the “willingness to donate” likert data reported in other research (Oppenheimer & Olivola, 2011; Zagefka et al., 2011; Zagefka et al., 2013). This might be one other reason for a move away from multiple asks in future research. That said, it is also worth remembering that no significant difference was found between ask two and ask three (the two asks after the audio intervention) when the change from self-report asks to an actual donating behaviour took place.

Finally, it is worth noting that the results reported in this study focus on donations made to self. While it is, of course, true that with less money donated to self, more money is donated to either Oxfam or Amnesty International, the results did not examine the potential difference between donations to the two charities. It may be potentially interesting to explore the difference in any changes between donations between the two charities. However, in the short term, it seemed more important to pursue the analysis presented in the results above in order to first answer the research

questions related to this thesis. Indeed in doing so, we have discovered potential problems with the methodology which would seem to need to be resolved before a more fine grained analysis is pursued (also see below).

Future directions

The results of this study raise many questions. While it was always intended to be a preliminary examination of the potential utility of ACT in such areas, the results were not positive or definitive for either ACT nor education. However, rather than drawing any firm conclusions about the implications for theory, it is probably better to conduct further research to try and understand why the research produced the results that it did.

Future studies following the same or similar methodologies could consider altering the number of variables. Perhaps the audio conditions could be made longer to increase the potency of the treatment dose. Perhaps the study could be simplified to have only one potential charity target instead of two. For example, it seems possible that including two charities rather than one contributed to the bi modal nature of the data. This is an empirical question, which can only be examined with the aid of more data. Perhaps the baseline approach to collecting multiple donations could also be dropped. An alternative would be to employ it again alongside a specific intervention which has proven evidence for working to see if the context of multiple asks influences donating behaviour. This may also allow a further examination of any parallels with the foot-in-the-door or door-in-the-face methods. Other, more extended options might be to allow longer for the message of the audio recordings to sink in, or to expose participants to the audio recordings on multiple occasions.

A different option would be to step back from re-running another version of the lab based study and instead to examine the utility of the ACT audio intervention itself. For example, it might be useful to keep the ACT audio intervention as it currently is, and to use it as the basis for a qualitative research study. Specifically, to run participants through the ACT intervention, and after the audio intervention to spend time interviewing participants about their experience of the audio recording to more fully understand the influence it had on them and its effectiveness.

Finally, one other point is worth considering. One of reasons for running a single session lab based study, and giving participants £5 compensation, was the assumption that monetary donations would provide a normally distributed dependent variable of actual helping behaviour. However this was not the case. If future research also finds

non normally distributed bi modal data, then unless researchers are specifically interested in donating behaviour itself (i.e. Zagefka et al., 2011; Zagefka, Noor, Brown, Hoptrow, & de Moura, 2012), others may choose to focus on other instances of behaviour that can be recorded in categories such as yes / no binaries. For example signing a petition, writing a letter or taking part in an act of activism.

10. General discussion

The final chapter of this thesis will provide a general discussion of its contents. First it will provide an overview of its different chapters. Then, it will examine the implications of the work. Next it will discuss possible future research avenues. Finally, before drawing an overall conclusion, a reflection on the limitations of this thesis will be offered.

10.1. Overview

Including these pages, this thesis contains 10 chapters. By way of a brief summary: the first chapter provided an introduction to the background literature that surrounds this research along with the research questions that frame it. Chapter two provided an overview of the literature and relevant steps specific to scale development. Chapters three to seven described the preliminary scale development process for the five self-report measures that were designed as part of this thesis. Chapter eight explored the relationship between these newly designed self-report measures and another, established, measure of psychological inflexibility: the AAQ-II (Bond et al., 2011). The final data driven study, chapter nine, described a preliminary single session lab based study examining the potential of an ACT based intervention to increase helping behaviour.

In a little more detail, the first chapter outlined a desire to investigate the potential of psychological flexibility in helping to increase global freedoms – the combined issue of both global poverty and human rights abuse. The chapter outlined the potential guiding role of Contextual Behavioural Science (CBS), an approach based on Functional Contextualism (FC). It noted how CBS includes both Relational Frame Theory (RFT) and Acceptance and Commitment Therapy (ACT). It highlighted how the evidence base for the usefulness of CBS is growing, especially for ACT. At the same time, it noted that limited work has taken place outside of clinical, health and occupational settings.

Against this backdrop, the decision was taken to build a foundation of work in the area of global freedoms. Such preliminary work would involve an initial investigation into the role of internal private events, psychological inflexibility and helping behaviour in the area of global freedoms. In general terms, the work sought to answer the question: do private internal events have a relationship with helping behaviours that promote global freedoms and what role, if any, does psychological flexibility play in this? More specifically, the thesis sought to answer the following five

research questions:

1. Do private internal events, such as thoughts and feelings, have a relationship with helping behaviour connected to global freedoms?
2. Does psychological flexibility relate directly to helping behaviour connected to global freedoms?
3. Does psychological flexibility play any indirect role in the relationship with other variables and helping behaviour connected to global freedoms?
4. Can helping behaviour connected to global freedoms be increased through a brief ACT based intervention?
5. Does an increase in psychological flexibility mediate the benefits of the ACT intervention?

However, due to the lack of previous research in this area, both in terms of work that had adopted a CBS perspective and a lack of wider psychological research that could be easily be used by someone following a CBS perspective, a large part of the thesis was taken up with preliminary scale development.

With this in mind, chapter two outlined the literature related to scale development, highlighting issues important to initial scale design such as scale conceptualisation, item pool development and piloting items. Later sections of the chapter provided an overview of issues relevant to both exploratory and confirmatory factor analysis. Stemming from the five research questions listed above, it was decided to develop self-report measures specific in the following areas:

1. Helping behaviour related to global freedoms
2. Thoughts and cognitions related to global freedoms
3. Feelings and emotions related to global freedoms
4. Values related to global freedoms
5. Psychological inflexibility in an everyday context

As a result, the development of these five measures is detailed in chapters three to seven with the measures eventually being named:

Chapter three – Helping Behaviour (HB) measure

Chapter four – Reasons For Not Helping (RFNH) measure

Chapter five – Emotional Responses Scale (ERS)

Chapter six – Socio-Political Values (SPV) measure

Chapter seven – Everyday Psychological Inflexibility Checklist (EPIC)

In each section of these chapters, the requirements for the measure was outlined,

before exploring the wider literature looking for a suitable pre-existing measure. In each case, no suitable measure was found and so the process of scale development took place: initial scale design, exploratory and then confirmatory factor analysis. Despite the development of each scale being contained within one chapter, the development process actually involved several separate periods of data collection and analysis for the exploratory and then confirmatory factor analysis sections. Indeed, the development of the EPIC, required a further separate sample of data in order to check for possible differences arising from small wording changes in a small number of items on that measure.

In general, the scale development process was a success. Specific details can be found in each of the five chapters that detail the process (chapters three to seven). However, it is worth noting that the development of the SPV scale was unexpected. Participant scoring of the items in the item pool showed evidence of a ceiling effect: high scores, away from the centre of the scale, low overall score variance. This resulted in just those items with more central mean scores and higher standard deviations being used in a second exploratory factor analysis (see chapter six). Equally, the lack of fit between the exploratory and confirmatory factor analysis for the Helping Behaviour measure was a surprise. Potential reasons behind this are discussed in chapter three.

However despite the work presented in chapters three to seven, none of the actual research questions outlined at the start of the thesis could begin to be answered until chapters eight and nine. More specifically, chapter eight, examined the relationships between the newly designed measures and the AAQ-II, using cross sectional, correlational data. This data provided initial answers to the first three research questions. Then chapter nine carried out a preliminary, single session, lab based study examining the potential of an ACT based intervention to increase helping behaviour. This provided preliminary data in terms of the last two research questions. The answers to all five research questions will now be briefly summarised.

Firstly, in terms of chapter eight and the first three research questions. Question one asked if private internal events have a relationship with helping behaviour related to global freedoms. The data suggests that some of the newly created self-report measures did. More specifically: Reasons For Not Helping had a significant negative correlation with Helping Behaviour (more reasons, less helping). The Emotional Responses scale had a significant positive correlation with Helping Behaviour (more emotions, more helping), although the Indifference sub-scale – which had already performed differently

to the other factors in terms of inter factor correlations – had a significant negative relationship (more indifference, less helping). Finally Socio-Political Values had a significant positive relationship (more values, more helping). In sum, this provides a positive response to the first of the research questions. However, neither self-report measure of psychological inflexibility (EPIC and AAQ-II) had a significant relationship with the Helping Behaviour measure. Neither in terms of the zero-order correlations, nor the multiple regression. This means a negative response to the second research question that asked if psychological flexibility related to helping behaviour related to global freedoms. However a more positive response was found for the third research question, which asked if psychological flexibility mediated or moderated the relationship between other variables and helping behaviour. While the AAQ-II was not found to mediate or moderate any relationship, the EPIC had a mediating role in the relationship between between the Reasons For Not Helping and Helping Behaviour measures. More specifically, those with higher levels of psychological inflexibility on the EPIC, had stronger levels of agreements on the Reasons For Not Helping measure, and those in that position reported less Helping Behaviour. Despite this, neither the AAQ-II nor the EPIC was not found to have any moderating role. However the single positive finding related to mediation, involving the EPIC, does allow for a limited positive response to research question three.

Chapter nine reports on a single session lab based study. Here participants were paid £5 to take part in a research experiment which also involved them completing the same self-report measures as used in chapter eight. The dependent variable was an actual helping behaviour: donations to self or charity. Participants listened to one of three 10 minute audio recordings, either: education, ACT or a control condition which featured music. They were asked to consider donating any part of their £5 payment to either Oxfam or Amnesty International. They were asked this on three separate occasions: before listening to the audio recording, after listening to the audio recording and when they were given their actual £5. The data was unexpectedly bi-modal, so data analysis progressed using non-parametric tests. This analysis could not isolate significant differences between the influence of any of the three audio recordings, nor any significant difference in donation levels before or directly after the audio recording were played. This is despite positive results for a measure designed to capture whether participants understood the message of the main audio recordings. As a result, the answer to research questions four and five, at this time, is no.

The lab based experiment also allowed a comparison to be made between the self-report measures used in chapter eight and the donation data in chapter nine, i.e. an actual helping behaviour. Not only did psychological inflexibility fail to correlate with any of the instances of donating behaviour, the only self-report measures that consistently produced significant correlations with the donation data was the self-report measure of Helping Behaviour and, to a lesser extent, the Reasons for Not Helping Measure.

10.2. Implication of results

Having provided an overview of the contents of this thesis and its findings, it is now possible to discuss the implications of the work more generally. Below, the discussion will begin by airing one possibility: that the results of this thesis have negative implications for ACT. This will be balanced against the more realistic argument that the data collected is too preliminary to draw any firm conclusions. Conclusions that can be drawn concern the way that this thesis has broadened the scope of ACT and CBS research into a new area and how other researchers may chose to adopt the research pathway outlined in this thesis. A related discussion about the continued challenges in measuring psychological flexibility will also be outlined. Finally it will be noted that this thesis has created a number of measures which might prove useful for those interested in ACT, global freedoms and even other areas.

The five research questions set out to explore the relationships between private internal events, psychological inflexibility and helping behaviour related to global freedoms. Generally, in terms of psychological inflexibility, the thesis did not produce consistently significant or positive results. No direct relationship was found with either the AAQ-II or the EPIC and helping behaviour, nor did an ACT based audio intervention appear to significantly impact (e.g. increase) helping behaviour. One potential conclusion is to see a diminished role for ACT and psychological inflexibility in the area of global freedoms and even other non-clinical areas.

Rather than taking this position, it seems important to note that the results of the studies detailed in this thesis do not, by themselves, immediately imply fundamental changes or revision to ACT. Even if the answer to each of the five research questions had been definitely positive or definitely the reverse, there would still only exist a preliminary amount of data on which future studies would first need to build and expand before more firm implications could be drawn. In many ways, this work was designed to be a feasibility study and, at best, to provide a “proof of concept” for future

work. Strong implications in terms of theory, were unlikely. Instead it was important for this thesis to first establish foundations in this new area.

This notwithstanding the thesis has a number of more limited, practical implications that may be helpful to researchers working in this and related areas. Firstly, this work took concrete steps in the direction of the wider mission of CBS, i.e. to: “create a behavioral science more adequate to the challenges of the human condition” (Hayes, et al., 2012, p.1). In this instance the thesis did so by expanding the role of CBS and ACT into a new area: global freedoms. It seems important for ACT researchers to continue to expand their data collection beyond the clinic and hospital if the CBS movement is to fulfil this wider mission. A recent article outlining the scope of CBS explicitly states that future research could focus on: “social disparities, environmental degradation, global climate change, poverty, child deprivation, and similar matters” (Hayes, et al., 2012, p.11). In this way, the contents of this thesis is one small part of this wider mission. Equally, the structure of this thesis may provide a useful foundation not just for those interested in global freedoms, but also for those researchers looking to begin expanding research into the other areas mentioned above. It is hoped that the structure of this thesis lays out one potential model that can be used by other researchers. Moreover, it may be that a measure like the EPIC might be immediately useful to others interested in researching the kind of areas highlighted above from an ACT perspective.

One related question that this thesis raised at its start and is still, in some respects, unanswered, concerns the best way to measure psychological inflexibility in different situations and specific contexts (Bond et al., 2013). This is a key question, because unless psychological inflexibility is being measured correctly for that specific context, it may lack predictive utility making it harder to reach any conclusions about any data collected or the usefulness of the underlying theory. This thesis started from the position that the AAQ-II might not be ideally suited to measuring psychological inflexibility in contexts unrelated to people’s physical or psychological health. This is because the AAQ-II contains items that use words like: worry, painful and being afraid (items: 1, 2, 3, 4 & 7). While such items are potentially useful in clinical contexts, they may be less so when looking at the role of psychological inflexibility in other areas such as global freedoms. In response to this, the EPIC was designed and underwent preliminary evaluation in the pages of this thesis. None of the statements in the final EPIC item pool use the same emotional terms as the AAQ-II. However, certain items do

still describe things that are: awkward, difficult, uncomfortable, disagreeable and unpleasant. So although the EPIC items are less anxiety focused than the AAQ-II, the items do still focus on negative private events. For this reason, the factor on the EPIC related to these items is labelled avoidance. However, as noted earlier, psychological inflexibility implies more than experiential avoidance alone. Experiential avoidance can only lead to psychological inflexibility if being avoidant is values inconsistent in that particular context. But, perhaps more importantly, inflexibility might also be occasioned by both neutral or even positive private events. For example, thoughts or feelings of: “over-confidence” or “knowing best”. The EPIC item pool does not capture such events and so can only be considered a partial measure of psychological inflexibility. With this in mind, it seems important that any implications drawn from the results of this thesis are seen in light of the relatively limited experience that the CBS community has of capturing psychological inflexibility in measures other than the AAQ-II. It seems sensible to adopt this stance, rather than assuming these results say anything more fundamental about the usefulness of wider ACT theory.

One of the other implications of this thesis is for other researchers studying global freedoms, whether or not they have an interest in ACT. The creation of four measures related to aspects of global freedoms will hopefully be of significant benefit to researchers interested in this area. The literature reviews in chapters three to six failed to uncover many well established self-report measures relevant to this area. Those that did exist were often tied to certain psychological constructs (e.g. attitudes, attributions) or to certain geographical locations (e.g. the US). This thesis has now designed and carried out a preliminary evaluation on measures related to: Helping Behaviour, Reasons For Not Helping, Emotional Responses and Socio-Political Values. This potential addition to the psychological literature may be useful to those interested in carrying out research in this area. Indeed, arguably the strongest findings in this thesis relate to the inter-relationships around these measures. In other words, in building the foundations to examine the role of psychological inflexibility in this area, a by-product has been a significant potential advance in the number of self-report measures available in the general area of global freedoms, irrespective of interest in or awareness of ACT. Indeed, it seems possible that these measures alone may bring researchers a new way of measuring the subject area of global freedoms in the future.

There is one further point that can be highlighted with regards to three of these self-report measures (Helping Behaviour, Reasons For Not Helping, Emotional

Responses Scale). One of the frustrations mentioned when examining the existing literature was how existing self-report measures were specific to a certain topic or certain geographical area. It seemed important to try and break away from that with the measures designed in this thesis. In this way, the specific global freedoms focus of these three measures is contained in their instructions alone. For example the Helping Behaviour measure asks: “How likely are you to take the following action in the next three months to help those around the world who lack basic resources, opportunities and rights.”

With this in mind, it seems possible that researchers interested in other areas for example: climate change, pollution or recycling, might be able to use these measures relatively easily by simply adapting the instructions of the measure alone. So for example the instruction might read: “How likely are you to take the following action in the next three months to help reduce climate change.” Hopefully it goes without saying that doing so, would still require the revised measure to undergo some level of validation. But, it seems possible that it might reduce the length of time that the process of psychometric development might otherwise take.

10.3. Opportunities for further research

The section above notes that further research is required before the exact nature of any implications concerning the interplay between global freedoms, psychological inflexibility and ACT can be firmly established. That said, there are multiple avenues that future research could pursue. The section below will first highlight an idealised pathway for future research if strong, positive results had been found. Secondly, it will summarise some of the suggestions for future research taken from previous chapters. Finally, it will take a step back and look at other potential research pathways for global freedoms presented by the wider field of CBS.

It is important to remember that this thesis was in part designed to be a proof of concept. As such it had and still has the potential to be broadened and scaled up. It is perhaps worth considering the potential research pathway that could have been followed if this thesis had immediately found a clear and strong role for psychological flexibility in the area of helping behaviour related to global freedoms. First, the initial results would need to have been replicated in another lab based experiment. Then, if the results continued, the research may have moved outside of the lab to see if the findings could be replicated in a non lab based setting. Perhaps this would have involved some kind of group based outcome study, similar to other studies highlighted in this thesis (e.g.

Hayes, Bissett, et al., 2004; Lillis & Hayes, 2007; Masuda et al., 2007). If results continued to be positive, then one possibility would be to run interventions specifically targeted at participant groups with the most potential to bring about change in the area of global freedoms. For example, politicians, diplomats and policy makers. However, as the results from chapters eight and nine in this thesis were less than clear, other questions need to be answered before the above pathways can proceed.

Chapters eight and nine make specific references as to how to extend or continue both the cross sectional and the lab based research pathways started within this thesis. Drawing these threads together, and stepping aside from the more obvious need to replicate findings within similar and different participant groups, a number of points are worth highlighting.

For example, the positive relationship between helping behaviour on the one hand and potentially aversive emotional groupings such as annoyed, ashamed, sympathetic and depressed seems to warrant further investigation. As does the positive relationships between psychological inflexibility and both the Emotional Responses Scale, and psychological inflexibility and the Reasons For Not Helping Measure. This seems particularly interesting considering that both the Emotional Responses Scale and the Reasons For Not Helping Measure have strong relationships with helping behaviour, but in different directions. It will be interesting to see if psychological inflexibility continues to have significant positive relationships with both of these variables and if both of these variables continue to have significant but opposite relationships with helping behaviour in future samples. A further question concerns the measuring of values related to global freedoms and the adequacy of the socio-political values measures. An alternative measurement strategy within CBS will be explored later.

Many future research options stem from the lab based study. A number are highlighted in chapter nine, and several are suggested in the limitations to this thesis listed below. However of serious concern to this research stream is whether a dependent variable can be established that is more normally distributed, thus enabling parametric statistics to be used. If not, the usefulness of using monetary donations as the primary data source, becomes questionable.

Of course as well as designing and conducting some preliminary evaluation on psychometric measures in the area of global freedoms, the thesis also produced a measure of psychological inflexibility designed for everyday contexts: the EPIC. While this has been designed specifically for researchers interested in the area of global

freedoms, it has potential to be used outside of this field. As ACT and CBS continue to move their research interests into wider areas of social psychology it is possible that the EPIC will be a measure that is of some use to them. It is even conceivable that the EPIC may have a role to play in research in certain clinical areas. Especially, if for what ever reason, researchers are interested in capturing aspects of avoidance that are not paired with anxiety, worry and pain. However, before any such research is carried out, it would seem useful to conduct a study that examines the relationship between the EPIC and other related measures for example the White Bear Suppression Inventory (WBSI; Wegner & Zanakos, 1994), the Multidimensional Experiential Avoidance Questionnaire (MEAQ; Gámez et al., 2011) or the recently published Brief Experiential Avoidance Questionnaire (BEAQ; Gámez et al., 2014).

The future research pathways discussed above seem to keep largely to the same track that has been established by the research described in this thesis. However it also seems worth stepping back slightly and examining the potential wider role of CBS in future global freedoms related research. In addition to the pathways outlined above, it seems that CBS offers two further distinctive avenues: one more basic, inspired by RFT, the other more contextual and associated with cultural change. First, the more basic research stream inspired by RFT.

Although introduced at the start of this thesis, RFT has not been the primary focus of this research. Relational Frame Theory (RFT: Hayes, Barnes-Holmes et al., 2001; Törneke, 2010) attempts to provide a basic scientific understanding of human language and cognition and how these processes contribute to more complicated human behaviours. Key to RFT is the notion of relational responding, i.e. the ability to relate one event or object to another, or to make a relational responses to events and objects. The human ability to relate anything to anything is known as “arbitrarily applicable relational responding” or AARR (Törneke, 2010, p.89). Through processes like mutual entailment, combinational entailment and the transformation of stimulus functions (explained in the introductory chapter, also see Hayes, Barnes-Holmes et al., 2001, p.89), the world and our relationship with it becomes increasingly defined by verbal processes and relational responding. While such an account of language and cognition may seem rather basic, technical and to lack practical appeal, there is a direct application of this research to future research in the area of global freedoms.

As was highlighted in the discussion of chapter 9, psychologists have previously noted a mismatch between the results participants give on questionnaires and their

actual behaviour. This has resulted in researchers developing implicit measures such as the Implicit Association Test (IAT: Greenwald et al., 1998), and Implicit Relational Association Protocol (IRAP: Barnes-Holmes, Barnes-Holmes et al., 2010; Power et al., 2009.). Here reaction time is the main data of interest rather than mean scores on a series of questions. It is important to note that the IRAP originated within the CBS community and stems directly from RFT. Like the IAT, the IRAP provides one way of getting beyond the mismatch that sometimes occurs between self-report data and actual behaviour. At one level the IRAP can be understood as a tool that measures “implicit attitudes”. However, from an RFT point of view, the IRAP is more than that. According to RFT, the IRAP is a protocol that allows for the assessment of relational responding in the present moment. More technically, a recent paper describes how the IRAP provides a way to assess the relative strength of relational responding that is both non-dichotomous and dynamic (Hussey & Barnes-Holmes, in press, p8). These researchers see the IRAP as a tool that can help analyse a spectrum of AAAR from very simple instances of language and cognition to much more complicated accounts of language (Hussey & Barnes-Holmes, in press, p9).

Related to the paragraph above, the IRAP might offer a potential future research pathway in terms measuring socio-political values. An IRAP could provide an alternative in terms of assessing whether people care about issues related to global freedoms more than other issues. Rather than just giving people a questionnaire to fill out, participants might respond to on screen stimuli which suggest first caring and then not caring about global freedoms. This would enable comparisons to be made about the relative strengths of responding in terms of these two positions. In fact a separate IRAP might also be used to examine the level of awareness participants have about the area of global freedoms more generally. For example testing the relative strengths of responding to stimuli associated with suffering and prosperity in developed and developing countries. Both these sets of stimuli would be at the more simple end of the IRAP continuum. More complex stimuli sets might also be possible. For example, IRAPs might compare types of reasons participants might give for not engaging in helping behaviour. Such research could complement research within this thesis based around self-report measures like the Reasons For Not Helping Measure. One important point of comparison would be to assess which type of assessment: questionnaire or IRAP is the best at predicting actual helping behaviour in the real world. For example it may be that individuals responses on self-report measures may be more influenced by

social desirability and thus less predictive of actual helping behaviour.

Having discussed an approach to continue researching global freedoms informed by the often lab based, basic science of RFT, it is now worth highlighting the possibility of conducting future CBS research in a much broader context: cultural change. In two recent articles, Anthony Biglan, Dennis Embry and colleagues discuss the potential of CBS to influence cultural practices and bring about cultural change (Biglan & Embry, 2013; Wilson, Hayes, Biglan, & Embry, 2014). By culture, they do not mean art, literature and music in isolation, but “everything that humans do” (Biglan & Embry, 2013). In one of these articles, entitled “a framework for intentional cultural change” the authors suggest that it may be possible for behavioural science to prevent many of the problems that affect human well-being (Biglan & Embry, 2013). It is noteworthy that the target for their interventions is not just individuals, but also organisations, policy and the media. So, for example, in the case of smoking, not just the behaviour of individual smokers, but the behaviour of the tobacco industry its marketing machine and wider public policy. Similar arguments are made, on a broader canvas, in “evolving the future: toward a science of intentional change” (Wilson et al., 2014). This paper includes concrete examples of how evidence based change has been advanced in community wide interventions. In both articles, similar to ACT informed therapeutic work, the usefulness of influencing psychological flexibility is highlighted. However so is the creation and promotion of more nurturing environments. Nurturing environments are those which help decrease the incidence of psychological problems by, among other things, reducing detrimental biological and psychological influences on behaviour (toxic conditions) and increasing pro social behaviour (pro-sociality) (Biglan & Embry, 2013; Biglan, Flay, Embry, & Sandler, 2012; Wilson et al., 2014).

One concrete example of this work is the “Promise Neighborhoods Research Consortium” (PNRC: <http://promiseneighborhoods.org/>; Komro, Flay, & Biglan, 2011). This group is promoting educational and developmental outcomes within high-poverty and distressed neighbourhoods in the US. The PNRC seeks to influence family, school, peer, and wider neighbourhood environments in an integrated fashion. The multifaceted approach consists of four work groups: 1. networking, 2. technology, 3. measurement and 4. intervention. The intervention group itself breaks down into different areas including: programs, policies and kernels (simple evidence based ways to influence behaviour).

It is worth noting that the authors also acknowledge that even education, training

and therapy combined might be limited in impact without considering the impact of organisational behaviour on changing cultural practices (Biglan, 2011; Biglan, 2009). In this context, organisational behaviour does not refer to employee well-being, but instead to the “negative externalities” that organisations can cause. A negative externality is a harm or cost imposed on an individual or community by a business or corporation. Obvious examples include pollution, or the long term effects of production and marketing of certain products by industries such as tobacco, alcohol and food. The literature in this area also refers directly to poverty (Biglan, 2011; Biglan, 2009). In this regard, one article notes evidence for a fall in poverty in elderly populations in the US in recent decades, but a corresponding rise in poverty for children and adults. The article suggests that this rise is related to public policy that was less favourable to poorer families. Importantly, there is the suggestion that the policy change was influenced, in part, by business interests and the impact of their lobbying (Biglan, 2011).

To counter negative externalities such as these, Biglan suggests the following four steps (Biglan, 2011; Biglan, 2009). Firstly, to research which organisational behaviour contributes to social problems. Secondly, to understand why the organisational behaviours persists. Thirdly, to assess what policies could influence the organisation to stop and finally, to both study and develop successful advocacy organisations to lobby for the required change. The increasing restrictions on the tobacco industry provide an illustration of how this framework can be applied.

Of course the work described above has tended to take place within a developed world context. However, it is hopefully clear how a focus on, for example, organisational behaviour could be applied to the area of global freedoms. The potentially negative influence of global business and global legal frameworks on developing nations is well documented (Barkemeyer, Holt, Preuss, & Tsang, 2014; Hulme & Scott, 2013) and might need to be addressed.

In summary, at this level, authors within CBS seem to be making an argument to use psychosocial science to influence groups, neighbourhoods, organisations, the media and public policy to bring about cultural change. There even seems to be a parallel argument for the potential of using psychologically informed advocacy to encourage this process. While developing advocacy programs may seem far removed from the more traditional work of individual and group ACT therapy, described in the introductory chapter of this thesis, it is important to note that this work is guided by the same framework that was highlighted there: functional contextualism (Biglan & Hayes,

1996; Fox, 2006).

However, in terms of cultural change, it is also important to sound a note of caution. The researchers who promote the usefulness of CBS in bringing about wider cultural change highlight the importance of increasing psychological flexibility generally. One of the chief aims of this thesis has been collecting data on the potential importance of psychological flexibility in the area of global freedoms. This research did not find a clear picture. For this reason, it could be argued that more work needs to be done to firmly establish the role of psychological flexibility in these wider cultural areas, before time, energy and effort is spent trying to increase this behaviour at a societal level. This is not to say that psychological flexibility does not have a role. Only that when this thesis laid down the foundations to help establish the extent of this role in the area of global freedoms, the findings were mixed. With this in mind, it would seem unwise to pursue the wider cultural agenda outlined above without also ensuring that our foundations concerning the role of psychological flexibility in everyday life are also solid.

10.4. Limitations

One of the main aims of this research was to both break new ground for and establish the foundations in ACT based research around global freedoms. However in so doing, and still being relatively near to the start of this process, a number of limitations are expected.

First, it is worth noting that commencing research in this area was potentially limited by two external factors: firstly by the lack of other research / measures in this area generally and secondly by the lack of other ACT research in social psychological areas such as this. The lack of research in global freedoms generally lead to a lack of other well validated measures that could either be used instead of, or be used to help validate the new scales designed as part of this thesis. Equally, if existing measures were available, the assumptions of the researchers who designed them, were often at odds with the contextual assumptions behind this research. Because of this gap a lot of the work in this thesis involved designing and validating new measures. It is also arguable that the continued validation of these new measures continues to be hampered by the lack of other well validated measures in this field. The lack of other established ACT research streams in wider social psychology was a lesser problem. However at some level, it meant that there were not many established models to follow or learn from in terms of how to approach this topic area. That said, it remained relatively easy

to make comparisons with the development of ACT in clinical areas, and to transplant these models to this non-clinical area.

The discussions in each of the other data driven chapters highlights specific limitations in more detail, however the main points can be summarised below. As highlighted above, significant time was spent designing new measures. This limited what else could be achieved. But aside from the psychometric development work, it must be noted that the thesis only involved conducting one cross-sectional, correlational study and one lab based study. As such any conclusions drawn from this thesis, must be seen as preliminary. As stated elsewhere, even the psychometric development work, though thorough, must also be seen as being “in process”, rather than complete. More data, from more samples, of different participants need to be collected in all areas before any firm conclusions can be drawn. In terms of the measures themselves, it is especially important, for example, to examine the reliability of the Indifference sub-scale of the Emotional Responses Scale and the Socio-Political Values measure in new samples. Alpha levels both appeared relatively low in the final lab based study.

As previously stated, any relationships described in the cross sectional, correlational research in chapter eight does not imply causation, and may be due to unmeasured third variables. Equally, when focused on mediation, the results may ignore other equally plausible arrangements of variables. Finally, it should not be forgotten that all of the data in this chapter used self-report data, which may not relate closely to actual, real world behaviour.

The audio recordings used in the lab based study in chapter nine may have lacked the power required to reach a sufficient treatment dose, and the procedures employed may have unintentionally influenced the levels of donating to self and charity. The bi-modal donation data was unexpected and resulted in having to perform non-parametric statistics which, in the case of logistic regression, has power implications in terms of sample size.

Identifying each of the above limitations provides potential variables to adjust in future iterations of this research. This in combination with the future research section detailed earlier provides many potential pathways along which this research might progress.

10.5. Conclusion

This thesis set out to make a unique contribution to the psychological literature by expanding the ACT research base into the area of global freedoms. It is hoped that

this work will make a useful contribution both to the ACT literature and to the existing literature on global freedoms. Despite the growing evidence base for ACT generally, it is important to remember that work which applies ACT outside of the clinic and workplace is still in its infancy, and work that applies ACT to wider social psychological issues, such as global freedoms, is younger still. The above notwithstanding, the work contained in this thesis seems to contain a number of useful contributions. First, the design and initial validation of a number of self-report measures specific to global freedoms. These may be potentially useful to researchers approaching this research area whether or not they have a wider interest in ACT. Secondly, a self-report measure that attempts to capture psychological inflexibility in more everyday contexts. While specifically useful to researchers interested in ACT and global freedoms, it may also be of use to other ACT researchers studying non-clinical areas. It may even be of interest to researchers studying clinical areas if they are looking to study avoidance with less of an emphasis on anxiety and distress. Thirdly, this research conducted two empirical studies which have begun the investigation of the relationship between private internal events, psychological inflexibility and helping behaviour related to global freedoms. This included one study that examined the potential for ACT to influence actual helping behaviour. Much of this work is preliminary, but it hopefully establishes a useful foundation on which other research can now build. The issue of global freedoms seems to be an area of obvious importance not just to the science of human behaviour specifically but also to humanity in general. While acknowledging the early stage of this research, it is hoped that this thesis will be seen as one small, but useful, part of the wider mission of CBS: creating a science more adequate to the challenge of the human condition.

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Appendices contents

Appendix 1 – Demographic information

Appendix 2 – Questionnaire pack used for chapters 3 – 7 (Sample A & B)

Appendix 3 – Questionnaire pack used for chapters 3 – 8 (Sample C)

Appendix 4 – Questionnaire pack used for chapter 9 (Single session lab based experiment)

Appendix 5 – Audio transcripts used for chapter 9 (Single session lab based experiment)

Appendix 1 – Demographic information

Demographic page options

Q1. Age:

years

Q2. Gender:

1. Female
2. Male

Q3. In which area of the world do you normally live?

1. UK
2. Europe (other than the UK)
3. Africa
4. Asia
5. North America
6. South America
7. Oceania

Q4. What is your ethnic group?

1. White
2. Mixed
3. Asian
4. Black
5. Other

Q5. What is the highest level of education you have completed?

1. No formal qualifications
2. Qualifications at secondary or tertiary level
(e.g. GCSEs, A-levels, school or high school)
3. Awarded undergraduate or first degree
4. Awarded postgraduate, graduate or professional degree
5. Other

**Appendix 2 – Questionnaire pack for chapters 3 – 7
(Sample A & B)**

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Global Living Standards (o33k)



Information

You are invited to take part in a research study. Please read the following information.

Study title

Global living standards

What is the aim of the study?

To explore people's views about those around the world who lack basic resources, opportunities and rights.

What does the study involve?

Your main task will be completing a series of questions. All you have to do for each item is to read a word or short sentence and then rate it on a seven point scale. There are no right or wrong answers. You will also be asked for some brief information about yourself and, after completing the questionnaires, you will be given the opportunity to leave feedback. In total it should take between 15 and 20 minutes.

Do I have to take part?

It is entirely up to you to decide whether or not to take part. Taking part assumes that you have read this information sheet and agreed to be part of the study. However you are free to withdraw from participating at any time, without giving a reason.

Do I have to answer all the questions?

In an ideal world we would like you to answer all the questions. However if there is a question that you do not understand or you would prefer to leave blank feel free to do so. If there are particular items you do not understand, please tell us about them at the end of the research.

Will my data be kept confidential?

All information which is collected from you will be kept confidential. All data will be anonymised and you will not be asked to provide your name at any point. It will not be possible to identify individual results in any publications that result from this research.

What will happen to the data?

It is anticipated that the findings of this study will be written up for publication in professional journals and presented at conferences.

Who is organising the research?

This study is part of MPhil/PhD research being undertaken by Dr Miles Thompson at Goldsmiths, University of London. His work is being supervised by Professor Frank Bond.

Contact for further information

If you have any questions or concerns please contact:

Dr Miles Thompson, Institute of Management Studies, Goldsmiths, University of London, New Cross, SE14 6NW.

E-mail: miles.thompson@gold.ac.uk

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Global Living Standards (o33k)



Consent

Thank you for considering taking part, your help is greatly appreciated.
Before we begin **please read the following points:**

1. I have had the opportunity to read the information on the previous page
2. I understand that my participation is voluntary
3. I understand that I am free to withdraw at any time, without giving a reason
4. I am over 18 years of age
5. I agree to take part in this study

Please click the button below to begin
Clicking the button means you agree with the above points

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Global Living Standards (o33k)



Information about you

Please note that once you have clicked on the CONTINUE button at the bottom of each page you can not return to review or amend that page

Please answer the following questions:

1. Age:

2. Sex:

Female Male

3. In which area of the world do you normally live?

4. What is your ethnic group?

If you selected Other, please specify:

5. What is the highest level of education you have completed?

If you selected Other, please specify:

6. How would you describe your main employment status?

If you selected Other, please specify:

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Global Living Standards (o33k)



GF-IS (Now SPV – Sample A & B)

Page 1 of 5 (GF-IS)

Please note that once you have clicked on the CONTINUE button at the bottom of each page you can not return to review or amend that page

1	2	3	4	5	6	7
Very Unimportant	Unimportant	Somewhat Unimportant	Neither Unimportant Nor Important	Somewhat Important	Important	Very Important

7. Using the scale above, how important is it to you that **everyone** around the world **has**:

	1	2	3	4	5	6	7
a. Decent living standards	<input type="radio"/>						
b. Adequate food and nutrition	<input type="radio"/>						
c. Safe drinking water	<input type="radio"/>						
d. Basic sanitation	<input type="radio"/>						
e. Basic medical care	<input type="radio"/>						
f. Basic education	<input type="radio"/>						
g. A fair legal system	<input type="radio"/>						
h. An independent media	<input type="radio"/>						
i. Accountable leaders	<input type="radio"/>						
j. Free and fair elections	<input type="radio"/>						
k. Equal pay for equal work	<input type="radio"/>						
l. Safe working conditions	<input type="radio"/>						
m. Union representation	<input type="radio"/>						
n. Freedom of expression	<input type="radio"/>						
o. The ability to participate in society (e.g. to vote or be involved in decision-making)	<input type="radio"/>						

8. Using the scale at the top of the page, how important is it to you that **everyone** around the world **is safe from**:

	1	2	3	4	5	6	7
a. Intimidation	<input type="radio"/>						
b. Arbitrary arrest	<input type="radio"/>						
c. Torture	<input type="radio"/>						
d. Oppression	<input type="radio"/>						

e. Exploitation	<input type="radio"/>						
f. Physical violence	<input type="radio"/>						
g. Sexual violence	<input type="radio"/>						
h. Domestic violence	<input type="radio"/>						
i. Age discrimination	<input type="radio"/>						
j. Gender discrimination	<input type="radio"/>						
k. Racial / ethnic discrimination	<input type="radio"/>						
l. Religious discrimination	<input type="radio"/>						
m. Discrimination as a result of sexuality	<input type="radio"/>						

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Global Living Standards (o33k)



GF-ES (Now ERS – Sample A & B)

Page 2 of 5 (GF-ES)

Please note that once you have clicked on the CONTINUE button at the bottom of each page you can not return to review or amend that page

1	2	3	4	5	6	7
Very Unlikely	Unlikely	Somewhat Unlikely	Neither Unlikely Nor Likely	Somewhat Likely	Likely	Very Likely

9. Using the scale above, **rate how likely you are to feel these emotions** if you read, see or hear about people around the world who lack basic resources, opportunities and rights:

	1	2	3	4	5	6	7
a. Dismissive	<input type="radio"/>						
b. Useless	<input type="radio"/>						
c. Down	<input type="radio"/>						
d. Ashamed	<input type="radio"/>						
e. Powerless	<input type="radio"/>						
f. Sympathetic	<input type="radio"/>						
g. Estranged	<input type="radio"/>						
h. Hopeless	<input type="radio"/>						
i. Distant	<input type="radio"/>						
j. Frustrated	<input type="radio"/>						
k. Concerned	<input type="radio"/>						
l. Overwhelmed	<input type="radio"/>						
m. Unconcerned	<input type="radio"/>						
n. Caring	<input type="radio"/>						
o. Helpless	<input type="radio"/>						
p. Embarrassed	<input type="radio"/>						
q. Alienated	<input type="radio"/>						
r. Irrate	<input type="radio"/>						
s. Sad	<input type="radio"/>						
t. Uneasy	<input type="radio"/>						
u. Guilty	<input type="radio"/>						
v. Gloomy	<input type="radio"/>						
w. Removed	<input type="radio"/>						
x. Indifferent	<input type="radio"/>						
y. Dejected	<input type="radio"/>						

z. Depressed	<input type="radio"/>						
aa. Pessimistic	<input type="radio"/>						
ab. Annoyed	<input type="radio"/>						
ac. Cross	<input type="radio"/>						
ad. Apathetic	<input type="radio"/>						
ae. Unhappy	<input type="radio"/>						
af. Empathetic	<input type="radio"/>						

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Global Living Standards (o33k)



HB-LS (Now RFNH – Sample A & B)

Page 3 of 5 (HB-LS)

Please note that once you have clicked on the CONTINUE button at the bottom of each page you can not return to review or amend that page

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Somewhat Disagree	Neither Disagree Nor Agree	Somewhat Agree	Agree	Strongly Agree

10. The statements below are possible **reasons why other people do not help** those around the world who lack basic resources, opportunities and rights. Use the scale above to **rate how much you personally disagree or agree** with each reason.

	1	2	3	4	5	6	7
a. I am not sure that I can do any more	<input type="radio"/>						
b. I do not know what to do	<input type="radio"/>						
c. The problems around me matter most	<input type="radio"/>						
d. Prioritizing my time means issues like this are not a priority	<input type="radio"/>						
e. Those closest to me are my priority	<input type="radio"/>						
f. I already feel that I contribute sufficiently	<input type="radio"/>						
g. These problems are too big for me to help solve	<input type="radio"/>						
h. I can only help those really close to me	<input type="radio"/>						
i. This is solely the responsibility of our leaders	<input type="radio"/>						
j. We need to solve issues at home before we look elsewhere	<input type="radio"/>						
k. I do not feel the need to help	<input type="radio"/>						
l. I am too busy	<input type="radio"/>						
m. There is nothing I can do	<input type="radio"/>						
n. I do not care	<input type="radio"/>						
o. These issues are not my responsibility	<input type="radio"/>						
p. This country has enough problems of its own to deal with	<input type="radio"/>						
q. Problems like this do not matter to me	<input type="radio"/>						
r. I find it easier to turn a blind eye	<input type="radio"/>						
s. I do enough already	<input type="radio"/>						

t. My helping might stop people helping themselves	<input type="radio"/>						
u. I have enough problems of my own of deal with	<input type="radio"/>						
v. My actions cannot make a difference	<input type="radio"/>						
w. I prefer not to think about these issues	<input type="radio"/>						
x. Others need to sort out their own problems	<input type="radio"/>						
y. I am not sure that there is anything constructive that I can do	<input type="radio"/>						
z. My family and friends come first	<input type="radio"/>						
aa. Only the powerful can help change this situation	<input type="radio"/>						
ab. I have enough to focus on without having to concern myself with this too	<input type="radio"/>						
ac. I ignore these situations	<input type="radio"/>						
ad. Only politicians and diplomats can help the situation	<input type="radio"/>						
ae. I do not feel that I can do anything useful	<input type="radio"/>						
af. My primary responsibility is me	<input type="radio"/>						
ag. Other things are more important to me	<input type="radio"/>						
ah. I focus on personal matters first	<input type="radio"/>						
ai. I feel unable to usefully assist	<input type="radio"/>						
aj. If I help it does not allow people to solve their own problems	<input type="radio"/>						

Continue >

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Global Living Standards (o33k)



HB-AS (Now HB – Sample A & B)

Page 4 of 5 (HB-AS)

Remember that once you have clicked on the CONTINUE button at the bottom of each page you can not return to review or amend that page

1	2	3	4	5	6	7
Very Unlikely	Unlikely	Somewhat Unlikely	Neither Unlikely Nor Likely	Somewhat Likely	Likely	Very Likely

11. How likely are you to **take the following action in the next three months** to help those around the world who lack basic resources, opportunities and rights?

	1	2	3	4	5	6	7
a. Attempt to increase public awareness	<input type="radio"/>						
b. Boycott certain products	<input type="radio"/>						
c. Join a demonstration	<input type="radio"/>						
d. Wear clothing that demonstrates your support	<input type="radio"/>						
e. Be part of a protest	<input type="radio"/>						
f. Make relevant financial contributions	<input type="radio"/>						
g. Listen to talks, lectures or presentations	<input type="radio"/>						
h. Stay up to date with relevant news	<input type="radio"/>						
i. Spend money with specific businesses or companies	<input type="radio"/>						
j. Participate in a rally	<input type="radio"/>						
k. Avoid giving money to certain businesses or companies	<input type="radio"/>						
l. Make a one off donation to relevant groups or charities	<input type="radio"/>						
m. Help set up events	<input type="radio"/>						
n. Think about the issues involved	<input type="radio"/>						
o. Keep track of developments in the area	<input type="radio"/>						
p. Go to at least one discussion group	<input type="radio"/>						
q. Write letters or e-mails to relevant politicians	<input type="radio"/>						
r. Contact those who have influence	<input type="radio"/>						
s. Research the area	<input type="radio"/>						
t. Buy products associated with making a difference	<input type="radio"/>						

u. Find out more information	<input type="radio"/>						
v. Join (or remain a member of) organisations working in the area	<input type="radio"/>						
w. Make contact with relevant companies, executives or directors	<input type="radio"/>						
x. Contact others who care about these matters	<input type="radio"/>						
y. Talk about these topics with those closest to me	<input type="radio"/>						
z. Give your time for free	<input type="radio"/>						
aa. Recruit others to the cause	<input type="radio"/>						
ab. Network with others who are involved in the area	<input type="radio"/>						
ac. Discuss the topic with acquaintances	<input type="radio"/>						
ad. Donate regularly to relevant groups or charities	<input type="radio"/>						
ae. Facilitate meetings	<input type="radio"/>						
af. Speak up in discussions on the issue	<input type="radio"/>						
ag. Undertake paid work in this area	<input type="radio"/>						
ah. Confront views you see as being wrong	<input type="radio"/>						
ai. Debate with those who see things differently	<input type="radio"/>						
aj. Present information to others	<input type="radio"/>						
ak. Distribute relevant petitions	<input type="radio"/>						
al. Attend at least one meeting	<input type="radio"/>						
am. Become (or remain) a member of relevant groups	<input type="radio"/>						
an. Campaign for change	<input type="radio"/>						
ao. Display posters related to the cause	<input type="radio"/>						
ap. Seek further information on the topic	<input type="radio"/>						
aq. Subscribe (or stay subscribed) to relevant publications	<input type="radio"/>						
ar. Consider taking action	<input type="radio"/>						
as. Try and convince others to do more	<input type="radio"/>						
at. Circulate information to others	<input type="radio"/>						
au. Sign relevant petitions	<input type="radio"/>						
av. Stand up and address audiences	<input type="radio"/>						
aw. Deepen your knowledge about relevant issues	<input type="radio"/>						
ax. Monitor progress in the media	<input type="radio"/>						

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Global Living Standards (o33k)



EPIC (Sample A & B)

Page 5 of 5 (EPIC)

Remember that once you have clicked on the CONTINUE button at the bottom of each page you can not return to review or amend that page.

1	2	3	4	5	6	7
Never True	Almost Never True	Rarely True	Somewhat True	Often True	Almost Always True	Always True

12. Please rate how true each statement is for you in your everyday life by clicking on a number next to it.

	1	2	3	4	5	6	7
a. If things are tricky I tend to avoid them	<input type="radio"/>						
b. My mind is generally right	<input type="radio"/>						
c. I try not to bring up topics that might be awkward	<input type="radio"/>						
d. If difficult situations come to mind I think about something else	<input type="radio"/>						
e. When awkward thoughts occur I try and block them out	<input type="radio"/>						
f. I try to avoid thinking about difficult topics	<input type="radio"/>						
g. I try and avoid having to make difficult decisions	<input type="radio"/>						
h. If my mind starts thinking about something difficult I try to distract myself	<input type="radio"/>						
i. It is possible to keep my feeling under control	<input type="radio"/>						
j. I know that I do not always face issues that I should address	<input type="radio"/>						
k. In my personal life I steer clear of conversations that I find difficult	<input type="radio"/>						
l. Emotions control what I do	<input type="radio"/>						
m. I need to think good in order to do good	<input type="radio"/>						
n. I distract myself from memories I find difficult or awkward	<input type="radio"/>						
o. I live life by my instincts	<input type="radio"/>						
p. My gut instinct tends to be a good guide for action	<input type="radio"/>						
q. I find I follow rigid patterns when doing some tasks	<input type="radio"/>						

r. I try to stop recalling uncomfortable memories	<input type="radio"/>						
s. My emotions guide my actions	<input type="radio"/>						
t. I am led by what my mind tells me	<input type="radio"/>						
u. I tend to be right	<input type="radio"/>						
v. I avoid things because doing them would involve facing tricky emotions	<input type="radio"/>						
w. If tasks are going to be hard I often do something else first	<input type="radio"/>						
x. Breaking my own rules is difficult for me	<input type="radio"/>						
y. I try to avoid feeling bad	<input type="radio"/>						
z. I leave things that I know are going to be hard until the last minute	<input type="radio"/>						
aa. I steer clear of situations that might be embarrassing	<input type="radio"/>						
ab. If I recall difficult memories I try and block them from my mind	<input type="radio"/>						
ac. I dislike uncomfortable feelings	<input type="radio"/>						
ad. I tend to follow my heart	<input type="radio"/>						
ae. I avoid talking about things if they might be emotionally difficult	<input type="radio"/>						
af. I try and minimise thoughts that make me uncomfortable	<input type="radio"/>						
ag. It is important to keep my emotions in check	<input type="radio"/>						
ah. I put off activities that I think are going to be difficult	<input type="radio"/>						
ai. I do what my mind says	<input type="radio"/>						
aj. I need to control how I feel	<input type="radio"/>						
ak. I try and escape situations that look like they are going to be awkward	<input type="radio"/>						
al. Thoughts lead my behaviour	<input type="radio"/>						
am. I trust my gut reactions	<input type="radio"/>						
an. I am aware I have certain ways of doing things	<input type="radio"/>						
ao. How I feel directs my actions	<input type="radio"/>						
ap. I do not like recalling tough times that I have experienced	<input type="radio"/>						
aq. I try and avoid recalling situations that were upsetting	<input type="radio"/>						
ar. I notice I do certain everyday tasks in a particular order	<input type="radio"/>						
as. Feeling good is important to me	<input type="radio"/>						
at. I attempt to control my thoughts	<input type="radio"/>						
au. Although I have never been told to I find I perform certain tasks in a set order	<input type="radio"/>						

av. I am unwilling to feel bad	<input type="radio"/>						
aw. Keeping my feelings under control is important to me	<input type="radio"/>						
ax. My thoughts dictate my actions	<input type="radio"/>						

Continue >

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Check Answers & Continue >

Global Living Standards (o33k)



Feedback

Please note that once you have clicked on the CONTINUE button at the bottom of each page you can not return to review or amend that page

Thank you for your time and efforts. It is much appreciated.

In the long term it is hoped that the questionnaires you have completed will help us understand more about the inter-relationship between our thoughts, feelings and behaviour towards those around the world who lack basic resources, opportunities and rights. The questionnaires are in the early stages of validation. Your data, combined with those from lots of others, will help us streamline and improve them.

13. If you have any comments about this research please enter them in the space below. If you have any questions please e-mail the researcher directly (miles.thompson@gold.ac.uk).

[Continue >](#)

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**Appendix 3 – Questionnaire pack for chapters 3 – 8
(Sample C)**

Information sheet

Please note that once you have clicked on the NEXT button at the bottom of each page you can not return to review or amend that page

Information

You are invited to take part in a research study. Please read the following information

Study title

Investigating poverty and human rights.

What is the aim of the study?

This study is interested in exploring perceptions towards global poverty and human rights abuse. Your main task will be answering a series of short questionnaires. There are no right or wrong answers. You will also be asked for some brief information about yourself at the beginning of the study and at the end you will be given the opportunity to leave feedback. In total it should take about 25 minutes.

Do I have to take part?

It is entirely up to you to decide whether or not to take part. Taking part assumes that you have read this information and agreed to be part of the study. However you are free to withdraw from participating at any time, without giving a reason.

Do I have to answer all the questions?

In an ideal world we would like you to answer all the questions. However if there is a question that you do not understand or you would prefer to leave blank feel free to do so. If there are particular items you do not understand, please tell us about them at the end of the research.

Will my data be kept confidential?

All information which is collected from you will be kept confidential. All data will be anonymised. It will not be possible to identify individual results in any reports that result from this research.

What will happen to the data?

The data will be analysed and reported as part of a final year research project within the undergraduate psychology programme at Canterbury Christ Church University. The data may later be written up for publication in professional journals and presented at conferences.

Who is organising the research?

This study is being conducted by X X (student researcher). My work is being supervised by Dr Miles Thompson (Senior Lecturer in Psychology).

Contact for further information

If you have any questions or concerns please contact X X (X@canterbury.ac.uk).

Consent [consent]

**Thank you for considering taking part, your help is greatly appreciated.
Before we begin please read the following points:**

- 1. I have had the opportunity to read the information on the previous page**
- 2. I understand that my participation is voluntary**
- 3. I understand that I am free to withdraw at any time, without giving a reason**
- 4. I am over 18 years of age**
- 5. I agree to take part in this study**

**Please click the button below to begin
Clicking the button means you agree with the above points**

CCCU Student ID

[Intro]A number of students supervised by Dr Miles Thompson are collecting data using similar questionnaires.

You are welcome to complete as many questionnaires as come your way. However it is also important to be able to identify data that comes from the same person. For this reason we ask you to submit two small pieces of information which will help identify data from the same person while still maintaining your anonymity.

[POST]Please enter the last three letters or digits of your postcode.
(If you are currently a full time student, please use your home / holiday address)

Please write your answer here:

For example, if your postcode is "CT8 5HJ" you would enter "5HJ" into the box above.

[MOB]Please enter the last three digits of your mobile telephone number.
(If you don't have a mobile telephone number, please use your home landline number)

Please write your answer here:

For example, if your mobile telephone number was "07785 294238" you would enter "238" into the box above.

[RPSintro]Are you a 1st or 2nd year psychology undergraduate at CCCU looking for credit(s) under the Research Participation Scheme?

Please choose **only one** of the following:

- Yes

- No

[RPSinfo]In order to allocate RPS credit(s) you need to enter both your name and your CCCU e-mail address below. This information will be deleted before data analysis begins. If you do not provide this information we will be unable to allocate RPS credits to you.

Only answer this question if the following conditions are met:

Answer was 'Yes' at question '5 [RPSintro]' (Are you a 1st or 2nd year psychology undergraduate at CCCU looking for credit(s) under the Research Participation Scheme?)

[RPS]Please enter your name and CCCU e-mail address in the boxes below

Only answer this question if the following conditions are met:

Answer was 'Yes' at question '5 [RPSintro]' (Are you a 1st or 2nd year psychology undergraduate at CCCU looking for credit(s) under the Research Participation Scheme?)

Please write your answer(s) here:

- Name:
- CCCU e-mail address:

Demographics

8 [AGE]Age:

Please write your answer here:

9 [SEX]Sex:

Please choose only one of the following:

Female

Male

10 [GEOG]In which area of the world do you normally live?

Please choose only one of the following:

UK

Europe (other than the UK)

Africa

Asia

North America

South America

Oceania

11 [ETHN]What is your ethnic group?

Please choose only one of the following:

White

Mixed

Asian

Black

Other

12 [EDUC]What is the highest level of education you have completed?

Please choose only one of the following:

No formal qualifications

Qualifications at secondary or tertiary level (e.g. GCSEs, A-levels, school or high school)

Awarded undergraduate or first degree

Awarded postgraduate, graduate or professional degree

Other

EPIC 1 (Sample C)

Below you will find a list of statements. Please rate how true each statement is for you in your everyday life by clicking on a number next to it. Use the scale below to make your choice.

1	2	3	4	5	6	7
never true	very seldom true	seldom true	sometimes true	frequently true	almost always true	always true

Please choose the appropriate response for each item:

	1	2	3	4	5	6	7
I try and avoid having to make difficult decisions	<input type="radio"/>						
I find I follow rigid patterns when doing some tasks	<input type="radio"/>						
When awkward thoughts occur I try and block them out	<input type="radio"/>						
In my personal life I steer clear of conversations that I find difficult	<input type="radio"/>						
I am aware I have certain ways of doing things	<input type="radio"/>						
If difficult situations come to mind I think about something else	<input type="radio"/>						
I try to avoid thinking about difficult topics	<input type="radio"/>						
Although I have never been told to I find I perform certain tasks in a set order	<input type="radio"/>						
I try not to bring up topics that might be awkward	<input type="radio"/>						
If my mind starts thinking about something difficult I try to distract myself	<input type="radio"/>						
I notice I do certain everyday tasks in a particular order	<input type="radio"/>						

AAQ-II

Below you will find a list of statements. Please rate how true each statement is for you. Use the scale below to make your choice.

1	2	3	4	5	6	7
never true	very seldom true	seldom true	sometimes true	frequently true	almost always true	always true

Please choose the appropriate response for each item:

	1	2	3	4	5	6	7
My painful experiences and memories make it difficult for me to live a life that I would value	<input type="radio"/>						
I'm afraid of my feelings	<input type="radio"/>						
I worry about not being able to control my worries and feelings	<input type="radio"/>						
My painful memories prevent me from having a fulfilling life	<input type="radio"/>						
Emotions cause problems in my life	<input type="radio"/>						
It seems like most people are handling their lives better than I am	<input type="radio"/>						
Worries get in the way of my success	<input type="radio"/>						

SPV (Sample C)

Using the scale below, how important is it to you that everyone around the world has:

1	2	3	4	5	6	7
Very Unimportant	Unimportant	Somewhat Unimportant	Neither Unimportant Nor Important	Somewhat Important	Important	Very Important

Please choose the appropriate response for each item:

	1	2	3	4	5	6	7
An independent media	<input type="radio"/>						
Free and fair elections	<input type="radio"/>						
Equal pay for equal work	<input type="radio"/>						
Union representation	<input type="radio"/>						
The ability to participate in society (e.g. to vote or be involved in decision-making)	<input type="radio"/>						

ERS (Sample C)

Using the scale below, rate how likely you are to feel these emotions if you read, see or hear about people around the world who lack basic resources, opportunities and rights:

1	2	3	4	5	6	7
Very Unlikely	Unlikely	Somewhat Unlikely	Neither Unlikely Nor Likely	Somewhat Likely	Likely	Very Likely

Please choose the appropriate response for each item:

	1	2	3	4	5	6	7
Dismissive	<input type="radio"/>						
Ashamed	<input type="radio"/>						
Sympathetic	<input type="radio"/>						
Annoyed	<input type="radio"/>						
Depressed	<input type="radio"/>						
Unconcerned	<input type="radio"/>						
Caring	<input type="radio"/>						
Embarrassed	<input type="radio"/>						
Gloomy	<input type="radio"/>						
Irate	<input type="radio"/>						
Guilty	<input type="radio"/>						
Indifferent	<input type="radio"/>						
Dejected	<input type="radio"/>						
Cross	<input type="radio"/>						
Apathetic	<input type="radio"/>						
Empathetic	<input type="radio"/>						

RFNH (Sample C)

The statements below are possible reasons why other people do not help those around the world who lack basic resources, opportunities and rights. Use the scale below to rate how much you personally disagree or agree with each reason.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Somewhat Disagree	Neither Disagree Nor Agree	Somewhat Agree	Agree	Strongly Agree

Please choose the appropriate response for each item:

	1	2	3	4	5	6	7
Other things are more important to me	<input type="radio"/>						
I do not care	<input type="radio"/>						
My family and friends come first	<input type="radio"/>						
Only politicians and diplomats can help the situation	<input type="radio"/>						
I have enough problems of my own of deal with	<input type="radio"/>						
I do not feel the need to help	<input type="radio"/>						
This is solely the responsibility of our leaders	<input type="radio"/>						
I focus on personal matters first	<input type="radio"/>						
Problems like this do not matter to me	<input type="radio"/>						
Only the powerful can help change this situation	<input type="radio"/>						
My primary responsibility is me	<input type="radio"/>						

HB (Sample C)

How likely are you to take the following action in the next three months to help those around the world who lack basic resources, opportunities and rights.

1	2	3	4	5	6	7
Very Unlikely	Unlikely	Somewhat Unlikely	Neither Unlikely Nor Likely	Somewhat Likely	Likely	Very Likely

Please choose the appropriate response for each item:

	1	2	3	4	5	6	7
Seek further information on the topic	<input type="radio"/>						
Boycott certain products	<input type="radio"/>						
Stand up and address audiences	<input type="radio"/>						
Keep track of developments in the area	<input type="radio"/>						
Join a demonstration	<input type="radio"/>						
Make relevant financial contributions	<input type="radio"/>						
Go to at least one discussion group	<input type="radio"/>						
Stay up to date with relevant news	<input type="radio"/>						
Avoid giving money to certain businesses or companies	<input type="radio"/>						
Make a one off donation to relevant groups or charities	<input type="radio"/>						
Find out more information	<input type="radio"/>						
Be part of a protest	<input type="radio"/>						
Facilitate meetings	<input type="radio"/>						
Think about the issues involved	<input type="radio"/>						
Buy products associated with making a difference	<input type="radio"/>						
Donate regularly to relevant groups or charities	<input type="radio"/>						
Undertake paid work in this area	<input type="radio"/>						
Deepen your knowledge about relevant issues	<input type="radio"/>						
Participate in a rally	<input type="radio"/>						
Attend at least one meeting	<input type="radio"/>						
Monitor progress in the media	<input type="radio"/>						

EPIC v2 intro

Just one more questionnaire to go

You may recognise it as you have already completed a slightly different version of this measure

There is no need to give exactly the same answers as you did before

Just provide the responses which seem most appropriate to you

Thank you

EPIC2 (Sample C)

Below you will find a list of statements. Please rate how true each statement is for you in your everyday life by clicking on a number next to it. Use the scale below to make your choice.

1	2	3	4	5	6	7
never true	very seldom true	seldom true	sometimes true	frequently true	almost always true	always true

Please choose the appropriate response for each item:

	1	2	3	4	5	6	7
I try and avoid having to make difficult decisions	<input type="radio"/>						
I find I follow rigid patterns when doing some tasks	<input type="radio"/>						
When awkward thoughts occur I try and block them out	<input type="radio"/>						
In my personal life I steer clear of conversations that I find uncomfortable	<input type="radio"/>						
I am aware I have certain ways of doing things	<input type="radio"/>						
If unpleasant situations come to mind I think about something else	<input type="radio"/>						
I try to avoid thinking about difficult topics	<input type="radio"/>						
Although I have never been told to I find I perform certain activities in a set order	<input type="radio"/>						
I try not to bring up topics that might be awkward	<input type="radio"/>						
If my mind starts thinking about something disagreeable I try to distract myself	<input type="radio"/>						
I notice I do certain everyday tasks in a particular order	<input type="radio"/>						

Feedback

Thank you for taking part in this research.

Please use the text box below to make any comments or provide any feedback you have about this research. If you have any questions that you would like answered please e-mail X X (X@canterbury.ac.uk).

Please write your answer here:

Thank you for your time and efforts
Remember if you have any questions or concerns please contact X X
(X@canterbury.ac.uk).
Goodbye.

Submit your survey.
Thank you for completing this survey

Appendix 4 – Questionnaire pack for chapter 9 (Single session lab based experiment)

Online study

Please note that once you have clicked on the NEXT button at the bottom of each page you can not return to review or amend that page

Information

You are invited to take part in a research study. Please read the following information

Study title

Responses to global living standards

What is the aim of the study?

Your main task will be answering a series of questions and listening to a ten minute audio recording. Mostly all you will have to do is to read a word or short sentence and then rate it on a scale. There are no right or wrong answers. You will also be asked for some brief information about yourself at the beginning of the study and at the end you will be given the opportunity to leave feedback. In total it should take between 40 and 45 minutes.

Do I have to take part?

It is entirely up to you to decide whether or not to take part. Taking part assumes that you have read this information and agreed to be part of the study. However you are free to withdraw from participating at any time, without giving a reason.

Do I have to answer all the questions?

In an ideal world we would like you to answer all the questions. However if there is a question that you do not understand or you would prefer to leave blank feel free to do so. If there are particular items you do not understand, please tell us about them at the end of the research.

Will my data be kept confidential?

All information which is collected from you will be kept confidential. All data will be anonymised and you will not be asked to provide your name at any point. It will not be possible to identify individual results in any publications that result from this research.

What will happen to the data?

It is anticipated that the findings of this study will be written up for publication in professional journals and presented at conferences.

Who is organising the research?

This study is being organised by Dr Miles Thompson, Christ Church Canterbury University and Goldsmiths, University of London.

Contact for further information

If you have any questions or concerns please contact Dr Miles Thompson (miles.thompson@canterbury.ac.uk)

This survey is currently not active. You will not be able to save your responses.

Pages not included in this appendix

Consent

Demographics

AAQ-II

EPIC

SPV

RFNH

HB

See Appendix 3 for details of how these measures looked

Introduction to global freedoms

Online study

Please note that once you have clicked on the NEXT button at the bottom of each page you can not return to review or amend that page

Around the world:

1 in 5 live on less than \$1.25 a day

Half of all countries restrict freedom of expression

Two thirds of the planet has no access to a fair justice system

This survey is currently not active. You will not be able to save your responses.

Introduction to charities

Online study

Please note that once you have clicked on the NEXT button at the bottom of each page you can not return to review or amend that page

You are probably aware of the work of these two charities:



Oxfam provides emergency relief and delivers long-term development programs

**AMNESTY
INTERNATIONAL**



Amnesty International protects individuals when justice, freedom and fairness are denied

This survey is currently not active. You will not be able to save your responses.

Ask 1

Online study

Please note that once you have clicked on the NEXT button at the bottom of each page you can not return to review or amend that page

We are paying you £5, or 500 pence for taking part in this study

Will you give any of this to Oxfam or Amnesty?

Use the boxes below to allocate your money

In pence, how much will you give to:

Yourself

Oxfam

Amnesty

Remaining: **500**

Total: **0**

This survey is currently not active. You will not be able to save your responses.

Audio recording introduction

Online study

Please note that once you have clicked on the NEXT button at the bottom of each page you can not return to review or amend that page

An audio recording that lasts about 10 minutes will start in a few seconds

Please give it your full attention

Do not press the next button below until the audio recording tells you too

This survey is currently not active. You will not be able to save your responses.

Understanding measure

Online study

Please note that once you have clicked on the NEXT button at the bottom of each page you can not return to review or amend that page

People get different things out of listening to the audio recording. Please use the table below to rate the following statements:

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Somewhat Disagree	Neither Disagree Nor Agree	Somewhat Agree	Agree	Strongly Agree

The audio recording I listened too helped increase my understanding of:

	1	2	3	4	5	6	7
Global poverty	<input type="radio"/>						
How my thoughts and feelings can hinder action	<input type="radio"/>						
Oxfam	<input type="radio"/>						
Not needing to let thoughts and feelings get in the way of donating	<input type="radio"/>						
How charities have developed over time	<input type="radio"/>						
How I can give to charity even when I have difficult thoughts and feelings	<input type="radio"/>						
Human rights	<input type="radio"/>						
How thoughts, feelings, and actions can interact	<input type="radio"/>						
Amnesty International	<input type="radio"/>						
Not needing to let thoughts and feelings get in the way of helping others	<input type="radio"/>						

Ask 2

Online study

Please note that once you have clicked on the NEXT button at the bottom of each page you can not return to review or amend that page

Earlier you gave:**0 pence to yourself****0 pence to Oxfam****500 pence to Amnesty****Use the boxes below to either change or reconfirm those amounts****In pence, how much will you give to:**Yourself Oxfam Amnesty Remaining: **500**Total: **0**

This survey is currently not active. You will not be able to save your responses.

Ask 3

Online study

Please note that once you have clicked on the NEXT button at the bottom of each page you can not return to review or amend that page

The table below shows the amount of money, in pence, you allocated to Oxfam, Amnesty International and yourself earlier in the experiment

	First ask (p)	Second ask (p)
You	0	0
Oxfam	0	0
Amnesty International	500	500

Your £5 payment is in the desk drawer to your left

You will also find envelopes labelled 'Oxfam' and 'Amnesty'

If you wish to make an actual donation to either of these charities place your donation in the relevant envelope and then seal the envelope

Please place any money you wish to donate into the envelopes and seal them before you press the next button

This survey is currently not active. You will not be able to save your responses.

Debrief and feedback

Online study

Please note that once you have clicked on the NEXT button at the bottom of each page you can not return to review or amend that page

Thank you for taking part in this research

In the long term it is hoped that the data you have provided will help us understand more about the inter-relationship between thoughts, feelings and behaviour concerning people around the world who lack basic resources, opportunities and rights

Your data, combined with data from other participants, will help us answer two questions:

- Whether the questionnaire results relate to the amount of money donated to charity
- Whether listening to the audio recording influences the amount of money donated to charity

If you have any unanswered questions please feel free to contact the researcher (miles.thompson@canterbury.ac.uk)

Please use the box below to provide any feedback you have about this research

The research is now over

When you are ready please make sure you:

- Leave the two envelopes on the desk
- Press the submit button below
- Leave the room, where you will find the research assistant

Thank you again for taking part in this research

This survey is currently not active. You will not be able to save your responses.

Appendix 5 – Audio transcripts

Education audio recording for the lab based study

Thank you for taking part in this research.

The following audio recording will last for about 10 minutes.

We ask that you give it your full attention.

The recording will provide you with information about global poverty and human rights and the work of Oxfam and Amnesty International.

A little earlier in this research you will have read that around the world 1 in 5 live on less than \$1.25 a day. That, half of all countries restrict freedom of expression.

That, two-thirds of the planet has no access to a fair justice system.

The figure of \$1.25 comes from the World Bank.

They define extreme poverty as living on less than \$1.25 a day.

\$1.25 is about enough money to prepare two simple meals a day. Nothing more.

The data suggests that one in five people on this planet live in that situation.

1 in 5 people is equal to about 1.2 billion people.

Here are some other numbers associated with poverty:

Estimates suggest that around the world about one billion individuals will go to bed hungry every night, including tonight.

Around the same number, one billion, live in slums.

Earlier in this study you saw the logos of Oxfam.

We told you that Oxfam provides emergency relief and delivers long-term development programs around the world.

Oxfam began in 1942.

Its original name was the Oxford Committee for Famine Relief.

The now familiar term: "Oxfam" was formed from the Ox of Oxford and the Fam of Famine.

Oxfam's first meeting took place in the Old Library, University Church, Oxford.

It was October 1942.

The famine of interest was not taking place in Africa or Asia but in Greece.

People in Greece were starving as a result of the country's occupation during World War Two.

Oxfam is famously associated with its charity shops.

They sell second hand books, music and other donated items.

The first Oxfam shop opened in Oxford in 1948.

Today there are over 750 across the country.

Oxfam's first employee, in that first shop, was a man called Joe Mitty.

He worked for Oxfam for over 30 years.

Over that time he sold a narrow boat, an orchard, a donkey, and a pair of denches.

In 2003, Joe received an MBE for his services to the charity.

Today Oxfam operates in more than 70 countries across the world.

It provides emergency relief after natural disasters or to people caught up in conflict.

It also works with thousands of local partners to help deliver long-term development programs around the world.

It helps develop agriculture and improve infrastructure.

It helps advance health care and improve access to education.

Earlier we told you how research suggests that freedom of expression is limited in around half of the countries of the world.

We also mentioned how nearly two thirds of world do not have access to justice or that justice systems are corrupt or discriminatory.

One of the charities best known for their humans rights work is Amnesty International. Amnesty suggests that human rights abuse that take place anywhere in the world is the responsibility of everyone.

They suggest that those of us who have rights should use them to help protect those who have lost their rights or those whose rights are at risk.

UK barrister, Peter Bennenson, founded Amnesty in the early 1960's.
He was travelling on the tube in London when he picked up a newspaper.
In it he read a story about a pair of students in Portugal.
At the time Portugal was under authoritarian military rule.
The two students were sitting in a cafe in Lisbon and one raised his glass and made a toast to liberty.
Both were sent to jail for seven years for simply doing that.

Peter Bennenson wanted to mobilise world opinion.
So, in the days before the internet, before facebook and twitter he wrote a letter to the Observer newspaper.
In it he highlighted the case of the Portuguese students and other similar cases.

He called for people to write letters of protest if the situation angered them.
Thousands wrote letters and soon after Amnesty was born.
The organisation now has over 3 million supporters in over 150 countries.

When Amnesty first started, its work focused on “freedom of expression”.
It fought for the rights and release of prisoners of conscience.
Prisoners of conscience are individuals who are jailed by their rulers for peacefully expressing their beliefs.

A famous example is Aung San Suu Kyi.
The Burmese government kept her under house arrest for almost 15 years.
Then, after her release in April 2012, the people of Burma elected her to their parliament.

Data from Amnesty suggests that 89 countries prevent freedom of expression.
And Amnesty campaigns for prisoners of conscience in more than 48 countries.

Over the years Amnesty has broadened its focus.
For example, since the early 1970's they have campaigning against the use of torture in prisons.

And, in 1977 Amnesty was awarded the Nobel Peace Prize for this work.

Amnesty now campaigns on a range of other issues including the death penalty.

It sees the death penalty as the ultimate denial of human rights and opposes the death penalty without exception.

In 1961, when Amnesty began, only 9 countries had abolished the death penalty.

Today, 139 countries have ceased to use it.

Ten years ago, 31 countries still used the death penalty.

Now there are only 21.

However there is still work to do. I

n the G8 group of nations, the US still uses the death penalty and in Europe Belarus still permits the practice.

However, data suggests, that China carries out more executions than every other country combined.

In 2005 Nelson Mandela famously said:

“Like slavery and apartheid, poverty is not natural. It is man-made and it can be overcome and eradicated by the actions of human beings.

Mandela also said that: “overcoming poverty is not a gesture of charity. It is an act of justice”

In a moment this recording will end.

We hope this audio recording has provided you with some more information about global poverty, human rights and two organisations which work in these areas.

When you feel ready to do so, please press the next button on the screen.

ACT audio recording for the lab based study

Thank you for taking part in this research.

The following audio recording will last for less than 10 minutes.

We ask that you give it your full attention.

We are going to ask you to take part in several short tasks.

They are not tests and there are no right answers.

We are not trying to trick you or deceive you, nor are we trying to change your mind or get you to think differently about anything.

Generally all we want you to do is to pay attention and notice what takes place for you during the tasks.

To begin with we'd like you to close your eyes.

We ask you to do this to help you focus on the task.

With your eyes shut let's begin by focusing first on your breathing.

Notice your in breath and your out breath.

Perhaps make your breath a little bit deeper and a little bit longer, but without forcing or exaggerating it.

You will have noticed that this research is concerned with global poverty and human rights.

You may remember that earlier you were told that across the globe X [some fraction of] the world's population live on less than X [some amount] a day while X have inadequate human rights.

In this moment, we'd like you to consider whether these issues are important to you? Remember, there is no right answer in these tasks. We are not trying to persuade you that these areas do matter. Instead, we simply want you to notice whether or not you care about this area.

If you do, that is fine. If you don't, that is fine too.

Now, keeping your eyes closed we would like you to imagine this scenario. Imagine for

a moment that all that was needed to end the poverty and the suffering that millions of people around the globe experience was a small amount of effort by people like you and me. If that were the case, if you – and people like you – could easily make a real and significant difference, would you do it? Would you make that effort?

Again, no right answers. Just notice what your own response is.

Now in your own time. Bring yourself back into the room and open your eyes.

Thank you for doing that first task.

Now obviously we are not saying that the problems of the world are easy to solve. Nor are we saying that just a small amount of effort from you can turn things around. In fact, as we did that last task you may have noticed your mind say: “Hang on, this is silly, the world situation is really complicated. There is nothing simple I can do”. This is totally fine. In fact, being aware of our thoughts and the workings of our mind is exactly what we want to explore with you next.

Private experiences – like thoughts, feelings, memories and urges - occur constantly throughout the day.

Our mind is always on the lookout, categorizing and evaluating our environment. It may try to predict what will happen next or fill in any gaps it sees in the world around us.

We'd like to do a little task to illustrate this point. All you have to do is notice what your mind says when we leave the following statements half finished:

“Jack and the...” Did you notice the word 'beanstalk'?

If you were raised in a culture, where the 'Jack and the beanstalk' story is a popular one then it is likely that your mind filled in the word 'beanstalk' for you.

Let's try another: “Mary had a little...” Did you notice the word 'lamb'?

One more: “Eeny, meeny, miny...” Did the word 'mo' show up?

The above task gives us an illustration of what the mind likes to do. It fills in gaps in the world around us, provides us with information that it thinks will be helpful or keep us safe. The information could be in the form of single words, or it may involve fully formed thoughts, feelings, memories or urges.

This process is taking place constantly. And it is so automatic that we often aren't even aware that it is going on or has taken place.

We would like to do another task.

So, if you are willing, please shut your eyes and again let's begin by first focusing on your breathing. Noticing your in breath and out breath. Again making the breath a little bit deeper and a little bit longer.

A little while ago, before you started to listen to this audio recording, you were asked if you would be prepared to donate some money to charity. You may have made that decision very quickly or you may have taken a little while to think it through. Either way, take a few moments now and see if you can recall any of the thoughts, feelings memories or urges that you experienced during that decision making process?

In the real world, when I have been in similar situations, I have sometimes felt suspicious, my mind has wondered whether it is worth donating, whether my money will make any difference. Sometimes I have felt under pressure, felt that "I have had to give" and noticed an accompanying urge to end the experience as soon as possible.

Again, just for a moment, return to your experience of being asked to donate and see if you can recall any thoughts, feelings memories or urges that occurred for you.

Thank you. Now, as before, in your own time bring yourself back into the room and open your eyes. Thank you for doing that task.

Maybe during that task you became aware of some private experiences that either you weren't aware of earlier or maybe they became more clear to you during that task.

In our day to day life we are sometimes very aware of our thoughts, feelings, memories and urges. However at other times we can hardly be aware of them at all. During these moments it can be like we are running on auto-pilot, we are being directed by our mind or pushed around by our thoughts without much awareness of how we are being influenced.

At some points this might not matter. But at others, running on auto-pilot might lead us away from doing the things that are most important to us.

Our mind might say that getting involved in this area is complicated so we shouldn't do it. Or we may feel uncomfortable or awkward about being asked to contribute so we might try and escape the situation.

But we wonder if there is an alternative. We wonder if it might be the case that a situation might be complicated 'and' at the same time we can choose to give it go. Or we wonder if it might be possible to both feel uncomfortable and be willing to stick with it because the situation matters to us.

There is no magic wand we can wave to make people more aware of how our mind influences us or the possible alternatives, but it is a skill that we can develop.

One thing that can help is being aware of what is important to us and how we would like to act if we were only being directed by the things we cared most about.

Another thing that is important is being aware the thoughts, feelings, memories and urges that occur moment to moment.

Awareness is important so that we can catch our mind at work and notice when our behaviour is about to be directed by our thoughts or dominated by our feelings in ways that might be unhelpful.

What is also important is not just to be aware that these events are going on, but to have some distance or perspective on them.

We are talking here about an ability to notice thoughts rather be dictated by them

To be aware of feelings instead of trying to avoid or escape them

Generally to observe our experiences and make a decision about how to respond to them instead of having our behaviour directed by them without even being aware of this automatic influence.

In the last few minutes we have explored some different topic areas.

We have asked you to consider whether the area of global poverty and humans rights is one that is important to you.

We have also explored thoughts can be automatic in nature as you experienced when I said, Mary had a little...

We noticed how these automatic thoughts and feelings can sometimes influence our behaviour – perhaps sometimes even leading us away from things that matter to us.

Finally we suggested that there is a potential antidote – an ability to be aware of these private experiences and at the same time to not be pushed around by them.

In a few moments this recording will end. When you feel ready to do so, please press the next button on the screen.

Music audio recording for the lab based study

Thank you for taking part in this research.

The following audio recording will last for about 10 minutes.

We ask that you give it your full attention.

The following audio is a music recording.

We ask that you g listen to all of it.

However should you wish to move around the room while you are listening to it or alternatively to close your eyes that is fine. Please do not press the next button until you are told to do so.

Thank you for listening to this audio recording.

When you feel ready, please press the next button on the screen.