YOUNG LEARNERS' COGNITIVE AND AFFECTIVE MORAL EMPATHY USING MOTHER-TONGUE LANGUAGE VERSUS NON-NATIVE TONGUE LANGUAGE

by

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Abstract:
This research examines children's levels of cognitive and affective moral empathic responses in an education setting when using either their mother-tongue (MT) versus their non-native tongue (NNT). This between-subjects, mixed-methods design used a small exploratory sample. Quantitative data was generated through Baron-Cohen and Wheelwright's Empathy Quotient questionnaire (2008) and qualitative data was generated from two audio-recorded class discussions with the same participants. While clearer research is emerging regarding adult's diminished cognitive, affective, and somatic empathy levels when using their NNT, there has to date been no similar research with children in a learning context. The study is neither generalisable nor offers statistical significance, but nonetheless suggests that more research needs to be conducted in this area, including isolating variables such as gender and socio-economic status of children using MT versus NNT. Additionally, the implications for fostering empathic concern and empathic action in education systems through greater focus on children's engagement with visual and performing arts and in reading literary fiction are briefly examined.

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Chapter 1 – Introduction

1.1 Background and Rationale

Present-day global challenges, including climate change and the current refugee and migration crises, accentuate the importance of cooperation and prosocial behaviour (Böckler-Raetting, Tusche, Schmidt, Singer, 2018). As globalisation increases, cultural and socio-economic diversity also increases in the classroom (Owen, 2015; Colombo, 2005). This offers an opportunity to cultivate improved empathy skills in students, educators, and as a focus on a policy level (Ibid.). Longitudinal studies suggest that empathic children consistently grow to be empathic adults, and that because altruism and empathic response can be trained, then educators, those working with children, and those raising children bear some measure of responsibility to equip children with empathic skills, be it in an educational context or in the home (Eisenberg, Carlo, Murphy, Van Court, 1995; Eisenberg, 2010; Malti, Ongley, Peplak, Buchmann, Zuffiano, Cui, 2016; Böckler-Raetting et al., 2018). Beyond the classroom, empathy skills correlate to higher performance in the workplace (Gentry, Weber, Sadri, 2007; Owen, 2014). While empathy can be innate or cultivated in a range of contexts, it can also be "*taught and learned*" (Reiss, 2018. P.4).

1.2 Context

This examination originated from the 2014 research by Costa, Foucart, Hayakawa, Aparici, Apesteguia, and Heafner on the deontological and utilitarian judgements adults made facing with moral dilemmas, when using either their MT or NNT. Their research, based on the classical moral philosophy "*trolley problem*" (Foot, 1978; see Appendix 1) strongly suggested that when adults used their NNT, their levels of utilitarian judgement (i.e., judgement for the greater good) was augmented; when using their MT, deontological judgement (i.e., decisions based on the moral judgement of right and wrong) was favoured and was linked to higher cognitive and affective empathic responsivity.

The research by Costa et al. (2014) was part of an increased enquiry in the general field of empathy in children, particularly concerning language use and preference for more familiar others, versus out-groups (groups that do not share a familiar culture, language, gender, race, or custom). However, research combining empathy and language in children has been absent. While ethical issues arose in suggesting children imagine the moral philosophical trolley dilemma, in which the participants must choose between saving five people on a trolley track by sacrificing one, Baron Cohen and Wheeler's Empathy Quotient (2004) emerged as a more appropriate method for assessing levels of cognitive and affective moral judgement and empathic responsivity in the participants in this research. Baron Cohen and Wheeler's EQ test Baron-Cohen's 2004 Empathy Quotient Questionnaire (EQ) provided a more ethical material resource and also limited the variables researched to that which purely focussed on cognitive and affective moral

responsivity.

The EQ test was originally developed by Baron Cohen and Wheelwright to assess lower empathic response in children, which can suggest they may be categorised within the spectrum of autism or Asperger's syndrome (Ibid.). However, when children did not place within the spectrum of autism or related syndromes, the EQ test proved to be useful nonetheless in determining levels of cognitive and affective empathic responsivity, and was used as such in this particular research (Ibid.). The participant age range (approximately 10-13 years) was chosen to reflect children likely to be entering into the Formal Operational Stage in Piagetian theory, where children begin to demonstrate less egocentrism and an increased understanding of abstract concepts (Day, 1981).

1.3 Aims

The aims of this work were to examine this largely unresearched area between empathic responsivity and children's language use in an educational context and to discern specific issues and relevant variables that arose related to empathic response in children, using both a qualitative and quantitative approach. It was also an area of interest to determine if the qualitative data might provide non-positivistic, interpretative results that could be compared to, or enrich, the quantitative data.

1.4 Research Question

Do children between the ages of 10 and 13 demonstrate reduced empathic responsivity, in a manner similar to adults, when using their NNT?

This research is especially relevant now as no studies examining both language use and empathic responsivity have been conducted with young learners to date. The age range of the participants chosen was deliberate. According to the Piagetian platform, children in this age group are more likely to be entering, or in their formal operational stage. However, it is important to acknowledge that because it can not be proven that participants are or are not in this operational stage in this study, this is an area for a more detailed research question in the future.

The main objective of the research question in this study is to determine if there are any correlations or any suggestions of links between young learner's empathic responsivity and language use.

1.5 Overview

This essay has been organised into chapters and relevant sub-sections. While the aforementioned background rationale, context, aims and the research question have been briefly addressed, Chapter 2 will address the study's literature review and the methodology for that review; it also contains several sub-sections delineating existing literature, as the topic is particularly multidisciplinary. Chapter 3 sets out methodological approaches, study design and research methods. Chapter 4 examines the results of the

research, the details of which are discussed in greater detail in Chapter 5. Chapter 6 will address implications for practice and theory as well as limitations of the study and reflections on the research.

Chapter 2 - Literature Review

2.1 Introduction and Approaches to the Literature Review
The methodological framework for this literature review has been shaped by the multidisciplinary and broad nature of empathy research, and thus, an equally multidisciplinary literature review approach was required. The methodology of the review aimed to remain largely within social-science disciplines related to empathy research that included the following themes: empirical and review literature of empathy and moral judgement, prosociality and moral affect in children, language use and bilingualism and effect on moral judgements, social class and moral judgement, self-identification of children and adolescents as moral and empathetic selves, and engaging with visual and performing arts and literary fiction as a means of fostering empathy in learners. Neuroscience literature is addressed less substantially, with the exception of where cognitive depletion and language processing effects slow or lessen response time and intensity when speaking in NNT, and thus result in diminished emotional and empathic responsivity. Literature searches were formulated largely online through Google Scholar and NuSearch (University of Nottingham Library), and book publications not available through the aforementioned channels were ordered online or downloaded as E-books through Kindle.

Relevant texts were identified by determining which aspects of empathy were pertinent to this particular research; initial literature searches made focussed on moral judgement (deontological and utilitarian) and associations with language use, as well as searches around general empathy studies with child participants. This grew to wider research on bilingualism and research surrounding perceived notions of emotionality when using MT versus NNT. Sub-topics were identified through examination of the initial literature searches; as a pattern of studies and research emerged, the literature began to repeatedly cross-reference, mutually critique, and reject or validate respective findings. Sub-topics in this writing were organised according to the prevalent areas of sub-topics raised in the Literature Review. The themes that emerged from the relevant sub-topics naturally separated themselves according to the topic into sections within the Literature Review chapter.

2.2 Definitions and Terminology
It is important to agree on a shared terminology and categorisation of elements of empathy, as the phenomenon has seen multidisciplinary research in recent decades in psychology, philosophy, medicine, economics, education, linguistics, etc. (Garcia, 1989; Duan and Hill, 1996; Hadjichristidis, Geipel, and Savadori, 2015; Reiss, 2018). Currently, definitions of empathy remain problematic, and the term itself refers to several different and discrete phenomena (Eisenberg, 2010; Batson, 2009, Decety and Cowell, 2014a). The use of multiple conflicting and overarching definitions adds to confusion in both

academic and popular arenas and obfuscates exactly which specific cognitive processes or psychological states are being used or referenced whilst using the term 'empathy' (Coplan, 2011). Distinguishing between these elements is important *"as each refers to distinct psychological processes that vary in their social, cognitive, and underlying neural mechanisms"* (Decety and Cowell, 2014a, p.530).

Recent literature (Eisenberg, 2010; Decety and Cowell, 2014a) shows a fundamental lack of agreement around key definitions and categorisations; this pertains also to the psychological contexts and ways in which empathy is manifested: *"these phenomena vary in their function, biological mechanisms, and effects, particularly the relationship between empathy and moral behaviour"* (Decety, Cowell, 2014b, p.337). However, some recent studies within the developmental and affective social neuroscience discipline have resulted in a more convergent understanding of empathy:

> *"[Empathy is] a multidimensional concept comprising dissociable components that interact and operate in parallel fashion, including affective, motivational and cognitive components."* (Decety and Jackson, 2004; Decety and Svetlova, 2012). (Decety and Cowell, 2014a, p. 530)

Decety and Cowell (Ibid.) make a distinction within an evolutionary neuroscientific framework that breaks down empathy into components: the affective component of empathy which demonstrates an ability to *"share or become affectively aroused by others' emotions (in at least valence, tone, and relatively intensity). The motivational component of empathy (empathic concern) corresponds to the urge of caring for another's welfare. Finally, cognitive empathy is similar to the construct of perspective taking"*, or what some would call Theory of Mind (Ibid., p. 530; Reiss, 2018).

The word empathy has its derivation in the German word "Einfühlung", or "in-feeling", and its earliest usage was in the late 1800s (Nowak, 2011). Yet the concept was recognised more than a century before by Hume, who declared *"the minds of men are mirrors to one another"* (Hume 1739, unpaginated). This term was soon after extended to include the concept of sympathy as a form of mutual understanding (Reiss, 2018). What is now considered "empathy" originates from the Greek prefix "Em", meaning to "enter into" another's pathos or feeling, written as ἐμπάθεια, and was used as the word for 'passion' in antiquity.

Despite its transparent etymology, current definitions of empathy still need greater clarification and categorisation. Current psychologists generally concur that empathy can be broken down into the following groups: emotional contagion/cognitive empathy, affective empathy, behavioural empathy, and somatic empathy (Coplan, 2011; Decety and Cowell, 2014a). Decety and Cowell (2014a) suggest that the terms *"emotional sharing, empathic concern, and perspective taking"* should be used; these terms respectively align with Coplan's (2011) terms including affective empathy, behavioural empathy, and

cognitive empathy. Decety and Cowell (2014a) also suggest that a broader academic use of more carefully defined constructs such as these, which have greater precision, will also help guide future research.

The following definitions of these aforementioned categorisations of empathy will also be used in this essay.

Emotional contagion is considered to be an automatic response (e.g., a friend smiles and the recipient of the expressive action smiles back instinctively, or one may wince when they see a child fall down roughly); empirical evidence in both human and non-human studies suggests that many complex variables can provoke an emotional contagion response in an observer (Barsade 2002; Decety and Cowell, 2014a).

"Emotional contagion leads to the experience of emotional similarity, the latter of which is associated with a variety of interpersonal benefits including less conflict and greater cooperation among group members." (Barsade 2002, cited in Decety and Cowell, 2014a, p.531)

Cognitive empathy has roots in Theory of Mind and is recognised as a benchmark of children's social and emotional development near the age of five, when children begin to perceive that others have thoughts and affect distinct from their own (Reiss, 2018). Perspective-taking is an important subsequent step in cognitive empathy along with empathic capacity towards in-group members (i.e., those that share commonalities). Perspective-taking can also occur towards out-group members and is an area of increased focus in current research (Ibid.).

Affective empathy is denoted by emotion and ability to perceive and feel what another perceives and feels. Affective empathy is supported among in-groups, including non-human conspecifics, e.g., mice who show a preference for saving their own familiar cage mates over other mice (Reiss, 2018; Ben Ami, Decety, Mason, 2011).

Behavioural empathy, also known as empathic concern, is associated with compassion that leads to action and even occasionally, personal distress at another's suffering. The positionality (in a critical realist sense) and socio-economic power of individuals displaying behavioural empathy can be associated particularly with the specific types of responsive action that can arise with empathic concern, including making more utilitarian judgements, i.e., those lacking in deontological value, but benefitting the greater good (Coté, Piff, Willer, 2012).

Somatic empathy can be a physical perception of another's feeling or pain, and is based primarily on mirror-neuron responses (Lamm, Meltzoff, Decety, 2010; Reiss, 2018). Mirror-neuron responses vary according to participant exposure to in-groups or out-groups (Cloutier, Li, Correll, 2014). Somatic empathy will not be addressed meaningfully in this essay.

2.3 The Development of Empathy

Empathic, prosocial behaviour can be the result of altruism, social norms, cultural expectations, emotional contagion, peer pressure, rules of government or ruling bodies, and a plethora of other complex and intertwined elements. The myriad facets of empathy affect general moral cognition and also prefigure varying outcomes in behaviour (Decety and Cowell, 2014a). "*Empirical evidence and theories from evolutionary biology, developmental, behavioural, affective and social neuroscience are comprehensively integrated in support of this argument*" (Ibid., p.525). Yet Decety and Cowell also maintain that morality is clearly distinct from empathy itself and point out the possibility of empathetic behaviour that is also potentially immoral, e.g. favouring family and friends versus out-group members (Ibid.).

Eisenberg (2010) interprets empathy simply as an "*affective response that stems from the apprehension or comprehension of another's emotional state or condition*" (p.1). From as early as two years old, Robbins and Rochat (2011) argue that "*children manifest the explicit inclination to help and collaborate with others and begin to show explicit attention to social norms*" (cited in Decety and Cowell, 2014a, p.527). And, children demonstrate and can evaluate prosocial actions from as early as one year (Hamlin, 2014). Evolutionary theory suggests that the capability to act prosocially and make moral judgements lies in human phylogeny; they "*are rooted in basic systems which evolved in the context of cooperation necessary for communal living*" (Decety and Cowell, 2014a, p.527). This cooperation starts from the first bonds made in the parent-child dyad and is a requirement for the survival of the youngest (Decety, Norman, Berntson, and Cacioppo, 2012, cited in Decety and Cowell, 2014a).

Beyond demonstrating a mere awareness of social norms, Piaget (1932) argues that young children are:

"*heteronymous with respect to rules. Rules are reified by the young child so that they are treated as obligatory, unalterable, and contingent on the commands of authority. In this view, the process of development entails the gradual differentiation of moral from nonmoral rules…concepts of convention and morality are confused in young children*" (Smetana, 1981, p.1333).

However, Smetana (1981) found that all children in her research manifestly regarded transgressions of a moral nature to be "*very serious offences*" (p.1334). This contradicts Piaget's portrayal of heteronomy regarding children's classification of rules (Smetana, 1981). As children grew older, they were more easily to distinguish "*moral transgressions as universally wrong*"; yet that by the age of 7, children could also differentiate between "*moral and conventional transgressions*" (Ibid, p.1334).

Piaget also posited that children aged 6-10 were able to distinguish between events that were motivated by a malign intention but resulted in a positive outcome, versus

those deriving from a positive intention that resulted in a negative outcome (Piaget, 1932). As children aged, they placed more value on intention than outcome (Ibid.). This has *"practical implications for educational school programmes or parents' caring choices"* (Margoni and Surian, 2017, p. 60; see Nucci, 2001, cited in Margoni and Surian, 2017).

> *"In fact, to know at which age children's moral reasoning starts to rely consistently on intention is crucial to improve existing programs of moral or civic education, and to guide parents in a better understanding of when and why their children can fully appreciate the content and meaning of their moral teaching. In particular, it would be valuable for parents to understand whether their children can understand and benefit from an education that relies on the adults pointing out to the children the mental state quality of the actions instead of the material consequences."* (Margoni and Surian, 2017, p. 60)

In contradiction, recent studies of adults facing moral dilemmas indicated that participants judged intention as less important than event outcome, suggesting additional future research in this area is warranted. (Geipel, Hadjichristidis, Surian, 2015b).

Despite inconsistencies with moral judgements valuing outcome over the intention, prosocial behaviour remains fundamental to societies in order to function effectively and peacefully and it is at the core of addressing current and future shared global challenges (Böckler-Raetting et al., 2018; University of Würzburg, 2018; Eisenberg 2010; Hart and Fegley, 1995; Kosse, Deckers, Schildberg-Hörisch, Falk, 2016). Empathy is one iteration of prosociality, a voluntary and deliberate behaviour that benefits another or several others, at the expense of the individual (Eisenberg, 2010; University of Würzburg, 2018).

However, many aspects of prosocial behaviour are mutable and can be trained: *"distinct facets of prosociality can be systematically improved by different types of mental training"*, including prosociality that is motivated by altruism or influenced by social norms (Böckler-Raetting, et al., 2014, p.8). Böckler-Raetting et al. make the following suggestion:

> *"Cultivating these affective and motivational capacities in schools, healthcare settings and workplaces may be an effective step towards meeting the challenges of globalised world and moving towards global cooperation and a caring society."* (Ibid., p.9)

Hardy (2006) suggests that *"moral identity is conceptualised as the degree to which moral virtues are central and important to one's identity"* (Hardy, 2006, p.208). This is supported by Hart and Fegley (1995), who posit that adolescents who are seen by others as *"care exemplars"* also see themselves as such, and that their self-perception as an empath is a central value of their identity (p.1346).

2.4 Altruism Can Be Trained

Böckler-Raetting et al. (2018) have recently also found that altruistic, prosocial behaviour in adults can be increased through "*training care and compassion*" (p.1). Previous studies regarding altruism and empathic responsivity have been linked to economic models that have traditionally suggested that prosocial behaviour is genetically determined and largely immutable (Böckler-Raetting et al., 2018). However, both Böckler-Raetting (2018) and Kosse et al. (2016) show through longitudinal studies that "*specific prosocial behaviours might indeed be malleable through contemplative mental training*" (Böckler-Raetting et al., 2018, p.1).

This is also supported by the research of Klimecki, Leiberg, Ricard, and Singer (2014) who argue that cognitive plasticity was enhanced with empathic training, and that "*training compassion may reflect a new coping strategy to overcome empathic distress and strengthen resilience*" (p.873). Laneri, Krach, Paulus, Kanske, Shuster, Sommer and Müller-Pinzler (2017) also had corroborating results suggesting "*that current mindfulness meditation could provide an adaptive mechanism in coping with distress due to the empathic sharing of others' suffering, thereby possibly enabling compassionate behaviour*" (p. 4034). Additionally, the research of Sierksma, Thijs and Verkuyten (2015) found that children were more likely to equally help those in both in-groups and out-groups "*when empathy was induced*" and when participants were asked to imagine how the "*recipient of help feels*" (p.45).

However, further research needs to be done to examine "*the specific effects of different types of trainings on distinct facets or human prosociality*" (Böckler-Raetting et al., 2018, p.1, emphasis in the original). The research of Condon, Desbordes, Miller, and Desteno (2013) suggests that compassionate responsiveness can be increased through meditation; this is also supported by Flook, Goldberg, Pinger, and Davidson (2015), who found that a mindfulness curriculum in young learners resulted in an increase in demonstrated levels of compassion and prosocial behaviour. Gavazzi and Ornaghi (2011) correlated young children's strengthened understanding of feelings and emotions of others, as well as their own, after exposure to "*stories enriched with emotional lexicon*" (p.1124). Ornaghi, Brockmeier and Grazzani (2014) also found supporting evidence in training young children through "*the reading of illustrated scenarios based on emotional scripts… in conversations on emotion understanding*"; participants with emotional training demonstrated increased "*emotion comprehension, theory of mind, and empathy, and the positive training outcomes for emotion understanding remained stable over 6 months*" (p. 26). Reddy, Tenzin Negy, Dodson-Lavelle, Ozawa-de Silva, Pace, Cole, Raison, Craighead, (2013) also found increased compassion for others when at-risk adolescent participants underwent a six-week programme of Cognitively-Based Compassion Training (CBCT).

There is equally a need for more research on mindfulness and altruistic training for leaders, educators, and children in schools, and potentially in the workforce as well

(Hardy, 2006). Hardy (2006) cites Gibbs (2003) and Lapsley and Power (2005) in suggesting that implications for application include "*youth development and moral education programmes [which] may more effectively promote moral development and behaviour if they include a focus on moral identity development*" (Hardy, 2006, p.214).

2.5 Empathy and Moral Judgement

One very widely used methodology in empathy research involves using moral dilemmas and the subsequent study of the empathic responsivity elicited in research participants (Bauman, McGraw, Bartels, Warren, 2014; Khazan, 2014). An often-applied dilemma in moral philosophy and psychology research is the trolley dilemma, originating from Foot's (1978) moral philosophical conundrum (see Appendix 1).

Relatively recent research on empathic response using this trolley-dilemma includes the formative study by Costa et al. (2014). This study proposed that participant responses, be they utilitarian or deontological, would indicate their working level of cognitive and affective moral reasoning and empathy using either MT or NNT. Cipoletti, McFarlane and Weissglass' study (2016) and Geipel, Hadjichristidis and Surian's research (2015a and 2015b) also support these findings. The work of Costa et al. strongly suggested that adults faced with the trolley problem displayed less dispositional empathic concern and were more likely to make utilitarian moral judgements when using their NNT (Gleichgerreht and Young, 2013; Costa et al., 2014; Decety and Cowell, 2014a). This was amplified when participants made particularly emotional decisions, such as in the life-or-death situation of the trolley dilemma (Costa et al., 2014). However, when other adults used their MT in the same context, they made significantly more deontological decisions, i.e., decisions based on moral judgement, suggesting greater empathic responsivity when using their MT (Ibid.). However, participants' cultural backgrounds could have influenced participant choices (Ibid.; Gold, Colman, Pulford, 2015).

The most recent study by Hayakawa, Tannenbaum Costa, Corey and Keysar (2017) refined this earlier research; they suggest that using NNT reduces the frequency of deontological judgement, but that does not mandate an increase in utilitarian judgement. Instead, they suggest that using NNT "*affects moral choice not through increased deliberation, but by blunting emotional reactions associated with the violation of deontological rules*" (2017, p.1387).

The recent popularity of hypothetical moral dilemma research, both in review and empirical studies, is confirmed by an increase in the number of trolley dilemma-style studies by almost four-fold between 2005 and 2012 (Bauman et al., 2014; Khazan, 2014). And, while the trolley dilemma originally provided the initial framework for this research, this methodological approach was abandoned due to an inability to resolve the remaining problems with this seminal study by Costa et al., and by extension, much of the research that generally relies on hypothetical moral dilemmas (see: Hare,1981; Sunstein 2005, cited in Geipel et al., 2015a). Bauman et al. argue that "*sacrificial dilemmas*

may lack experimental, mundane, and psychological realism and therefore suffer from low external validity" (Bauman et al., 2014, p.536; see Trémolière and De Nys, 2013). This position is also supported by Skoe, Eisenberg, Cumberland (2002) and Bostyn, Sevenhant, and Roets (2018).

While Costa et al. (2014) found an increased frequency of utilitarian judgement in moral dilemmas when using NNT in especially emotionally charged situations, Huebner, Dwyer, and Hauser argue that:

"*The current neurological, behavioural, developmental and evolutionary evidence is insufficient to demonstrate that emotion is necessary for making moral judgements. We suggest instead, that the source of moral judgements lies in our causal-intentional psychology; emotion often follows from these judgements, serving a primary role in motivating morally relevant action.*" (Huebner, Dwyer, and Hauser, 2009, p.1)

However, Huebner et al. also support the concept that "*the most important role that emotions might have is in motivating action*" (Ibid., p.5).

Despite the many impediments of using a methodology relying on examination of hypothetical moral dilemmas, the case nonetheless remains that language shapes our moral judgement, and equally, that using a NNT changes our choices (Bond and Lai,1986; Caldwell-Harris, 2015; Geipel et al., 2015a; Geipel et al., 2015b; Cargile, Giles, Ryan, Bradac, 1994; Hayakawa, Costa, Foucart, Keysar, 2016). This initial setback with including sacrificial dilemmas in this study led to other methodologies and methods being pursued for this research. Additionally, ethical issues arose with combining emotionally charged life-or-death moral dilemmas and research on children. This was addressed by abandoning a moral-dilemma approach and considering the empathy questionnaire "EQ Quotient" work of Baron Cohen and Wheelwright (2004), which also became the quantitative method for this research.

Baron-Cohen and Wheelwright (2004) argue that both cognitive and affective aspects of empathy are important indicators of generalised empathic responsivity; they should not be considered as separate variables in EQ research, and practically speaking, they cannot; they are difficult variables to separate (Baron-Cohen and Wheelwright, 2004). Baron-Cohen and Wheelwright (2004) are clear to point out that cognitive empathy and perspective taking may not include any evidence of affective empathy; the example they give is "*a person might infer that because John was absent during a key event, he will not know about it*" (Ibid., p.164). In Baron-Cohen and Wheelwright's (2004) research, they examined empathy as the mixed component at the centre of a Venn diagram featuring affective components and cognitive components (see Figure A.)
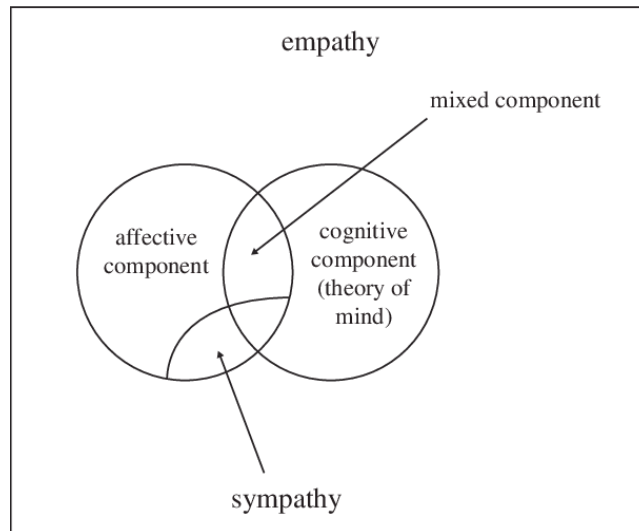
Figure A: Baron-Cohen and Wheelwright, 2004, p.165

The EQ test was developed in consideration of previous empathy tests and addressed some inherent weaknesses of previous empathy quotient-type studies: Hogan's EM Empathy Scale (1969), Questionnaire Measure of Emotional Empathy (QMEE) by Mehrabian and Epstein, 1972, and Davis' 1980 (IRI) Interpersonal Reactivity Index, (Baron-Cohen and Wheelwright, 2004; see Hogan, 1969; Mehrabian and Epstein, 1972; Davis, 1980). The Baron-Cohen Wheelwright EQ test "*can be said to have reasonable construct and external validity in having a high alpha coefficient and in being correlated with independent measures*" (Baron-Cohen and Wheelwright, 2004, p.171).

The EQ features 60 short questions written by Baron-Cohen and Wheelwright (see Appendix 2), allowing respondents to circle one of the following Likert scale style answers: strongly disagree, slightly disagree, slightly agree, and strongly agree (Ibid.). Twenty "*filler items*" were also added to avoid effect-bias and participant-bias; these were "*included to distract the participant from a relentless focus on empathy*" (Baron-Cohen and Wheelwright, 2004, p.164). These "*filler items*" were also "*computed to check for systematic bias*" (Baron-Cohen and Wheelwright, 2004, p.164-166). The participants scored 1 point for a weak but positive empathic response and 2 points for a strong empathic response; higher total scores indicated higher levels of general empathic response (Baron-Cohen and Wheelwright, 2004, p.166).

Baron-Cohen and Wheelwright's EQ test was also written to avoid framing effects, having both positive and negative questions (e.g., a negative voiced statement, "*I would never break a law, not matter how minor*", versus a positive voiced statement, "*I can easily tell if someone wants to join a conversation*" (Baron-Cohen and Wheelwright, 2004, p.171-173).

2.6 Language and Empathy

"*Empathic arousal is moderated by a priori implicit attitudes toward conspecifics*" (Decety and Cowell; 2014a, p.534). Despite the fact that empathic concern is a very early developmental competency in infants, they display empathic concern inconsistently and in particular, demonstrate a bias towards in-groups, i.e., those who are familiar or those with which infants can identify (Decety and Cowell, 2014a; see Davidov, Zahn-Waxler, Roth-Hanania and Knafo, 2013). Babies also show more empathic response towards their maternal parent in comparison to those who are less familiar, and older children also demonstrate preferences for in-group children versus out-group children (Ainslee and Lambert, 1964; Decety and Cowell; 2014a).

However, it is not impossible to empathise with out-groups: neural studies support that empathic responsivity towards another "*whose bodily and affective representations are distinct from our own is a task requiring the integration of cognitive control with processes of self-other distinction and perspective-taking*"; empathising with out-group members uses similar neural areas and cognitive procedures as are activated with in-groups (Lamm, Metzoff, Decety, 2010, p 374; see Karniol, 2003).

While language performs an essential function in how humans "*divide the world into social categories*", language equally affects how we regulate and conduct ourselves (Souza, Byers-Heinlein, Poulin-Dubois, 2013, p.1). Giles and Soliz (1987) and Cargile et al. (1994) found that "*linguistic features that speakers adopt such as their word choice, intonation pattern, speech rate, and accent influence the social attitudes of their listeners*" (Souza, et al., 2013, p.1-2). Kinzler, Shutts, and Spelke (2012) showed that children demonstrate bias based on accent when choosing friendships and that accent can "*influence children's willingness to imitate and learn from different individuals*" which could also have important implications in an educational context (Souza et al., 2013, p.2). Kinzler (2012) proposes "*that systematic exposure to another language can alter in-group biases*" (Souza et al., 2013, p.2). However, it is worth addressing that because Kinzler's research did not precisely or intentionally evaluate the extent of bilinguality of the test members, the results could not ultimately correlate the consequences of speaking more than one language with modified social biases (Ibid.).

Souza et al. (2013) found "*that both monolingual and bilingual children have strong preferences for in-group members who do use a familiar language variety*" (p.1). While bilingual children favoured native-accented speakers, the work by Souza et al. showed that:

> "*older monolingual children exposed to a range of languages and accents are also biased toward native-accent speakers, particularly at older ages 9-10; (Cohen and Haun (2013), see also Lev-Ari and Keysar (2010); for related work showing adults' preference for native accents). Our findings suggest that bilingual children's greater exposure to different languages does not necessarily lead to generalised social flexibility*" (2013, p.4).

Souza et al. question the possibility that bilingual children that experience several different languages over their childhood might have attenuated connections to some languages due to increased exposure (Ibid.). One question for future research they suggest is: might a bilingual Spanish and Italian speaker show an equal preference for an other who speaks with a familiar Spanish accent as equally as the preference for one with a familiar Italian accent? (Ibid.).

The learning timings of sequential bilingualism may also play a role in the perceived emotionality of a language; in having learned one's MT earlier than a NNT, there is a "*persistent subjective impression that the second language does not reach the same quality as one's native language, even with the highest levels of proficiency*" (Opitz and Degner, 2011, p.1961). It has been frequently self-reported by sequential bilinguals that they perceive their NNT as less emotional in comparison to their MT (Bond and Lai, 1986; Caldwell-Harris and Aycicegi-Dinn, 2009; Opitz and Degner, 2011; Caldwell-Harris and Aycicegi-Dinn, 2014; Caldwell-Harris, 2015).

This is the case even when speakers wholly comprehend the meaning of a word in their NNT; it is perceived or internalised differently than the same word in their MT (Opitz, and Degner, 2011). The sequential bilingualism of this study's participants was not analysed in depth, other than to determine MT (see Appendix 3).

This affective distancing is demonstrated in many different aspects of existing research. Bond and Lai's work (1986) showed that when speakers were asked to discuss embarrassing subjects, they preferred to speak in their NNT and that "code-switching" might allow some affective distancing in such situations. This is equally reflected in bilinguals' assessment of swear words and words that are taboo; the emotional force is diminished in perception when the forbidden words are in the participant's NNT (Dewaele, 2004). Caldwell-Harris' and Ayçiçegi's (2014) study confirms similar findings when participants heard highly emotional phrases (both positive and negative) in their MT versus in their NNT. Opitz and Degner's (2011) research also suggests this suppressed emotionality is possibly the result of delayed neurological aspects of linguistic processing; this may mean that "*the affective valence of L2 words is processed in a less immediate way due to delayed lexical access*" (Opitz and Degner, 2011, p.1961).

A similar type of cognitive and affective distancing is also supported by Caldwell-Harris's and Ayçiçegi's (2009) research, which proposes that electrodermal activity is influenced when bilingual participants lie in their L1 and L2 (NNT) speech; additionally, self-perceived reduced emotionality was reported in participants who lied in their L2 (NNT). Some participants reported they felt much less comfortable lying in their L1 (MT) and with its associated emotional closeness (Caldwell-Harris and Ayçiçegi, 2009).

However, there was an unclear distinction between "*arousal due to emotions associated with lying and arousal due to anxiety about managing speech production in a non-native language*", which has implications for teaching languages, for sciences involving bilingual psychotherapy, and even for lie detection in forensic and criminal justice

settings (Caldwell-Harris and Ayçiçegi, 2009. p.193).

Geipel, Hadjichristidis and Surian (2015a) also found that when participants were asked to evaluate morally charged situations in their MT or NNT:

"…the use of a foreign language promoted less severe moral judgement and less confidence in them. …We propose that the influence of a foreign language is best explained by a reduced activation of social and moral norms when making moral judgements." (Geipel et al., 2015a, p.8).

2.7 Literary Fiction and the Arts May Foster Empathy

Collective moral development likely includes extending our care for, and value of, those who exist beyond our familiar in-groups and towards the entirety of mankind; however, it may be challenging to have a similar level of affect toward a stranger that one might have for their own child or partner (Decety and Cowell, 2014a). Decety and Cowell (2014a) cite Pinker's (2011) argument that the increase of literacy in the 18th century resulted in the most significant collective growth of empathy in humanity; the engaged reader must take-on, in an internalised and intimate manner, the perspective of another who may be very different from the reader (Decety and Cowell, 2014a). In psychological terminology, this concept is titled "*transportation theory*"; readers are "*emotionally transported into the story*" and thus, they experience another's perspective in a profound manner which promotes increased empathy for others (Bal and Veltkamp, 2013, p.1).

Goldstein and Winner (2012) also found that the role-playing demanded in the participation of the performing arts and drama also fulfils a similar role in fostering empathy, particularly in young adults. Decety and Cowell make the following concurrence:

"Thus, mounting evidence seems to indicate that reading, language, the arts, and the media provide rich cultural input which triggers internal simulation processes (Decety and Grèzes, 2006), and leads to the experience of emotions and influencing both concern and caring for others." (2014a, p. 536)

Additionally, large-scale research has very recently been conducted across the Houston school system which strongly supports these findings (Bowen and Kisida, 2019).

2.8 Summary

As discussed, there are myriad and sometimes conflicting theories as to why NNT speaking and hearing reactions suggest lower empathic responsivity and cover a multitude of disciplines:

1) Opitz, Degner (2012) suggest that slower neurological responses occur when speakers use their NNT. Geipel et al. (2015a, p.14) cites Costa et al. (2014) in

arguing that using NNT necessitates a move from "*intuitive to controlled processes*".

2) Cognitive depletion may be a factor. Functional magnetic resonance imaging demonstrates that the act of understanding an NNT demands more cognitive capacity than when understanding one's MT (Geipel et al., 2015b; Hasagawa, Carpenter and Just, 2002).

3) Cognitive changes or diminution in "*emotional processing*" may occur when using one's NNT (Hayakawa, et al., 2016, p.792.); changes in risk and benefit perception may be present (Hadjichristidis, et al. 2015), or affective distancing may occur (Bond and Lai, 1986; Dewaele, 2004). Geipel et al. (2015a) cite Shafir, Simonson and Tversky (1993) in proposing that using NNT compels speakers to make evaluations that may be more disordered and attenuated instead of simply relying on a platform of informed utilitarian judgement.

4) Hayakawa et al. (2015) suggest that diminished relevance of interpersonal standards and mores are responsible for lower empathic responsivity, instead of an explicit emotional abatement. This is refined by the findings of Hayakawa et al. (2017). They suggest that moral judgements are not influenced by augmented consideration when using an NNT; instead, these judgements are the result of dulled affect responses related to transgressions of general deontological principles (Hayakawa et al., 2017).

5) Marian and Neeser (2000, cited by Geipel et al., 2015b, p.35) propose that reduced emotionality is due to "*language dependent memory*"; because knowledge is reticulated through a complex context of MT language occurrences, using NNT connotes less cognitive associations with affect-related experiences.

6) Costa et al., (2014, cited in Geipel et al., 2015b, p.35) suggest that an "*increased deliberation account*" when using NNT creates an affective distancing in the speaker.

Chapter 3 - Methodology

3.1 Overview
This chapter addresses the methodological approach taken for this research and looks in depth at the study design and method; a mixed-methods approach was used with a between-subjects study design. Both quantitative and qualitative methods, and importantly, ethical considerations are also addressed in this chapter.

3.2 Methodological Approach
This research used a mixed-methods methodology and a between-subjects research design. Due in part to potentially small sample sizes, the methodology was partially non-positivistic and interpretative, and the research was pursued as a means of practitioner inquiry, using meaning-making and understanding to generate better points of qualitative and quantitative data surrounding children's empathic responsivity.

Mixed methods research is both a design and a methodology; it incorporates methodological elements that include philosophical assumptions that direct how data is gathered and examined (Creswell and Plano Clark, 2018). Its research design includes both quantitative and qualitative data, which was especially pertinent for this research. As will be examined in greater detail in the Methods sub-chapter, both forms of data gathering were required to give a more complete picture of children's understanding and display of empathy.

Mixed-methods research has been considered by some to be the "*third methodological movement*" (Tashakkori and Teddle, 2003, cited in Creswell and Plano Clark, 2018; Gorard and Taylor, 2004); it is both a methodology and method which allow researchers to offset the shortcomings of one form of research, e.g. quantitative, with different data from another form of research, e.g. qualitative (Creswell and Plano Clark, 2018). Mixed datasets "*provide a better understanding of the problem than if either dataset had been used alone*" (Ibid., p.7). Additionally, using a mixed-methods methodology allows for a multiplistic paradigm, particularly allowing researchers to move away from a worldview that may be traditionally associated with either qualitative or quantitative research perspectives (Ibid.). These lines of reasoning have been used in the last several decades to justify the need for, and explain the best practice of, mixed methods research (Creswell and Plano Clark, 2018; see: Jick, 1979).

Because current dilemmas being researched today are increasingly intricate, mixed-methods research fulfils a pragmatic requirement to collect "*multiple forms of data for diverse audiences*" (Creswell and Plano Clark, 2018, p.18). Moving past mono-method research in social science has been recognised as a requisite for a more meaningful examination of themes and questions that may be especially complex: "*a multi-method approach can provide a context that does not limit potential generated data and information to one methodological framework alone*" (Gorard and Taylor, 2004, p.4). This has been especially

the case in this research, where the sample size was anticipated to be potentially less than *N*=50; thus, supplementing the quantitative data with richer and more nuanced qualitative data in the form of audio-recorded group interviews was appropriate.

3.3 Research Design

The research design method implemented can influence both the external and internal validity of research, and benefits and disadvantages must be carefully measured. This research was designed as a between-subjects design (BSD), also known as an independent measures design. In BSD design, only one treatment per participant is required; this study design offers other particular benefits that made BSD suitable in this research context.

BSD was chosen for practical benefits and as an appropriate design given the parameters in this research. It is a conservative form of design, and can limit "*spurious effects against using less powerful tests*" (Charness, Gneezy, Kuhn, 2011. p.2). Additionally, carry-over and experimenter demand effects can be more restricted when using such a design (Ibid.; see: White, 1977; Rosenthal, 1976, cited in Charness et al.). When study participants have limited choices or single sets of decisions, a BSD approach can also provide greater external validity (Charness, Gneezy, Kuhn, 2011).

Yet BSD also has some drawbacks which were considered during research design development. One negative potential with BSDs is that "*they can be complex and often require a large number of participants to generate any useful and analysable data*" (Shuttleworth, 2009, unpaginated). Other potential negatives of BSD surround assignment bias; individual variabilities can influence data in ways that are sometimes unpredictable. The range of children studied, their gender, socio-economic status, religion, cultural background, etc., are all potential variables that may be neither accounted for, nor limited (Shuttleworth, 2009). Data from BSD can also be influenced by assignment bias, particularly as the school where this research took place did not reflect a purely random sample of society; this is another possible influence on the resulting data that could affect generalisability (Shuttleworth, 2009).

Between designs typically have no natural anchor. Thus, results inherently,

"*have substantial noise, and may miss important and real patterns…The problem here is that statistical power is hard to come by because, in a strict sense, each group can only provide one independent data point.*" (Charness, Gneezy, Kuhn, 2011, p. 2)

In the next section, the research context and background information about the participants, as well as the quantitative and qualitative methods used in the study will be addressed.

3.4 Research Context and Sample Background

The subjects were a group of 44 Year 7.1 and Year 7.2 students (aged 11-13) in an

international school in Geneva, Switzerland, which is also my workplace. (Note: this participant sample size dropped to *N=29* after parent consent forms were acquired). The school was founded over 100 years ago and has almost 1400 students from around the world; its student body is split into an English section of the school (approximately 600 students) and a French speaking Swiss section (approximately 800 students). 92 different nationalities are represented amongst the student body and 32 different nationalities are represented amongst the staff. Because Geneva, Switzerland is home to the World Health Organisation, the United Nations, and a host of international companies and non-governmental organisations (NGOs), the majority of students at this school are children of diplomats and ex-patriate international workers living at a comparatively high socio-economic level. While the school cannot confirm the exact socio-economic levels of the families of children who attend the school, the annual tuition is over 25,000 Swiss francs (approximately 20,000 UK pounds sterling at the date of writing), which suggests high monetary earnings of participant families. Additionally, many of the students have lived in several different countries during their lives and have generally experienced a wider range of cultures and exposure to different socio-economic conditions than non-diplomatic / non-NGO children; the children likely come from a reasonably high echelon of society in terms of wealth and cultural influence. This is a potential sample bias, yet it can also be argued that because these participants represent a range of cultural diversity, they represent a wider range of experience than schools in other large western, industrialised cities. However, this sample is potentially less likely to represent an equally broad range of socio-economic status. Participant observation of religion and participant gender identification were not included in this study.

3.5 Quantitative Methods

In this research, Year 7.2 was tested before Year 7.1, as the classes have different class timetables. The first class tested (7.2) agreed to confidentiality and to not discuss the EQ test with their classmates in Year 7.1 until after that group had been tested the following week. It cannot be confirmed that the test was or was not discussed; thus, while the results were possibly influenced by this, the second group participating confirmed before the EQ test that they did not know about the test or its questions. In every single treatment, participants were divided and tested into two test groups sitting in the same large classroom: one group was tested with the EQ questionnaire in their MT (French or English) and the other was tested in the EQ questionnaire in their NNT (also French or English). The EQ test was professionally translated into French and some words were slightly adapted to ensure the level was appropriate for children of that age group; complex words were simplified and their general meaning was retained.

Some students' levels of French were not proficient whatsoever, which necessitated these students being tested in English; this was assessed before the research by determining what streaming level of French class they were currently placed in at the

school. Students taking advanced French were given the French EQ test (this may or may not have been their MT). For example, student A speaks French at home and French is their MT; they may have been tested in English, their NNT. Student B speaks English at home but is in a high-level French class at the school; they were likely to have been tested in French as their NNT. Student C speaks English at home and is in a low-level French class at the school; this student would most likely be tested in English, their MT. Student D speaks Italian at home and is in a low-level French class; this student would be tested in English as their NNT (see Appendix 3 for details of how MT and testing group placements were determined).

However, both language proficiency and L1 needed to be established before any participant grouping could be made. As mentioned, French language proficiency was previously assessed through the school, where students were streamed by French proficiency level into either Beginner, Intermediate or Advanced French classes. Intermediate French speakers had the choice in this study to complete the EQ in French if they felt they fully understood the questions; if they did not understand the questions in French, they were allowed to opt for the English language EQ. When students had queries regarding any EQ question, the conversation clarifying the question was conducted in the language of the EQ test (i.e., students taking the EQ test in French were instructed to only speak French and ask questions regarding clarification in French; equally, this was done for the group being tested in English.) All students were instructed to complete the form without too much analysis and to answer all questions as honestly as possible. Before handing back the completed tests, each student confirmed that they had clearly understood all of the EQ questions.

However, before being grouped and tested, assessments to determine MT were required. Due to the range of languages at the school, students self-assessed with a questionnaire in English. Determining whether the tested language was in MT or in NNT was especially difficult; questions and participant responses determining participant MT are included in Appendix 3. To determine MT, students were asked to complete the following questions: What languages do you speak (now)? What language did you speak as a child? What was the first language you learned? What language do you usually use at home with your family? What language do you usually use with your friends? What language(s) do you dream in? If you have to have a complicated conversation, what language do you use? If you have a conversation that has a lot of emotion or feeling, what language do you use? What language do you use when you feel most like yourself?

The variety of 16 different MTs spoken amongst the participants were: English, French, Italian, German, Spanish, Arabic, Swahili, Hebrew, Vietnamese, Russian, Dutch, Telegu, Hindi, Swedish, Luxembourgish, and Portuguese.

3.6 Qualitative Methods
Immediately following the EQ test, participating students joined in an audio-recorded

group discussion lasting approximately fifteen minutes (see Appendix 5 for transcripts, which have been edited to remove general classroom discussions unrelated to the research questions). The class discussions were led with a semi-structured approach featuring a question set that was aimed to isolate different categories of empathy (e.g. cognitive empathy versus affective empathy) and to thresh out specific perceptions the students may have regarding in-groups and out-groups in relation to their language use (see Appendix 4). However, the transcripts of the interviews (Appendix 5) confirm that follow-up on some of these topics from the question set was not possible.

The method of group interview was chosen because it can be an especially appropriate qualitative method "*when the researcher wants to explore complex and subtle phenomena - things such as: opinions, feelings, emotions and experiences*" (Denscombe, 2017, p.203). Additionally, group interviews allow for data to be generated from more than one source, or a small number of sources which "*has benefits in terms of the representativeness of the data*" (Ibid., p.205). The group interview was loosely structured in order to allow students to potentially lead the discussion to specific topics not previously considered or anticipated; "*informants have the opportunity to expand their ideas, explain their views and identify what they regard as the crucial factors*" (Ibid., p.220, emphasis in the original). However, this looser structure meant that the data generated was less standardised than might be in a more structured interview context. The intention was to not "*ascribe views and comments to individual speakers in the interview, [but rather interpret] the outcomes as communal views and to represent them as artefacts of a shared encounter*" (Watts and Ebbutt, 1987, p.30).

Another disadvantage includes a potential lack of validity of the data; it is assumed informants tell the truth; however, there may be a difference between what informants say they will do and what they actually do in a given situation (Denscombe, 2017). Additional potential liabilities of this method also include the interviewer effect, potential emotional contagion influences, and reliability: "*with semi-structured and unstructured interviews consistency is hard to achieve. The data collected are, to an extent, affected by the specific context and the specific individuals involved*" (Ibid., p.221). Lastly, it is important to consider that "*tactless interviewing can be an invasion of privacy and / or upsetting for the informant*" (Ibid., p.222). This was carefully assessed prior to the research, as well as negotiated during the interview process, which leads this essay next to the overall ethical considerations of the research.

3.7 Ethical Considerations

This research and dissertation have been conducted in compliance with the following organisation and governmental guidelines: University of Nottingham Code of Research Conduct and Research Ethics (2016); British Educational Research Association (BERA) Ethical Guidelines for Educational Research, fourth edition (BERA, 2018); Swiss Association of Ethics Committees for Research on Humans (The Swiss Federal Council;

2013), General Data Protection Regulations of the European Union (Regulation 2016/679, 2016). All participants and parents or guardians of participants provided informed written consent and all participant names, including names identifying the school and its administrative staff have been anonymised. For full disclosure, it is important to note that the independent research took place at my place of work; however, the research was under no influence from the administrative direction of this workplace. This work was neither funded by grant nor by the financial support of any institution.

Research involving young participants required changing the study method in the earliest stages of the development of this study from what was originally envisaged. As written earlier in Chapter 3, requesting children to imagine the "*trolley dilemma*" would not have achieved the required standards of ethical approval. Initially, different dilemmas that were potentially less emotionally traumatic for children to consider were evaluated. However, the nature of examining any emotionally charged moral dilemma ultimately excluded the possibility of possible ethical compliance. Because Baron-Cohen and Wheelwright's (2014) EQ test had already been used with children worldwide, it was determined to be a more appropriate test method for this research.

Participant consent emails in English were sent out to parents and guardians of the participants (see Appendix 6.1); the consent forms were also professionally translated into French and provided to parents and guardians to ensure consent was fully informed, in the case of English being a second language for a parent or guardian. Several subsequent replies to particular parents' and guardians' concerns followed, in order to explain the nature and specific details of the EQ test. In these cases, parents agreed to maintain confidentiality with their child about the EQ test questions until after the research was completed. Several weeks before the research, participants were also given a five-minute oral presentation in English regarding the nature of informed consent (e.g., participants may remove themselves from the research at any time, without fear of retribution from the teacher-researcher). Participants were also given written participant consent forms before the research commenced; these were written in both English and professionally translated French to ensure a greater potential understanding of the consent forms (see Appendix 6.2).

Nine parents or guardians of participants did not reply to the email requesting consent; two parents opted out prior to the research.

Three participants asked to withdraw from the research before qualitative research began; these students were instead given a supervised, yet enjoyable academic task commensurate with an activity that they would normally complete during their regular classes. The task was unmarked and creative in order to avoid any perception of punishment for withdrawing from the research. Administrative consent from the head of the school's secondary section to proceed with research was also acquired by email.

For the audio-recorded qualitative group interviews, participant names have been redacted from transcripts. While every attempt was made to not use first names during

the recorded interviews, one or two students accidentally called each other by first name; these have been removed from the transcripts to ensure anonymity.

Lastly, interviewer positionality and potential teacher/researcher conflicts were addressed and considered before, during, and after the research process. While positionality is also an ethical issue, it equally posed several limitations for the study. Thus, positionality is discussed in further detail in Chapter 6.3.

3.8 Summary
The mixed methods methodology and method and the between subjects study design worked as a suitable framework for this research, despite varying advantages and disadvantages. The quantitative method relied on Baron-Cohen and Wheelwright's (2004) EQ test; data from the qualitative research was generated by group interviews. Some weaknesses emerged in the qualitative data generating process; however, it equally provided some rich data that likely would not have been produced through quantitative methods alone.

Chapter 4 – Results / Findings

4.1 Introduction

The quantitative results did not provide sufficient evidence of a correlation between language use and EQ test scores. While the average EQ score was indeed lower for speakers taking the test in their NNT, the standard deviation was large and no statistical significance could be found.

The qualitative group interview yielded more nuanced data, but the semi-structured nature of the interview requires a non-positivistic, interpretative consideration. Two particularly surprising elements of these results were the capability of young participants to articulate complex aspects of empathy and their demonstrated ability to distinguish between subtle differences in several components of empathy.

4.2 Quantitative Results / Findings

The quantitative results did not show statistical significance. The data generated is detailed in Figure B:

Students tested in MT	N= 17	Mean/ Average EQ Score: 42.05	Median: 41	SD= 12.3
Students tested in NNT	N= 16	Mean/ Average EQ Score: 40	Median: 39.5	SD= 9.35

Figure B

Because the standard deviations were so large in comparison to the difference of the means, no statistical significance could be proven; the results could have occurred by chance or other factor. See Figure C.
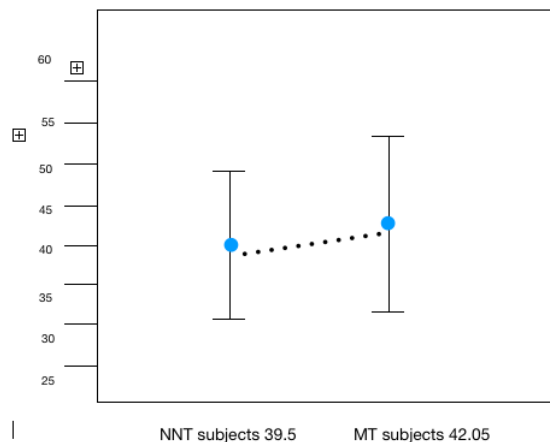

Figure C: Mean Points with Standard Deviation Error Bars

Using the Mann- Whitney U test, when calculated with a significance level of .05, 1 tailed-hypothesis, the results were:

U=97.5. The critical value of U at p<.05 was 64, meaning that the result was not significant at p<.05.

The z-score was .17712; p-value was .42858. Thus, the result was also not significant at p<.05.

4.3 Qualitative Results / Findings

The qualitative data was assessed through the use of categorical content analysis. The talk was analysed by clustering types of participant speech about empathy. Ideas and themes that were repeated throughout the discussions are ranked by frequency under the following categories; the number of distinct utterances is detailed in each parenthesis:

1) Awareness or articulation of less perceived emotionality in NNT, or greater emotionality in MT (7)
2) Awareness of out-groups through gender stereotypes and racism; awareness of collective problems and collective responsibilities (8)
3) Awareness and articulation of perspective-taking (6)
4) Awareness or articulation of practical obstacles when using NNT (5)
5) Situational or Context differentiation for empathic response; potential of change as a motivating factor (9)
6) General awareness or articulation of affective empathy (4)
7) Comfort or ease of using MT; need for a common language (5)
8) Awareness of false or inauthentic attempts to elicit empathy (4)

4.4 Summary

The quantitative data was inconclusive; however, the possibility remains that a correlation exists and may be determined through future research. The aphorism "*absence of evidence is not evidence of absence*" is somewhat apropos in this context. The qualitative aspect of the research generated more complex and rich data and provided an opportunity for non-positivistic and interpretative analysis.

Chapter 5 – Discussion

5.1 Introduction

Although the quantitative data results did not establish a correlation with lowered empathic responsivity and use of NNT, participants' average scores were lower when using their NNT. However, this could be the result of chance or other factors. Additionally, the determination of clusters of speech commonalities within the qualitative group interviews provided opportunities for a more nuanced understanding of participants' self-perceived emotionality when using their MT versus NNT and for identifying their ability to make distinctions within subtle elements of empathic response.

5.2 Discussion of Quantitative Findings

Despite there being no statistical significance of the quantitative results, there was nonetheless a difference in average EQ scores between MT and NNT speakers, with the NNT scoring an average of 5.02% lower. This cannot be interpreted as a real difference and the lower scores could be due to chance or other influencing factors; this also may suggest that further research with larger sample sizes should be pursued in the future, particularly as no research of this type has yet been undertaken outside of this small study.

Mann-Whitney U tests were completed to analyse the data. This non-parametric test was chosen partly as a means to "*compare two independent groups that do not require large, normally distributed samples*", and it is a particularly useful test for analysing a small sample size (Nachar, 2008, p.13). In the type of research conducted in this study, ordinal data generated can result in inexact measurements (Nachar, 2008). In this situation, it is also not possible to rely on a parametric test (such as the t-test) because of the inconsistent distribution of data points (Ibid.). Nachar cites Siegel and Castellan (1988) in commenting on some benefits of the Mann Whitney U test:

> "*This test has thus good probabilities of providing statistically significant results when the alternative hypothesis applies to the measured reality… By comparison with the t-test, the Mann-Whitney U is less at risk to give a wrongfully significant result when there is presence of one or two extreme values in the sample under investigation.*" (2008, p.19)

One assumption of the Mann-Whitney U test is that a random sample is used; this assumption somewhat obviates potential sample errors (Robert et al., 1988, cited in Nachar, 2008). However, while the participants in this study were chosen merely for their age group, because the sample came from the place of work of the researcher, it can be argued that this sample is not truly random.

Another important aspect to consider is that empathic response may be constituted of both elements of "*state and trait*" (Baron-Cohen and Wheelwright, 2004,

p.170), and could indicate influences from "*both genetic or early experiential factors (Fonagy, Steele. Steele, and Holder, 1997)*" (Ibid.). Baron-Cohen and Wheelwright concede that the EQ test relies on participants providing truthful responses and on participants evaluating their anticipated empathic responses correctly (Baron-Cohen and Wheelwright, 2004). They also distinguish that results may be influenced by the state of mind of the participant taking the test and that these variable states may influence the ability to empathise:

> "*Thus, if you are drunk, you might continue to drive your point home in a discussion for far longer than is sensitive to your listener, and in this case act unempathically… That is, your ability to switch perspectives may be reduced by your current state.*" (Baron-Cohen and Wheelwright, 2004, p.170)

The combination of consistent findings in previous research surrounding adults' self-perceived reduction of emotionality when using their NNT, with other studies that propose generalised diminished empathic responsivity using NNT, along with the lower average score of children using their NNT in this study suggests that more large-scale research in this area is warranted.

5.3 Discussion of Qualitative Group Interview Findings

The qualitative data generated were analysed by clustering common types of speech and common topics brought up by the participant informants (see Appendix 5). It bears noting that this analysis was made not to generate information that may speak for large, generalisable, or macro-focus groups, but was specified in consideration of the participant group "*in relation to the shared background meaning and cultural assumptions necessary to make sense of the data themselves*" (Denscombe, 2017, p.318).

While it is undesirable to selectively "cherry-pick" data and highlight only aspects of the qualitative discussion that support the categorisations above, there was repeated dialogue surrounding the themes previously listed in the Qualitative Results / Findings section. The interviewer did not anticipate that students of this age would be able to so clearly distinguish between and articulate subtle differential elements of empathy in the following categories; however, the students successfully did so, by relating their self-perceived emotionality to film and television news, determining the authenticity of others attempting to elicit empathic response, and articulating the differences between empathic action (and thus, generating effective and meaningful change) versus a simple affective empathic response with no resulting action.

The largest cluster area was related to situational or context differentiation for empathic responses and the motivating factor of the potential for a result of a tangible change. Some examples where the participants were able to contextualise and differentiate empathic contexts follow. (Note: S is an abbreviation of "Student" and I is

an abbreviation of "Interviewer"; If more than one student spoke at the same section of the discussion, they are distinguished by the name S1, S2, etc.):

> S: *"Yeah, the "do you feel empathy when you see animals suffer" question? Yeah, well, it depends. It depends on what animal it is and what the suffering is. For example, if there's like a fish, just like swimming, and you know, a shark eats it, I'm not gonna feel sorry for the fish…'cause if the shark didn't eat it, well then I'd feel sorry for the shark…."*
> I: *"So what if the animal was a more familiar animal, instead of a random fish in the ocean. What if it was a dog, if you happen to like dogs?..."*
> S: *"Well, then I would kind of feel…odd. I… would feel sorry."*

Positive outcome, and tangible change and empathic action were also identified as motivating factors:

> S: *In PSHE, we often talk about bad stuff that might happen to someone…but when something actually bad happens, nobody does anything…nobody acts to help. Like eating disorders or bullying….*

and

> S: *if you really want to help an animal…maybe it's better to not help, because maybe you might make more harm.*

This was in keeping with the following observations:

> S: *Yeah, So… you put yourself in someone else's shoes, it can be very difficult… say you do go in someone's shoes, but that's just feeling what they're feeling - you're not actually doing anything.*
> I: *So what situation, instead of just making you think about it and feeling about it…what would make you actually do something?*
> S1: *Well, stuff that is important, that could actually change the world or change a whole country…*
> S2: *If it was actually gonna change something.*
> I: *OK, so it has to make a difference?*
> S1: *Yeah.*

This line of thinking was modified by another participant, who linked empathic action with collective responsibility:

S: *"It's because if you help even one person, it'll encourage other people to help another 'one person'…"*
I: *"What do you think the world would be like if everyone…had empathy?"*
S: *"There would be less poverty, there would be more independent countries, since there wouldn't be, like, 'I want to invade this country because I want to have more money'…there would be less war, more friendship."*

One other significant cluster that emerged was a speech about awareness of less perceived emotionality using NNT, or an articulation of a perceived greater emotionality using MT. For example, students also discussed emotional recent current events and brought up the event concerning boys trapped in a cave in Thailand in 2018 that had received great media attention prior to the research, and their reactions to the related media coverage in different languages:

S: *"I watched both interviews* (of the rescued boys from the cave) *in both English and French, and in English, it grabbed my heart less, because in…. French, I understood more of what they were saying… like … I understood that they were suffering."* (said with emphasis on the last word).
I: *"There was more subtlety?"*
S: *"Yeah."*

Participants were also able to articulate different emotionality when using strong or taboo words, which is also supported by Caldwell-Harris' (2014) research with adults on self-perceived diminished emotionality when using swearwords or forbidden words:

S: *"(MT English speaker) If I say a bad word in English…or someone says it to me, then I would feel bad, especially if they are serious."*
I: *"Okay, what if …that bad word was in say, German* (which the student did not speak as well) *…does it feel the same?"*
S: *"I would not mind so much. 'Cause like, speaking German…No….* (student shakes his head and waves his hands away in a dismissive gesture.)*"

Additionally, students expressed awareness of generalised reduced emotionality when speaking in their NNT, which corroborates with parallel research conducted with adults (Bond and Lai,1986; Cargile, Giles, Ryan, Bradac, 1994; Caldwell-Harris, 2015; Geipel et al., 2015a, Geipel et al. 2015b; Hayakawa et al., 2016):

S: *"I think sometimes I feel different… like, if someone's upset, and like, they speak Spanish…"*
S2: *"Yeah, you can still try to help by like, doing basic things, but normally you don't…I*

don't have the same amount of empathy because I can't actually find out what's wrong…so I don't know how empathic I should be."

Not all comments supported general classroom consensus; for example, when asked if students would react with empathic concern if they saw a crying or injured child on the playground, one response was:

S: *For me, if I see a kid crying on the playground, I know it's probably going to be okay, so… I guess I don't… the kids always have a bunch of kids around them, so… it makes me care a bit less, because somebody is there caring about them.*

This also demonstrates the student's ability to differentiate and reserve empathic response for situations where they perhaps considered empathy to be more needed or warranted.

Another outlier was a student who was asked if they felt any emotional difference when watching movies in MT versus NNT:

S: *No, because it's the same story, but in a different language. So, like, if I was going to watch a movie, like a…Marvel movie, it's in English.*

The audio-recorded class discussion was conducted immediately after the quantitative research in an effort to avoid a carry-over effect. However, this may have also allowed for a potential heightened awareness in participants of a change in research approach: "*The act of moving a participant from scenario A-B makes them explicitly aware of the change to their environment*"; this can also create experimenter demand effects (Charness, Gneezy, Kuhn, 2011, p.4).

Upon reflecting on the interview transcripts, a potential criticism is that some of the questions could be seen as leading, although the interviewer attempted to elicit responses that were not likely to provoke any particularly anticipated responses. There was an overt attempt to ask open and often "double-barrelled" questions to the class. Additionally, the chaotic nature of a large classroom with many young participants was challenging; while smaller group discussions were not pursued due to demands of practicality, they possibly may have generated more diverse data.

Other potential biases that could have influenced the reliability of the qualitative data are observer's paradox, or Hawthorn effects, which also relate to the researcher's positionality as a teacher, i.e., in a position of greater power, expecting pupils to please the teacher through providing anticipated responses, versus that of a researcher attempting to gather independent and unbiased data. Another possible influence is the potential for emotional contagion amongst the participants during the discussion (Barsade, 2002). One other important potential bias issue is that of prestige questions; i.e.,

participant responses could be influenced by a desire to improve how they are perceived by others in the group (or by the interviewer). This could particularly be the case with the qualitative interviews in this study, as the discussions were group conversations. This issue may have been less potentially influential with the EQ questionnaire as the questionnaires were anonymised.

5.4 Discussion in Relation to Themes of Research Question

Several themes emerged in an attempt to answer the research question examining whether children between the ages of 10 and 13 demonstrate reduced empathic responsivity, in a manner similar to adults, when using their NNT. While the quantitative results were not conclusive, the group interviews confirmed similar findings to earlier research in adults who perceived their emotionality as reduced when using their NNT. This also supports findings in adult subjects by Caldwell-Harris and Aycicegi-Dinn (2014) and Caldwell-Harris (2015). Participants in the group interviews expressed an awareness of more emotionality when using their MT and articulated feelings of reduced emotionality when using their NNT, in situations ranging from films to hearing or using taboo words. One unanticipated theme recurring throughout the qualitative research was participants' substantial awareness of complexities and of subtle differences within the scope of empathic response. Participants were also demonstrably aware of the collective responsibility to resist ignoring or devaluing out-groups (see Appendix 5). Participants also expressed an ability to distinguish between subtle elements of empathic response through their questions while taking the quantitative EQ test, although this was not audio-recorded. While a conclusive answer to the research question can not be determined from this study, the themes related to the question suggest that there may be a potential relationship between children's reduced empathic responsivity when using their NNT and that further research is merited.

5.5 Summary

While this research did not result in any data with statistical significance, it may provide some practical significance and suggests further research should be undertaken. The nature of small sample BSD research can "*have substantial noise, and may miss important and real patterns*" (Charness, Gneezy, Kuhn, 2011, p.2). It is also argued that it is difficult in such a situation to have statistical power "*because, in a strict sense, each group can only provide one independent data point*" (Ibid.). The validity of practical significance supports some arguments against the null-hypothesis: "*researchers reason incorrectly that if the p-value associated with a test statistic is suitably small, say less than .05, the null hypothesis is probably false. This form of deductive reasoning has been referred to by Falk and Greenbaum (1995) as 'the illusion of probalistic proof by contradiction'*" (Kirk, 1996, p.747). However, a quantitative test was intentionally chosen as a part of this research method, and results with statistical significance should not have been realistically expected due to the sample

size and the nature of the research conducted. Thus, it is somewhat spurious or disingenuous to question the general validity of a test method, simply because the results were not as anticipated.

While the statistical significance of this research has not been established, it is nonetheless agreed that there is a multitude of variables that influence affect; 'empathy' is both composite and uses multiple mental models. Geipel et al. cite both Caldwell-Harris 2014 and Harris et al., 2006, in arguing that the perceived emotionality of speaking in one's MT instead of one's NNT relies on complex interactions that include *"age of acquisition, level of proficiency, and the emotional context in which the foreign language is learned"* (Geipel et al., 2015a, p.9). Because MT languages are generally acquired at home and within families and friendships, providing *"affect rich experiences"*, such acquisition events are surrounded by emotional and experiential contexts that can be replete with meaning (Hayakawa, 2016, p.792). And, acquisition of NNT languages frequently occurs in educational contexts, where the associated emotional affect may be diminished; thus, using that language may not *"engage the emotional system as readily…such a reduction in emotional processing could explain effects such as increased risk-taking greater utilitarianism, and so on"* (Hayakawa, 2016, p. 792).

It remains unclear whether the status of the participants (in this current research) as highly multicultural children who have had the experience of different languages and accents has an effect on their language preferences and biases. Existing literature suggests that contradictions exist. For example, some research proposes *"that bilingual children are less influenced than monolinguals by language variety when attributing personality traits to different speakers, which could indicate that bilinguals have fewer in-group biases and perhaps greater social flexibility"* (Ainsfield and Lambert, 1963, cited in Souza et al., 2013, p.1). The findings of Souza et al. (2013) contradict the suggestions of Ainsfield and Lambert (1963).

Subjectivity of the sample and sample bias questions also remain unresolved. The participants in this study are multicultural, and also generally have a high socio-economic status. Yet studies also suggest *"an inverse relationship between power and empathy"* and that higher socio-economic status can result in lower empathy levels to those in lower socio-economic groups (Reiss, 2018, p.25; Coté, Piff, and Willer, 2012). While the participants' social class may have affected the outcome of this research, it remains unclear. Coté, Piff and Willer (2012) found that those of high socio-economic status made more frequent *"calculated, dispassionate moral judgements in dilemmas in which utilitarian choices were at odds with visceral moral intuitions"* (Coté, Piff and Willer, 2012, p.501). Because of this, the decreased empathic responsivity of the higher socio-economic participants paradoxically resulted in choices that maximised *"the greatest good for the greatest number"* (Ibid.).

Chapter 6 - Conclusions

6.1 Summary of Response to Research Question
In response to the research question inquiring if children between the ages of 10 and 13 demonstrate reduced empathic responsivity in a manner similar to adults when using their NNT, the summary response is inconclusive but suggests further large-scale research is warranted. The standard deviations in the quantitative research were large enough between the differences in means to suggest that the results could have occurred by chance or other factors. However, the EQ results for participants using their NNT were more than 5% lower. Importantly, qualitative group interviews supported the concept that self-perceived emotionality is reduced when using one's NNT.

6.2 Implications for Theory and Practise
Implications arise in light of the myriad, highly varied, and occasionally conflicting existing research, including this small study. The difference in this study's average scores, while possibly being the result of chance or other factors, suggest this subject could be more successfully researched with a larger and more randomised sample size. More generally, studies that have greater statistical power could be designed in the area of empathic response in order to improve collective knowledge in this area (Christov-Moore, Simpson, Coudé, Grigaityte, Iacoboni, Francesco-Ferrari, 2014).

A fundamental issue that needs addressing is better cross-discipline coordination of research. This includes finding consensus on terminology and categorisation of what mental functions we mean when discussing empathic response. "*Distinguishing between… components of empathy are far from being only a theoretical debate. It has implications for research design and interpretation as well*" (Decety and Cowell, 2014a, p.536).

Grasping the complicated associations between morality and conceptualisations of empathy may demand relinquishing the all-encompassing word of 'empathy' in the interest of more specified constructs, including "*emotional sharing, empathic concern and perspective-taking. This will prevent academic and popular confusion between 'empathy' and morality and pave the way to a better theoretical framework for further investigations*" (Ibid., p.339). Carlo and Randall (2001, cited in Hardy, 2006, p.214) also "*call for greater specificity in conceptualising and assessing moral action, rather than viewing moral action as a unitary phenomenon*".

There is also a case for greater research in this area that isolates variables of gender and age. While these were not variables examined in this research, other studies suggest that further examination is warranted. Bucciarelli's research (2015, p.13) found girls made more utilitarian decisions than older females when "*resolving classical moral dilemmas: they preferred action that achieved a good outcome for a greater number of people*".

Christov-Moore, et al. (2014) propose that empathic response has developed over both the phylogeny and ontogeny of humans; empathic responsivity, as related to gender, has more complex influences than mere socio-cultural proclivities and gender stereotypes. They argue:

"*Examinations of the neurobiological under-pinning of empathy reveal important quantitative gender differences in the basic networks involved in affective and cognitive forms of empathy, as well as a qualitative divergence between the sexes in how emotional information is integrated to support decision-making processes.*" (Ibid., p.604)

One other aspect of empathy that merits further research is in the area of in-group / out-group bias and means of effective fostering of perspective-taking. For example, Kinzler's research (2012) proposes "*that systematic exposure to another language can alter in-group biases*" (Souza et al., 2013, p.2). Additionally, young children's exposure to others from different races at an early age results in the lower amygdala (stimuli arousal) responses later in life (Cloutier, Li and Correll, 2014, cited in Decety and Cowell, 2014a, p.531).

Exposure to out-groups that are different from ourselves, particularly at an early age, requires an extension to perspective-taking. It is argued that "*perspective taking is a powerful way to elicit empathy and concern for others (Batson 2012; Van Lange, 2008) and reduce prejudice and intergroup bias*" (Decety and Cowell, 2014a, p.532). Unambiguously assuming the point of view of someone from an out-group reduces stereotyping towards not only that out-group individual, but also extends to a more favourable estimation of the out-group as an entirety (Ibid.). Decety and Cowell (2014a) suggest that perspective-taking is a method that can effectually mitigate in-group bias "*and expand the circle of empathic concern from the tribe to all humanity*" (Ibid., p.526).

There also remains a general need for continuing longitudinal studies to determine if fostering increased empathy in children leads to more empathic adults. Eisenberg (2010) cites the following longitudinal research she and her colleagues have conducted (Eisenberg et al., 1987; Eisenberg, Miller, Shell, McNalley, and Shea, 1991; Eisenberg et al., 1995); their findings suggested consistent associations between empathic response and prosocial behaviour between early childhood, adolescence and young adulthood. Additionally, self-identification as a prosocial being appears to also be an important element in maintaining these behaviours throughout development into adulthood, and this could also be a useful area for more research (Hardy, 2006; Hart and Fegley, 1995). This is also supported by Reimer, citing Blasi, 1984; Damon and Gregory, 1997; Hart, Atkins, and Ford, 1998:

"*Moral and altruistic behaviours have been linked to self-understanding in a manner that suggests social responsibility, stability of the self over time, perspective taking, and the*

balancing of personal bias with the needs of others. Moral identity represents an effort to integrate these domains, implicating commitment consistent with a sense of self to lines of action that promote or protect the welfare of others." (Reimer, 2004, p.239)

In summary, while this small study likely poses limited implications for this field of research, the wider topic of empathy research needs further examination in the aforementioned areas. Additionally, more research should be conducted with children regarding the potential correlations between their language use and their associated cognitive and affective empathic responsivity.

6.3 Limitations of Study

There were several methodological constraints in conducting this research. In particular, issues around researcher positionality made both the quantitative and qualitative studies especially challenging. One area that was particularly restrictive was that of acquiring parental written informed consent, as parents of only of 29 of the 44 students consented to their child being a part of the research. Part of this was due to a simple lack of response to multiple emails requesting consent, although three parents directly refused to consent to their children's participation in the research. Some students were ill or out of school during the research period as well; one was tested the following week in the corner of the classroom as another activity proceeded. (This student confirmed that she had not been told anything by her classmates about the questionnaire; she was not a part of the audio-recorded classroom discussion. However, this also posed challenges in simultaneously managing a lesson while she completed the EQ test). Several parents were very enthusiastic about the research and communicated that they felt it was a topic relevant and important to their respective families, which was especially encouraging during the more challenging periods of this study.

Another unanticipated constraint became evident after several months of discussion with the heads of the school where the research took place. Having acquired a verbal agreement to proceed, the following request for a formal written agreement was met with some resistance. This delayed the study by several weeks, and required the task of convincing the school administration to agree to the research. However, approval was ultimately granted after a lengthy discussion and emails explaining that the research may also be beneficial to the school.

In this research, I was positioned both as an insider and as an outsider, and was thus granted with both the prerogatives and challenges associated with such positionality. "*While the researcher's positionality in relation to the setting is important, it is often no simple matter to define one's position*" (Herr and Anderson, 2015, p.39). As an insider, the researcher is a teacher and colleague with a unique and personal perspective of the classroom; however, the researcher retains outsider status simply by the act of researching and observing. Additionally, this outsider status can be made especially

visible when relying on consent from others, be it for parental agreement or administrative approval. Awareness of and reflection upon one's positionality is fundamental in all research. "*The degree to which researchers position themselves as insiders or outsiders will determine how they frame epistemological, methodological, and ethical issues*" (Herr and Anderson, 2015, p.39). A frequent deficiency when the researcher is both insider and outsider is the temptation to view themselves as an external, objective observer and conveniently ignore their simultaneous status as "*an insider committed to the success of the actions under study*" (Ibid., p.42). These conflicting states became apparent, especially during the delicate process of acquiring consent and approval, and provide fertile ground for continued reflection.

Additionally, choosing a quantitative method ultimately proved to be a limitation to some degree, as the data generated provided less utility than anticipated. However, the combination of both the non-statistically significant, yet lower, EQ scores with participants using their NNT and the qualitative data supporting some findings in the literature review could suggest further research might yield more conclusive results.

6.4 Reflections and What Was Learned

The subject of empathy was challenging to research as empathy is not comprised of a single factor; it is a "*complex and heterogeneous construct*" (Böckler-Raetting et al., 2018, p.1; Hardy, 2006). Equally, empathy is currently examined through a range of disciplines that would benefit from improved coordination. The multidisciplinary nature of existing literature posed several challenges in the early stages of this study's development; however, some discrete (and occasionally conflicting) themes emerged upon a more detailed review.

While little was learned that is of statistical significance, there may be some practical significance. There will essentially always be some very small differences between samples, and as such, one can argue that "*because the null hypothesis is always false, a decision to reject it simply indicates that the research design had adequate power to detect a true state of affairs, which may or may not be a large effect, or even a useful effect*" (Kirk, 1996, p.747). On reflection, the choice of using a quantitative method for this study, which resulted in insufficient statistical significance for this aspect of the research, was only partially rectified by the mixed methods methodology which allowed for the generation of some gainful qualitative data.

If reflecting upon the study in a post-positivistic and interpretative stance, the data generated somewhat support a hypothesis that a difference in empathic responsivity in children using their NNT could exist; this is largely supported by the qualitative data generated and by the participants' own articulation of feelings of reduced emotionality when using their NNT. For more conclusive quantitative data, a larger study would need to be conducted and the complexities of determining MT would need to be systematised.

With better understanding through research, the subjects of language and empathy in education are both valuable and timely. Our world is increasingly global, multicultural, and multilingual, and may require the acquisition of new languages to manage through different contexts and at different times of one's life. The mere act of speaking a NNT requires empathy; research by Guiora, Brannon, and Dull correlates the ability to "*authentically pronounce a second language*" to higher empathic responsivity (1972, p.111). Yet many of the global organisations that make critically important decisions which have an international impact make such decisions and choices in a foreign language (Geipel et al., 2015b). And, research has shown that our moral compass is indeed affected when deliberation in one's NNT, which has implications for international governmental and non-governmental bodies (Cipolletti et al., 2016; Costa et al., 2014; Geipel et al., 2015b).

It is generally agreed that both humans and non-human conspecifics demonstrate prosociality and empathic responsivity modified by the extent of an association to others, and one which is enlarged discriminatively towards those who are familiar or a member of an in-group (Echols and Correll, 2012, cited in Decety and Cowell, 2014; Ben Ami et al., 2011). Yet it is important to recognise that great potential exists for humanity to empathise with, and care well for, one another:

> "*Humans can and often do act pro-socially towards strangers and extend concern beyond kin or own social group. Humans have created meta-level symbolic social structures for upholding moral principles to all humanity, such as Human Rights and the International Criminal Court. In the course of history, people have enlarged the range of beings whose interests they value as they value their own, from direct offspring, to relatives, to affiliates, and finally to strangers (Singer, 1981). Thus, nurture is not confined to the dependent young of one's own kin system, but also to current and future generations.*" (Decety and Cowell, 2014a, p.533)

Conflict of Interest Statement
The author declares no conflicts of interest.

About the Author
Louise Heffelfinger Peacocke completed her MA in Education from University of Nottingham in 2019, and her MFA (sculpture) from Royal College of Art. London, in 2005. She currently is teaching fine art and design in Geneva, Switzerland. Her work and research focusses on art, language and empathic/pro-social development.

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Appendices

Appendix 1: The Trolley Problem
The scenario that participants faced in this dilemma was the following: each subject is standing on a footbridge and watching a trolley below them that is speeding out of control down a track, where five workers are oblivious to their imminent and grim fate. However, the study participant has the choice to theoretically push a very large man (standing near them) off of the footbridge, causing the large man to die, but stopping the trolley and saving the five other workers. Alternatives to the dilemma in some studies include the option that the participant could simply pull a theoretical switch and cause the man to fall, rather than physically pushing him. Other alternatives in separate studies involve no footbridge, but the option to make the trolley change tracks, sparing the five workers, but killing the remaining one worker on the alternative track.

Appendix 2: Emotional Quotient Test (EQ Test) and Scoring Key, Created by S. Baron Cohen and S. Wheelwright, 2004.

Note: All Information Remains Strictly Confidential

Please fill in this information and then read the instructions below.
Age or Year of birth:
How to fill out the questionnaire:
Below is a list of statements. Please read each statement very carefully and rate how strongly you agree or disagree with it by circling your answer. There are no right or wrong answers, or trick questions.

In order for the scale to be valid, you must answer every question. If you do not understand, please ask Mrs. Peacocke to explain it to you.

These are example questions here- do not answer:
1) I would be very upset if I couldn't listen to music every day.
2) I prefer to speak to my friends on the phone rather than write letters to them.
3) 3. I have no desire to travel to different parts of the world.
4) 4. I prefer to read than to dance.

*Note: Questions (each question will have next to it: strongly agree / slightly agree / slightly disagree / strongly disagree, you will be asked to **circle only one**)*

1) I can easily tell if someone else wants to enter a conversation.
   a) agree;

b) slightly agree;
c) slightly disagree;
d) strongly disagree.

2) I prefer animals to humans.
a) agree;
b) slightly agree;
c) slightly disagree;
d) strongly disagree.

3) I try to keep up with the current trends and fashions.
a) agree;
b) slightly agree;
c) slightly disagree;
d) strongly disagree.

4) I find it difficult to explain to others things that I understand easily, when they don't understand it first time.
a) agree;
b) slightly agree;
c) slightly disagree;
d) strongly disagree.

5) I dream most nights.
a) agree;
b) slightly agree;
c) slightly disagree;
d) strongly disagree.

6) I really enjoy caring for other people.
a) agree;
b) slightly agree;
c) slightly disagree;
d) strongly disagree.

7) I try to solve my own problems rather than discussing them with others.
a) agree;
b) slightly agree;
c) slightly disagree;
d) strongly disagree.

8) I find it hard to know what to do in a social situation.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

9) I am at my best first thing in the morning.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

10) People often tell me that I went too far in driving my point home in a discussion.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

11) It doesn't bother me too much if I am late meeting a friend.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

12) Friendships and relationships are just too difficult, so I tend not to bother with them.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

13) I would never break a law, no matter how minor.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

14) I often find it difficult to judge if something is rude or polite.
   a) agree;
   b) slightly agree;

c) slightly disagree;
d) strongly disagree.

15) In a conversation, I tend to focus on my own thoughts rather than on what my listener might be thinking.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

16) I prefer practical jokes to verbal humour.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

17) I live life for today rather than the future.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

18) When I was a child, I enjoyed cutting up worms to see what would happen.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

19) I can pick up quickly if someone says one thing but means another.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

20) I tend to have very strong opinions about morality.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

21) It is hard for me to see why some things upset people so much.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

22) I find it easy to put myself in somebody else's shoes.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

23) I think that good manners are the most important thing a parent can teach their child.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

24) I like to do things on the spur of the moment.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

25) I am good at predicting how someone will feel.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

26) I am quick to spot when someone in a group is feeling awkward or uncomfortable.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

27) If I say something that someone else is offended by, I think that that's their problem, not mine.
   a) agree;
   b) slightly agree;

    c) slightly disagree;
    d) strongly disagree.

28) If anyone asked me if I liked their haircut, I would reply truthfully, even if I didn't like it.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

29) I can't always see why someone should have felt offended by a remark.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

30) People often tell me that I am very unpredictable.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

31) I enjoy being the centre of attention at any social gathering.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

32) Seeing people cry doesn't really upset me.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

33) I enjoy having discussions about politics.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

34) I am very blunt (extremely direct), which some people take to be rudeness, even though this is unintentional.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

35) I don't tend to find social situations confusing.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

36) Other people tell me I am good at understanding how they are feeling and what they are thinking.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

37) When I talk to people, I tend to talk about their experiences rather than my own.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

38) It upsets me to see an animal in pain.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

39) I am able to make decisions without being influenced by people's feelings.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

40) I can't relax until I have done everything, I had planned to do that day.
    a) agree;

b) slightly agree;
c) slightly disagree;
d) strongly disagree.

41) I can easily tell if someone else is interested or bored with what I am saying.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

42) I get upset if I see people suffering on news programmes.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

43) Friends usually talk to me about their problems as they say that I am very understanding.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

44) I can sense if I am intruding, even if the other person doesn't tell me.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

45) I often start new hobbies but quickly become bored with them and move on to something else.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

46) People sometimes tell me that I have gone too far with teasing.
    a) agree;
    b) slightly agree;
    c) slightly disagree;

d) strongly disagree.

47) I would be too nervous to go on a big rollercoaster.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

48) Other people often say that I am insensitive, though I don't always see why.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

49) If I see a stranger in a group, I think that it is up to them to make an effort to join in.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

50) I usually stay emotionally detached when watching a film.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

51) I like to be very organised in day to day life and often make lists of the chores I have to do.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

52) I can tune into how someone else feels rapidly and intuitively.
    a) agree;
    b) slightly agree;
    c) slightly disagree;
    d) strongly disagree.

53) I don't like to take risks.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

54) I can easily work out what another person might want to talk about.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

55) I can tell if someone is masking their true emotion.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

56) Before making a decision I always weigh up the pros and cons.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

57) I don't consciously work out (try to understand) the rules of social situations.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

58) I am good at predicting what someone will do.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

59) I tend to get emotionally involved with a friend's problems.
   a) agree;
   b) slightly agree;
   c) slightly disagree;

d) strongly disagree.

60) I can usually appreciate the other person's viewpoint, even if I don't agree with it.
   a) agree;
   b) slightly agree;
   c) slightly disagree;
   d) strongly disagree.

Scoring Key: The Empathy Quotient (EQ) (60 item version)

S. Baron-Cohen and S. Wheelwright, (2004).

Note: *Responses that score 1 or 2 points are marked. Other responses score 0. For total score, sum all items.*

		Strongly agree	Slightly agree	Slightly disagree	Strongly disagree
1	I can easily tell if someone else wants to enter a conversation.	2	1	0	0
2	I prefer animals to humans.	0	0	0	0
3	I try to keep up with the current trends and fashions.	0	0	0	0
4	I find it difficult to explain to others things that I understand easily, when they don't understand it first time.	0	0	1	2
5	I dream most nights.	0	0	0	0
6	I really enjoy caring for other people.	2	1	0	0
7	I try to solve my own problems rather than discussing them with others.	0	0	0	0
8	I find it hard to know what to do in a social situation.	0	0	1	2
9	I am at my best first thing in the morning.	0	0	0	0
10	People often tell me that I went too far in driving my point home in a discussion.	0	0	1	2
11	It doesn't bother me too much if I am late meeting a friend.	0	0	1	2
12	Friendships and relationships are just too difficult, so I tend not to bother with them.	0	0	1	2
13	I would never break a law, no matter how minor.	0	0	0	0
14	I often find it difficult to judge if something is rude or polite.	0	0	1	2
15	In a conversation, I tend to focus on my own thoughts rather than on what my listener might be thinking.	0	0	1	2
16	I prefer practical jokes to verbal humour.	0	0	0	0
17	I live life for today rather than the future.	0	0	0	0
18	When I was a child, I enjoyed cutting up worms to see what would happen.	0	0	1	2
19	I can pick up quickly if someone says one thing but means another.	2	1	0	0
20	I tend to have very strong opinions about morality	0	0	0	0
21	It is hard for me to see why some things upset people so much.	0	0	1	2

		Strongly agree	Slightly agree	Slightly disagree	Strongly disagree
22	I find it easy to put myself in somebody else's shoes.	2	1	0	0
23	I think that good manners are the most important thing a parent can teach their child.	0	0	0	0
24	I like to do things on the spur of the moment.	0	0	0	0
25	I am good at predicting how someone will feel.	2	1	0	0
26	I am quick to spot when someone in a group is feeling awkward or uncomfortable.	2	1	0	0
27	If I say something that someone else is offended by, I think that that's their problem, not mine.	0	0	1	2
28	If anyone asked me if I like their haircut, I would reply truthfully, even if I didn't like it.	0	0	1	2
29	I can't always see why someone should have felt offended by a remark.	0	0	1	2
30	People often tell me that I am very unpredictable.	0	0	0	0
31	I enjoy being the centre of attention at any social gathering.	0	0	0	0
32	Seeing people cry doesn't really upset me.	0	0	1	2
33	I enjoy having discussions about politics.	0	0	0	0
34	I am very blunt, which some people take to be rudeness, even though this is unintentional.	0	0	1	2
35	I don't tend to find social situations confusing	2	1	0	0
36	Other people tell me I am good at understanding how they are feeling and what they are thinking.	2	1	0	0
37	When I talk to people, I tend to talk about their experiences rather than my own.	2	1	0	0
38	It upsets me to see animals in pain.	2	1	0	0
39	I am able to make decisions without being influenced by people's feelings.	0	0	1	2
40	I can't relax until I have done everything I had planned to do that day.	0	0	0	0
41	I can easily tell if someone else is interested or bored with what I am saying.	2	1	0	0
42	I get upset if I see people suffering on news programmes.	2	1	0	0

		Strongly agree	Slightly agree	Slightly disagree	Strongly disagree
43	Friends usually talk to me about their problems as they say I am very understanding.	2	1	0	0
44	I can sense if I am intruding, even if the other person doesn't tell me.	2	1	0	0
45	I often start new hobbies but quickly become bored with them and move on to something else.	0	0	0	0
46	People sometimes tell me that I have gone too far with teasing.	0	0	1	2
47	I would be too nervous to go on a big rollercoaster.	0	0	0	0
48	Other people often say that I am insensitive, though I don't always see why.	0	0	1	2
49	If I see a stranger in a group, I think that it is up to them to make an effort to join in.	0	0	1	2
50	I usually stay emotionally detached when watching a film.	0	0	1	2
51	I like to be very organised in day to day life and often make lists of the chores I have to do.	0	0	0	0
52	I can tune into how someone else feels rapidly and intuitively.	2	1	0	0
53	I don't like to take risks.	0	0	0	0
54	I can easily work out what another person might want to talk about.	2	1	0	0
55	I can tell if someone is masking their true emotion.	2	1	0	0
56	Before making a decisions I always weigh up the pros and cons.	0	0	0	0
57	I don't consciously work out the rules of social situations.	2	1	0	0
58	I am good at predicting what someone will do.	2	1	0	0
59	I tend to get emotionally involved with a friend's problems.	2	1	0	0
60	I can usually appreciate the other person's viewpoint, even if I don't agree with it.	2	1	0	0

Appendix 3: Determination of MT and Testing Group of Participants

7.1 Languages I speak	Language spoken as a child	Language spoken at home with family	Language used with friends	Language in which you dream	Language in which you prefer to hold a complicated conversation	Language preferred if conversation much emotion or feeling	Language in which you feel mist like yourself	Testing category and language used for EQ test
En, Sp, Ge, Fr	Sp	Sp	En	En	Sp, En	Sp, En	Sp, En	MT (En test)
Fr, En, Ge	Fr	Fr	En	Fr	Fr	En	Fr	MT (Fr test)
Sp, En, FR, Ge	Sp	Sp	En	Unknown	En	En	En	MT (En test)
En	En	En	En	En	En	En	En	MT (En test)
En	En	En	En	En	En	En	En	MT (En test)
En, Fr	En, Fr	En, Fr	En, Fr	En	En, Fr	En, Fr	En, Fr	MT (En test)
Fi, Lu, Ge, Sw, En, FR,	Lu, Fi	Lu, Fi	En, Fi	unknown	Lu, En	Lu, Fi	Lu, Fi	NNT (En test)
En, Fr, It	Sp, En	En, Fr, It	En, It	En	En	En	En	NNT (Fr test)
Sp, En, FR, Ge	Sp	Sp	En	unknown	unknown	En	Sp	NNT (En test)
En, Fr	French, Po	En, Fr	En, Fr	En, Fr	Fr	En	Po, Fr	NNT (En test)
7.2								
En, Fr, It, Ge	It	En	En	En	It	En	It	NNT (En test)
En, Fr, Sp, Ge, Ar,	En, Fr	En, Fr	Fr	En	En, Fr	En, Fr	En, Fr	MT (En test)
Sw, Fr, En	Sw	En, Sw	En	En	En	En	En	MT (En test)

En, Fr	En	En	En	En	En	En	En	MT (En test)
Fr, En, Ge	En	En	En, Fr	En, Fr	En, Fr	En	En	MT (Fr test)
En, Fr, He	En	En	En	En	En	En	En	MT (En test)
En, Fr	En	En	En	En	En	En	En	MT (En test)
En, Fr, Viet	Fr	En, Fr	En, Fr	En, Fr	Fr	En	En	MT (Fr test)
En	En	En	En	En	En	En	En	MT (En test)
En, Fr	En	En	En	En	En	En	En	MT (En test)
Du, En, Ge, Ru	Ru, Ge	Du	En	unknown	Du, En	Du, En	Du, En	MT (En test)
En, Fr	En	En	En	En	En	En	En	MT (En test)
It, En, Fr	It	It	En, It	En, It	It	It	En, It	NNT (En test)
En, Fr	En	En	En	En	En	En	En	NNT (Fr test)
En, Ar	Ar	Ar	En	unknown	Ar	En, Ar	En, Ar	NNT (En test)
It, En, Fr	It	It	En, Fr	Fr, It	Fr	Fr	It	NNT (Fr test)
En, Fr, Te,	Te	Te	En	En	Te, En	Te	Te	NNT (Fr test)
En, Hi, Fr, Ge	Hi	En	En	Hi	En	Hi	Hi	NNT (En test)
Po, En, Fr, Ge	Po	Po	Po	Po	Po	Po	Po	NNT (En test)

Key: *Fr= French, En= English, Ge= German, He= Hebrew, Viet=Vietnamese, Du= Dutch, Ru= Russian, It= Italian, Ar= Arabic, Te= Telegu, Hi= Hindi, Po= Portuguese, Sw= Swahili*

Appendix 4: Guideline Questions for Group Interview

- *Were there any questions you did not understand?*

- *Were there any questions you'd like to talk about more?*

- *Do you know what the word 'empathy' means?*

- *(Classroom talk about different kinds of empathy)*
- <u>(Emotional sharing questions):</u> *Have you ever felt upset because you saw another person who is upset? Have you ever felt especially happy just because you saw another person who was especially happy?*

- <u>(Empathic concern questions):</u> *Have you ever felt motivated to care for or take care of someone who has needed help in the world, even if you don't know them? Do you think it makes a difference if you think about this in French or in English? Does it make a difference if they are from somewhere very far away and have a life very different to yours?*

- <u>(Perspective-taking questions):</u> *Do you feel like you are able to put yourself in another person's shoes and imagine what they might be feeling? Do you think it makes a difference if you are in a situation where you are speaking your first language or in a situation where you are speaking an additional language?*

- *When you see someone who looks upset or sad, what do you do? Is it easy to ignore them? Does it make a difference if they speak French and you speak English - or if they are from the other side of the school?*
- *Is it easier to ignore them if they are a different language speaker or from the other side of the school?*

- *What do you think we can do to help kids be more empathetic to each other?*

- *Is it different if the situation you see is not in your school or with your friend, but somewhere far away in the world, or people you don't know (but who you think need empathy?)*

Appendix 5: Group Interview Transcripts (and categorisation of content codes)

1) Awareness or articulation of less perceived emotionality in NNT, or greater emotionality in MT (7)
2) Awareness of out-groups through gender stereotypes or racism; awareness of collective problem and collective responsibilities (8)
3) Awareness and articulation of perspective-taking (6)
4) Awareness or articulation of practical obstacles when using NNT (5)
5) Situational or Context differentiation for empathic response; potential of change as a motivating factor (9)
6) General awareness or articulation of affective empathy (4)
7) Comfort or ease of using MT; need for a common language (5)
8) Awareness of false or inauthentic attempts to illicit empathy (4)

Year 7.1 Transcript

I: Thank you for filling out the questionnaire… Were there any questions that you did not understand?

S: I did not understand every question…like the worm question.

I: There is a reason why they asked about the worm… some people don't feel empathy for insects and animals, and some people feel worms are ugly so they don't need to have empathy…other people think, "Well, it's still a life and so you should respect it", but yes it could seem like a weird question.

S: Yeah, the "do you feel empathy when you see animals suffer" question? Yeah, well, it depends. It depends on what animal it is and what the suffering is. For example, if there's like a fish, just like swimming, and you know, a shark eats it, I'm not gonna feel sorry for the fish…Cause if the shark didn't eat it, well then I'd feel sorry for the shark. **(5)**

I: OK, this is a really good point… So…what if the animal was a more familiar animal, instead of a random fish in the ocean. What if it was a dog, if you happen to like dogs?

S2: Well, what if a tiger ate a dog?

S1: Well, then I would kind of feel odd. I would feel sorry. (**5**)

I: Because you feel closer to a dog than a random fish? … So what do we think about, if a random animal…So, do you know what empathy is? Do you think you have any idea of what empathy might be?

S: Is it like when you feel something for somebody else? **(6)**

I: Sure, that can be part of the definition.

S: I think it like putting yourself in someone else's shoes? **(3)**

I: Yeah, that, too. So, what if there was a situation that was really different from yours, like in a country where maybe people are starving- clearly we are not starving here… what would that be like if you had to imagine what it was like to not know where your next meal was going to come from? And I might even die from not having enough food? … Could you imagine that?

S: Yeah, I can.

S: Me too. I could, because I used to live in like Kenya, and there was like (gestures and makes a pained face) …. everywhere.

I: Okay, so there was some real poverty there that you saw?

S: (Student nods and goes quiet). **(3)**

I: Okay, so what else do you think empathy might be? Have you heard the word before?

S: Yeah, So, like it depends like if you're in a school, like for example this school, and you put yourself in someone else's shoes, it can be very difficult. OK, say you do do it, say you do go in someone's shoes, but that's just feeling what they're feeling -you're not actually *doing* anything. **(5)**

I: Yeah, exactly. That's just what I was going to ask you about. So, what's the difference between going, "Oh, I can understand how you feel" versus "I can imagine being in that place, I can imagine what you would feel", but then …what would make you actually *do* something?
…. So there's this third kind of thing…. action. So what situation, instead of just making you think about it and feeling about it, what would make you actually do something? …

S: Well, stuff that is more important, that could actually change the world or change a whole country… 'cause if it's something that just like, um, "I lost my shoe", then what are you gonna do? Are you gonna try and find it? …

I: OK, so what would make you actually act?

S: If it was actually gonna change something. **(5)**

I: OK, so you feel it has to make a difference?

S: Yeah.

S: If you act on something, like what the world will produce in the future, like starvation and we might lose part of the population…so many people are still staving right now… **(5)**

I: So is your argument that so many people are starving so it's not worth doing anything about it or, even if you help one person, that still makes a difference?

S: It's because if you help even one person, it'll encourage other people to help another "one person", and it's… **(2)**

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I: So, you could be an example of kindness or helping in the world?

S: Yeah.

I: What do you think the world would be like if everyone was, say, respectful, and kind, and had empathy, and everyone showed that. How would that… would that be really different in the world?

S: I don't think that there would be many like… there would be less poverty, there would be more independent countries since there wouldn't be like "I want to invade this country because I want to have more money" …

I: OK, so you think there would be less war?

S: Yes. There would be less war…more friendship, less dictations *(transcription note: likely she means dictators)*, stuff like that… **(2)**

S:2 So, if someone speaks to me in German…

I: Is that your mother tongue?

S2: No, it's like my fifth language**…** I'm just gonna be like grumpy, it's not like… (makes a face) **(1)**

I: OK, so it's not your…internalised language?
S2: No, and if someone speaks to me in French, it's like… funny? **(rated above)**

I: It feels removed from you somehow?

S2: Yeah. **(included in rating above)**

S3: If someone speaks to me in German, and I don't really speak German, I'm gonna act different. **(1)**

I: Yeah, there's the basic issue of "I have no idea of what you're talking about" …

S: But in English, I could understand what the person was trying to say… **(4) (7)**

I: Would you feel a difference, if you saw a situation on TV that was really moving, like for example, remember the little boys in Thailand who were caught in the cave? … if you saw it on TV in your mother tongue, in the language that you grew up speaking…versus another language that you speak well, would it feel different for you?

S: No, because it's the same story, but in a different language. So, like if I was going to watch a movie, like an American movie, like a Marvel movie, it's in English…. **(outlier)**

I: Movies are a great example. So would that feel different to you?

S: Yeah, because it would, like, they're not saying exactly what the actors are saying. **(4)**

S2: I watched both interviews *(Thailand rescued boys)* in both English and French, and in English it grabbed my heart less, because in…. French, I understood more of what they were saying. Like … I understood that they were *suffering* (note: said with emphasis on the last word). **(1) (2)**

I: There was more subtlety?

S: Yeah. **(4) (7)**

I: ... Ok, so we shan't be saying any bad words, but for example, if you do hear a very bad word that you are not supposed to say…no, we won't be saying any…does it seem different to you in your mother tongue? If you hear it in your mother tongue are you, like. WHOA! or do you feel like if you hear it in a more foreign language to you, do you ever feel like, "I know that's a bad word, but…" … Do you react differently? Without us saying any bad words.

S: If I say a bad word in English…or someone says it to me, then I would feel bad, especially if they are serious. **(1)**

I: Okay, what if …that bad word was in say, German (which the student did not speak as well) …does it feel the same?

S: I would not mind so much. 'Cause like, speaking German…No…. (Makes a disdainful face and waves hands away). **(1)**

S: (native French speaker, near bilingual student): In French, like when you say a bad word it is not like, as vulgar as when you say it in English. Like in my family, if you say a bad word, it's like saying "oh shoot". **(1)**

I: Are you trying to say that there might be cultural differences that affect how swearwords might seem?
S: Yeah!

I: Or maybe it's also that it is more ok to swear like that at your home?

S: They are the same words, but we use them more. They say it so much, that when we've grown up we just think, "oh, that's just fine" …but we aren't allowed to say it, but when we grow up we say "oh that's a bad word, so I shouldn't say it" …but the adults are allowed to say it. So when I'm over 21, then I'm allowed to say those words….

Year 7.2 transcript

I: If you can raise your hands…What did you think about the questionnaire?

S: Ummm… I thought it was kind of strange and it had weird questions because you wouldn't really think of someone asking those questions… you just kind of keep those questions to yourself.

I: You do sometimes, especially questions about how do you really feel about stuff…yeah…

S: I liked it a lot; I thought it was very direct.

I: OK.

S: I think some of the questions were, like, a bit weird, you know, like the question about the worm.

I: Yes, definitely that seems like a strange one- but there is a reason that was asked and I will tell you about it next week…but not until the other class has had their time… to answer the questions, too.
……

S: I thought the questions were a bit …repetitive.

I: Yes, I can see what you mean there. I think there were some subtleties in the questions that might make it seem like they were a bit similar sometimes.
….
S: There were some unusual questions…
…….
S: I think it was getting like, really, really personal.

I: Yeah. But your names are not on there, so it is anonymous, so if it feels like it was really personal, remember it is totally anonymous…so I hope you feel like your opinions are completely protected, and they are…safe.

S: I thought it was interesting…and really relevant.

I: Great!

S: I found it really quite interesting and out of the ordinary… you really had to think about it sometimes…. I never had these questions asked, like this.

I: OK, good. …Were there any questions you didn't understand? We'll talk a little bit about…do you guys know what "empathy" is?

S: Yeah, we did that…workshop a while ago.

I: OK, so who thinks they can explain what empathy might be?

S: Yeah, I guess it's kind of like your feelings. Like feeling like you are nice. Um, like kind of feeling someone else's feelings, I guess. **(3)**

I: Okay, yes, that is a way of putting it.

S2: It is a way of putting yourself in… your friend's shoes…. **(3)**

S3: It's feeling what another person is feeling, like if someone says something mean to another person, you can kind of understand how that person might feel. **(3)**

S4: It is about understand someone else's feelings. **(3)**

I: Great. It seems like you understand a bit about empathy, and there are actually a few different forms of empathy… One is emotional sharing…and if, for example you might feel upset because you see someone else upset. Do you understand…Have you guys felt that or seen that? Whether they are a friend or not. Like, if you see a little kid crying on the playground, do you feel: "Oh my gosh! that poor kid!" Does anyone know what that is like? Maybe on the playground?

S: Yes, sometimes I want to cry because I see another person crying. **(6)**

S2: Yesterday, we went ice skating, and there was this dad telling off his kid off, because he didn't understand (the language) that another lady was saying to him.

I: Okay. How did that make you feel?

S2: Sad, because he was so young- the kid was like three years old. **(6)**

I: OK. yes.

S: For me, if I see someone crying on the playground, I know it's probably going to be ok so I don't really, I guess I don't…. **(outlier)**

I: What if a little kid is hurt, maybe?

S: Well, the kids always have a bunch of kids around them, so…it makes me care a bit less, because there is somebody, there…caring about them. **(5)**

S: Yes, like if there is an emotional movie, you know, some people try not to cry…I think…don't try to hide it. You just…let it out. **(6)**

I: I think it is maybe different for people…Can I just ask, what about for boys? Do we think that the world says that boys aren't allowed to show the same emotion as girls?
(Collective Yeah from most students)

I: Do we think that is fair?
(Collective NO from most students) **(2)**

S: So. There are like those men. Like to impress the ladies, they make themselves…like…strong, like if someone is touching a lady they try to be like (student makes a muscle gesture) …they…

I: Do you mean they try to be "macho"?

S: Yes, but then they start crying. They start fighting, and they just…cry. **(2)**

I: Do we think that guys should be allowed to show their emotion the same way as girls? (Collective "Yeah" from students) … So, you guys are the next generation. and you get to make rules about who you want to be… so, there's this other thing in empathy called "empathic concern" and that's for example, when you want to take care of something or someone that's…distressed… So, do you ever feel motivated to take care of someone who needs help in the world? Even if you don't know them? Or even if it is a little injured

animal? Do you ever feel motivated to actually act instead of just feeling bad?

(Various animal rescue stories where students acted to help found or injured animals)

…..

S: This is like, kind of a question, if you really want to help an animal…maybe it's better to not help, because maybe you might make more harm… **(5)**

I: Yes, that is a good point. Sometimes it is complicated to know when to act….

So, I'm just going to ask you guys one or two more little questions about- it's called perspective taking, when you could put your self into someone else's shoes. It sounds like you guys have already talked a little bit about this. Have you guys ever seen this…? on the playground…where you can put yourself in someone else's shoes? You could imagine what it is like to be that person?

S: Like, whenever I see a homeless person, I feel bad for them…I always give them money, but then, sometimes it's just an act, and I just like, feel ashamed for what I've done…like I've been… utilised. **(5)**

I: Like…what? Like you have done it to make yourself feel better?

S: Ummm…Used. I just try to be a good person, but actually like, sometimes, they aren't actually homeless… **(8)**

S2: They take advantage of you… **(8)**

I: So, sometimes you are not always sure if someone needs your help or if they are…what about if you really know someone is homeless…maybe they are really very dirty or they seem to have something wrong with them. Is that different? …

S3: My friend said that she gave a homeless person money, and the next day, she saw that the homeless person was actually her neighbour… **(8)**

I: Huh. Could maybe the person still have just needed money maybe? But they had a home? I don't know. (garbled chatting)

I: Okay, last thing, it doesn't have to be only about helping someone who is homeless person or an injured animal, or something on the playground…did you have anything else different to share?

……

I: Can I ask you a couple different questions…when you see someone who looks upset or sad, do you ever find it ever easy to ignore them? … And does it make a difference if there is a different language involved. If they speak a language different than you or if you speak a language different to them? Is there any difference? Do you feel differently at all, ever?

S: I think sometimes I feel different towards…sometimes…like, if someone's upset, and like, they speak Spanish… **(1)**

I: Is that a language you do not know?

S: Yes. So, you can still try to help by like doing basic things, but normally you don't…I don't have that

same amount of empathy because I can't actually find out what's wrong…so I don't know how empathetic I should be… **(rated above)**

I: Okay, so, there can be language barriers…that's a good point.

S: So for me during the summer, my dad's friends came and… she took her nephews with her…and they only spoke Spanish…I kind of understand Spanish. I just can't speak it. It felt like kind of the same, but I just couldn't really respond to it… so in the end, we just used a translator! **(4)**

S2: I think…everyone should maybe know a little bit of English. **(7)**

S3: So, maybe it's about putting yourself in other people's shoes…. **(3)**

S4: So, sometimes when someone's upset, but they only speak a language that I know, apart from English…I feel more…comfortable talking with them, you know? **(7)**

I: You mean, speaking in a language that you speak, like your mother-tongue language? …

S4: Yeah, and, then I feel more comfortable talking with them…ummmm… **(rated above)**

I: why do you think that might be?
S4: Because English is not my first language, and so I…ummm.

I: So you think it might just be a practicality thing?

S: 'Cause I can I find it easy to talk to them 'cause I know that language well and I can help them if they are upset. **(4)**

S: Its kind of just to say like the part at the playground 'cause when I broke my teeth on the slide, after that the surveillant didn't care they just stood there and they didn't really care…

I: I'm sorry about that….

S: My teeth got fixed though…

I: Can we steer this back to the question we were talking about? I know what you are saying is important, though and I understand.
…What do you think we can do here in the school and in our communities and in our world to have more empathy with each other? What do we need to change or focus on?

S: I think there should be a set amount of times you should help someone in the day…so there won't always be that one person who is running over…always helping …and the one person who is always ignoring everything…. making messes and stuff. **(2)**

I: So, you mean it is a shared responsibility?
(Student nods)
S2: In PSHE we often talk about bad stuff that might happen to someone…but when something actually bad happens, nobody does anything…no body acts to help. Like eating disorders or bullying… **(5)**

I: So you feel there is not enough action? Do you mean we talk about it but don't act enough on it?

S: Yes.

I: That is a good point. How could we get everyone to act, rather than just think about it?

S: Maybe also if you have a conversation about it, it doesn't really affect you…but …if you talk to someone about it, you actually start to feeling…to understand how people feel… **(included in rating above)**

S2: If there was a common language that everyone speaks it would be less complicated? **(7)**

I: Can we still help people if they don't speak the same language? Can we still help?

S: Yes, and you can use a translator? Or sign language…but it would be better if everyone speaks the same language! **(7)**

I: That makes me ask myself a question- If someone else speaks another language, are we less likely to help them because we think it just might be too difficult because of the language barrier? (Collective No)

I: So, we are likely to help someone else like that, even if it might be hard?

(Collective Yes)

S: I feel like society is not evolved enough, that everyone is (not) accepted.
for example, if there was a car crash, who has people in it but there is only one person to help, but that one person doesn't like that thing, or that nationality or whatever. So I don't think society is evolved that people that no matter what go and help- they would follow their own needs. Like if someone had somewhere to go but there was a car crash they might not help. **(2)**

I: So you think that people can be maybe selfish?

S: Yeah.

I: Do you think that could change a little bit in your generation maybe?

S: Yeah.

Appendix 6: Participant and Parent/Guardian Consent Forms
Appendix 6.1: Parental /Guardian Consent

Dear Parent or Guardian,

My name is Louise Peacocke and I have been a teacher here at _____ since 2011. I teach English Literature, Fine Art and IGCSE Drama. I am also currently working on my Master's degree in Education for the University of Nottingham.

Part of my degree is based on a small piece of research. I'm writing you because I would like to study how to we can both measure and improve cognitive and affective moral judgement (empathy) between students of differing languages.

This means that I will select the majority of Year 7 English side students to answer several questions about their language use (e.g., what language do you prefer to speak at home?) and questions about how they view themselves in their relationships with others. The questionnaire I will be using is a published questionnaire that is child-appropriate and has been used many times across the world for research purposes. All respondents will not include their name, so they will be anonymised in this way. There is a possibility that if only one student speaks a particularly uncommon language in the school as their mother-tongue language, that I will be able to determine who that pupil is. However, all data will rest with me and I will keep it confidential.

Additionally, my research will include a brief classroom discussion in order to attain more qualitative data. This will be an anonymised, audio-recorded discussion with pupils about how they see themselves in terms of their relationships with others. All questionnaire and classroom discussion will also have their regular teacher present during this time. I envisage that this will take one 45-minute classroom period.

You are in no way obligated to give consent for your child to be a part of this study, and you are under no pressure to do so. You, or your child can decide to opt out of my research at any time you wish, with no consequence. There is no funding or sponsorship of this study. Any student who opts out of does not have parental/guardian consent will be given another task by their regular teacher and will remain in the classroom under supervision.

All students will remain anonymous by the aforementioned means, and their questionnaire, data, and voice will remain private information.

I will also be following both Swiss guidelines for ethical research, and in particular the British Educational Research Association 2018 research guidelines:
https://www.bera.ac.uk/researchers-resources/publications/ethical-guidelines-for-educational-research-2018

You are welcome to see my final dissertation at the end of June 2019, should you be interested in it. You are also very welcome to contact me at any time with questions or concerns.

If you are happy for your child to be a part of this study, could you please reply YES to this email. You can opt out at any time by replying NO, or sending me an email at this address at any time, saying NO. No reply will also be considered a NO.

Please feel free to take your time in deciding if you agree or not; I will be commencing my research in two week's time. I will also be asking your child for their written permission to be a part of this research, and they can opt out at any time, with the same guidelines as above.

Attached, please find a copy of the email I will also be sending (or printing out and giving) to your child. Also, please find attached a brief statement regarding the recent GDRP (General Research Data Protection) rules and how they relate to this study and your child's data.
Thank you very much for your consideration of helping me research best teacher practise and helping students learn and progress.

Sincerely,
Louise H. Peacocke, ------ Teacher

Appendix 6.2: Participant Consent Form

Dear Year 7 or 6-eme Student,

My name is Ms. Peacocke, and I am a teacher here at -----. I am doing some education research for a Master's Degree in Education for the University of Nottingham. I am studying ways that students support and care for each other emotionally (and sometimes, even when we don't), through all the different languages and varied cultures we have here at ----.

This means I would like to give you some questionnaires about how you use different languages (for example, at home, versus with your friends or in class, and how you feel about certain situations related to your relationships with people around you every day. Your replies will not have your names on them, so I should not know who is filling out what form, and I will do my very best to make sure your data, responses to the questionnaires, and any other information is kept private and is not for public use.

I would also like to have a brief classroom discussion with you, to talk a little bit more about what you thought of the questionnaire and to see if there is anything I might have missed. I plan to audio- record your responses so that I can think more carefully about your answers. This is anonymous, too (meaning, it is difficult for anyone to know who is speaking, based on hearing the recording, so it is private).

However, it is important I communicate the following to you:

Please take time to consider if you wish to be in this study. You are under no pressure at all, nor any obligation to join the study, and you can decide to not be in the study at anytime (even during the questionnaire or discussion time), without any consequences.

Your name, image, and identity will be kept anonymous- so that your details and personal information stay private. While I will record some interviews with you, these will be kept anonymous and held only by myself.

I will also ask your parent or guardian if they are happy for me to include you in my research and interview some of you.

I'm also happy to make the final study available to any of you or your parents, should you be interested in reading the results of what I learn. Thank you - by signing below, it means you have thought carefully about this and are happy to join my study- and remember, you can opt out at any time you want. Please feel free to ask me any questions you wish, at any time.
Mrs. Peacocke

_____