Early childhood moral development through language

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Abstract

This paper discusses the theoretical and research basis for understanding moral and social behaviour acquisition during interactions of children at home and in early childhood education settings from developmental understandings of social learning theory, ecological psychology theory and sociocultural linguistic theory. Peter Fonagy's idea that there exists an Interpersonal Interpretive Mechanism (IIM) (Peter Fonagy & Target, 2003); Noam Chomsky's idea that there is a genetically endowed biological language acquisition system (Universal Grammar) (Chomsky, 2006) which has led some to hypothesise that there is a Universal Moral Grammar (Mikhail, 2007); Jonathan Haidt's Social Intuitionist Model (SIM) of moral judgement (2001) which is much like aesthetic judgment – a rapid intuitive process; C Robert Cloninger's (2004) research showing we inherit an intuitive understanding of compassion, ethics, art, and culture; Marc Hauser's (2006) idea that we are biologically designed to have a moral sense which, according to some researchers, can be explained in terms of virtues or character strengths (Peterson & Seligman, 2004); A R Luria's idea (2002) that a neurologically based language system includes the wider and historical social system based partially on Vygotsky's "zone of proximal development" which facilitates moral development (Tappan, 1998); and Michael Halliday's idea that children construct social reality through intersubjective acts of meaning in learning their language and culture from significant adults (Bernstein, 1998; Halliday, 2004), provide support for the idea that interventions to create a more effective environment for moral development of children would likely be a whole-school/home culture change that includes language and interactional behaviour changes and is based on historically recognisable social constructs and values contained in concepts and social practices of the virtues common to all cultures. It will then be proposed that The Virtues Project's (VP) "language of the virtues" (Popov, Popov, & Kavelin, 1997) which is taught not as a curriculum, but as a pervasive language change used by all adults in the child's environment and which has recently received research support for its widely reported effectiveness (Dixon, 2005; Greenslade, 2007; Patton, 2007), could act as a research tool to investigate these theoretical claims.

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Introduction

In Western philosophy Aristotle said that "none of the moral virtues arise in us by nature…rather we are adapted by nature to receive them, and are made perfect by habit" (Aristotle, 1994 [4th century BCE], p. 26). In Chinese philosophy, Confucius and Mencius took the position that humans by nature are good and kind, but need adult exemplars within relational environments and that a virtuous life is achieved and maintained through repeated practice, starting within family affection (Fengyan, 2004). Native American cultures considered children as sacred beings entrusted to adults to be nurtured and trained in independence, mastery, belonging and generosity (Brokenleg, 1998; Ywahoo, 1987). Both Western philosophy (Homiak, 2008; Hursthouse, 2007) and scientific research (Berkowitz & Grych, 2000; Ochs & Kremer-Sadlik, 2007) have been coming back to these ancient propositions quite recently, albeit with a greater understanding of the specific mechanisms operating within the human individual, family and society, that interact to develop and support moral behaviour individually and collectively. Within the various theoretical perspectives in the social sciences and medical sciences, there is what Jonathon Haidt (2008, p. 68) calls a "new synthesis" (Figure 1), a concept largely supported by Harvard's Marc Hauser in his book *Moral Minds* (Hauser, 2006).

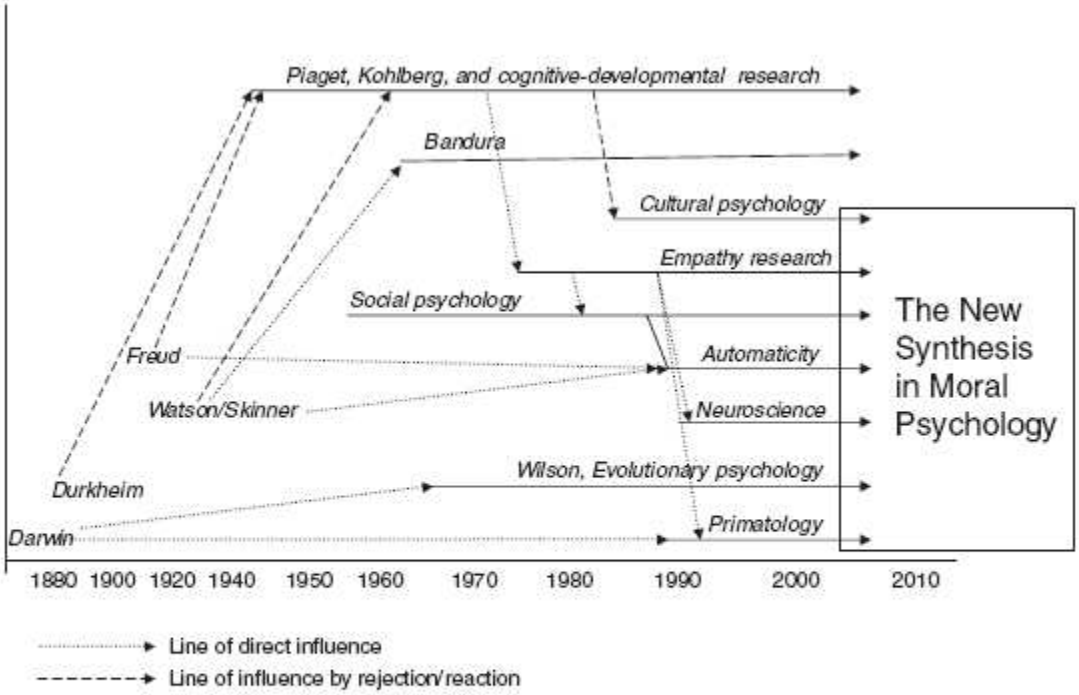


Fig. 1. A visual history of moral psychology. The graph shows the main line of cognitive-developmental research and the many lines of research contributing to the new synthesis that began in the 1990s. The *x* axis shows the decades since Darwin—the lineage head of the new synthesis—and the *y* axis represents (very roughly) the degree to which each line takes reasoning and deliberation to be the major phenomena of moral psychology. Starting points for each line are approximate.

The reason that Haidt tracks the degree that each approach takes reasoning and deliberation to be the major source of moral action is that this is currently a major turning point around the strongly held idea that humans arrive at moral action through a cognitive reasoning process which is trained explicitly in childhood. This idea has now been convincingly challenged by neurological and psychological experiments which show that even adults arrive at moral decisions intuitively and then try to

justify this decision or gut feeling by reasoning afterward (Haidt & Joseph, 2004). C Robert Cloninger, widely cited for his innovative research in genetics, neurobiology, development, psychology, brain imaging, and psychometric assessments, proposed in the book *Feeling good: The science of well-being* (2005), that the psyche is the aspect of a human being that motivates the search for self-transcendence which is essential in the process of integrating personality during maturation and underlies the human character traits of self-awareness, creativity, and freedom of will. When these three character traits are well developed, people have the highest level of well-being, as measured by presence of positive emotions, absence of negative emotions, satisfaction with life, or virtuous conduct.

The ability to pass moral reasoning tests does not correlate with actual behaviour (Bandura, 2002). This does not mean these intuitions are purely instincts like in an animal. Albert Bandura's (2006) perspective maintains that children's sense of self and personal agency, and eventually a moral agency, are socially constructed through transactional interactions with their environment from a very early age. Many of these early experiences become automatic through many repeated practice opportunities, e.g., they become habitual. In a study of 51 five- and six-year-old New Zealand children, those whose parents engaged them more often in elaborative conversations about positive past events and used a greater number of positive emotion words and evaluations, had higher self-esteem than children who had less such talk (Reese, Bird, & Tripp, 2007). The same study also found a positive link between talking about negative past events and children's concept of their moral self (p. 474). Judy Dunn and Carla Herrera (1997) tracked individual differences in children's conflict management strategies in disputes with friends, siblings and mothers in a longitudinal study of 50 second-born children from 2.8-6.0 years of age and found positive correlations between parent conflict resolution styles and the child's later use of constructive argument and resolution techniques, as well as moral understanding. It has been found that what mothers say and what they do (their warmth) when their child is 3 years old related to child conflict/cooperation at 4 years old (Ruffman, Slade, Devitt, & Crowe, 2006).

There is a debate over how much of the moral self is encoded in our individual DNA and how much is learned through cultural practices. Briefly though, one could claim there are simply two sides to the equation of how a child learns anything, including moral or social behaviour. Because language and culture are learned simultaneously, with culture largely dependent on the total communication enacted between the child and older people in their environment (Halliday, 1990), language, which is purely encoded information, could be considered as somewhat like a culture's DNA in its function (but not mechanism), and which, when interacting with our biological DNA, produces socially constructed beings capable of moral behaviour. However, languages are subject to alteration in different ways than our biological DNA, so the analogy should not be taken too far (Henrich, Boyd, & Richerson, 2008). Culture can be understood in general terms as conceptual information stored in individual minds and transmitted through various mechanisms of sociocultural and linguistic learning. Some theorists hold that biological evolution operates on genes, cultural evolution operates on memes (units of information transmitted by imitation or learning), and social evolution operates on practices (units of reciprocal action) (du Preez, 1996), although it is not clear how cultural and social evolution differ sufficiently to hold they have separate processes.

Theoretical Orientations

Social learning theory

Because parents and the home environment are so important in modern urban society's construction of early childhood experience, unlike most previous societies where the village or clan exerted a far more pervasive influence, programs to improve social development for children often focus on parents, because the home is where most early behaviour is learned and where children spend most of their time (Church, 2003, p. 113).

Research into parenting skills training shows the most effective programs that can help parents halt antisocial development and accelerate the social development of their children are, according to Church, (a) the Oregon Social Learning Centre program (Patterson, Reid, & Eddy, 2002), (b) Carol Webster-Stratton's video-based training program (Webster-Stratton, 1994), (c) the Australian Triple P courses (Sanders, 1999) and (d) the Forehand and McMahon program (Forehand, 1999). All of these programs focus on helping parents to learn how to (a) monitor a child's whereabouts and behaviour; (b) participate actively in a child's life; (c) use encouragement, praise, and rewards to manage child behaviour at home; (d) ensure that discipline is fair, timely and appropriate to the misbehaviour; and (e) use effective, positive, conflict-resolution and problem-solving strategies. Parenting training courses have their strongest effects with the parents of young children and weaker effects with the parents of children over the age of 8 years.

These skills training programs are all very similar in their theoretical orientation and their content. All are derived from the scientific research on learning (often referred to as "social learning theory") and assume that children learn social and antisocial behaviour during the hundreds of moment-to-moment interactions with other people occurring each day. However, these theories do not fully explain how this learning takes place, nor do they detail the mechanisms involved.

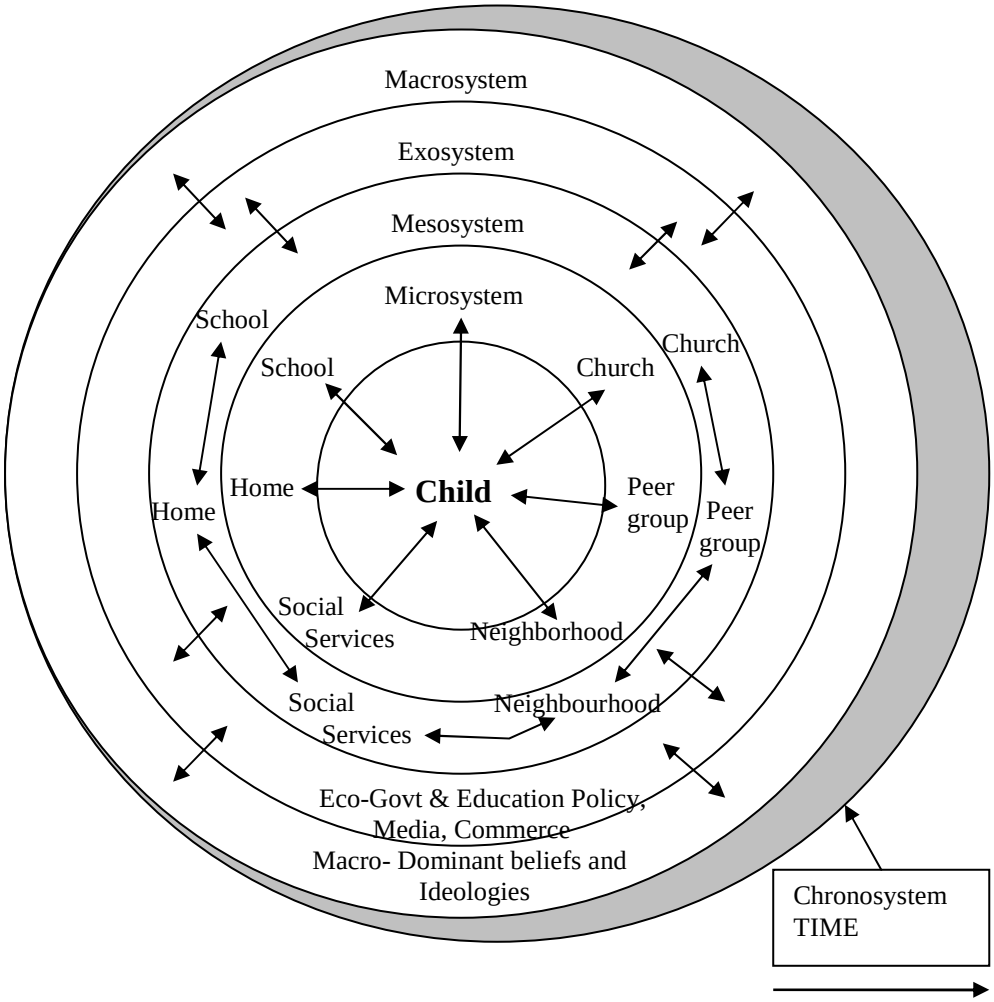
Social cognitive theory

In Albert Bandura's (2006) social cognitive theory of the moral self, moral reasoning is linked to moral action through affective self-regulatory mechanisms by which moral agency is exercised. Moral actions are the product of the reciprocal interplay of cognitive, affective and social influences.

Ecological and transactional theories

Ecological theories detail what Bandura refers to above as social influences. The framework for most ecological theories is based on Urie Bronfenbrenner's bio-ecological model (Bronfenbrenner, 1977) where an expanding set of nested relationships radiating out from the family to the community, culture, and the economy provide the context for understanding how environmental and biological contexts of the developing child both influence the child and are influenced by them (e.g., a reciprocal relationship). These change and interact over time as shown in Figure 2.

Figure 2. Urie Bronfenbrenner's bio-ecological system (Papalia, Olds, & Feldman, 2002).



A further conceptualisation which Bronfenbrenner called the Process-Person-Context-Time Model (PPCT) (Lerner, 2005), posits that the developmental process, the person, the context and time are an integrated developmental system. Time is important both in broad terms of the historical period which defines the cultural contexts of the child's environment (Hamilton & Hamilton, 2004), as well as in understanding how the changing child interacts with changing environments and is influenced by them (Cairns & Cairns, 2005; Rutter & Smith, 1995). An example would be neurological insults at a specific point in the maturation of the child's brain (Eslinger, Flaherty-Craig, & Benton, 2004), with the child born into a family system which is changing and developing over time and where experience has further effects on brain development (Grossman et al., 2003). Gene/environment interactions have now been firmly established in the longitudinal Dunedin Multidisciplinary Health and Development Study (Moffitt, 2005), where 85% of the boys who had the double allele for low activity of the monoamine oxidase A (MAOA) promoter polymorphism gene, which encodes the production of MAOA enzyme which metabolises the neurotransmitters linked with maltreatment victims and aggressive behaviour, and who also experienced verbal and physical abuse constituting maltreatment, developed

antisocial behaviour. Although they accounted for only 12% of the male cohort, they produced 44% of the violent convictions by age 30. The good news is that without bad parenting at a young age, boys with the double allele were no more likely to perpetrate violence than those with one of the high activity alleles, and bad parenting had relatively little effect on children who were at low genetic risk in terms of increasing their likelihood of committing violent crimes. Also it was found in this study that at risk children did not have some identifiable factors that increased bad parenting in regard to this particular gene. This does not mean that children with so-called hard to manage temperament or other difficulties do not by their behaviour elicit less than helpful behaviour from parents who are less capable.

Because Bronfenbrenner's model does not easily capture the balance of accumulating protective and vulnerability factors that affect the child, it is useful to add an understanding from an ecological-transactional model of development (ETM) (Cicchetti, Toth, & Maughan, 2000).

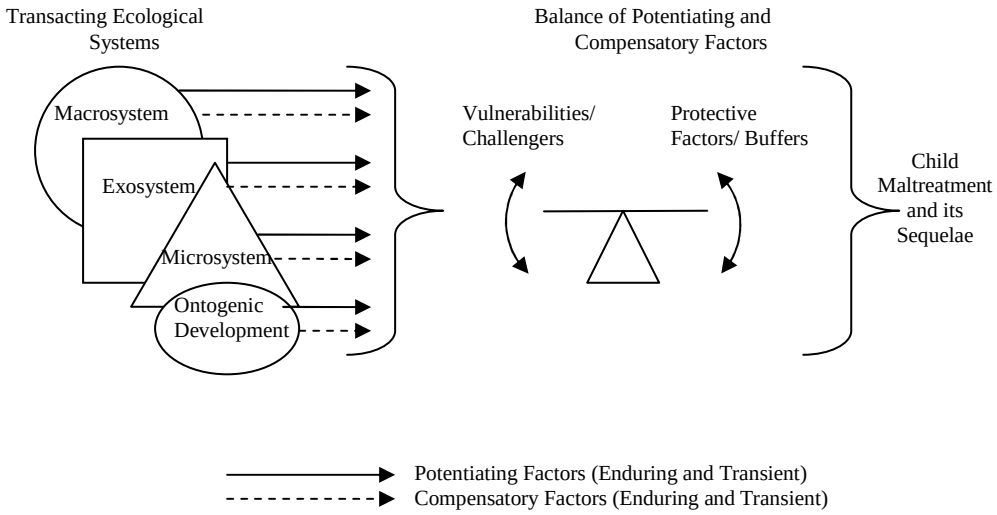
Transactional models

Transactional models emphasise the importance of multidirectional relationships in the development of vulnerabilities or resilience and the modification of biology by the environment in the multiple and changing systems to which the child belongs (Sameroff & MacKenzie, 2000). In developmental psychology, this transactional understanding still retains its emphasis on "intrafamilial socialisation" (Peter Fonagy, 2003, p. 215), which is central to understanding how a child's sense of self is constructed.

Ecological-Transactional Model (ETM) of child maltreatment

Cicchetti and Lynch's ecological-transactional model of child development (see Figure 3) organises principles of both the ecological and transactional perspectives into a system that accounts for multiple risk/support factors in three levels of environmental systems that interact with each other and with the individual's ontogenic development (Cicchetti, Toth, & Maughan, 2000).

Figure 3. An ecological-transactional model of child maltreatment



From: (Cicchetti, Toth, & Maughan, 2000, p. 694)

The balance between potentiating and compensatory factors determines how the child is treated within the family with the resulting ongoing consequences. The exosystem in this model includes the interactions between the child's contexts such as home, church, peer group and neighbourhood which Bronfenbrenner includes in a separate mesosystem. In working with children and relaying to other professionals a concise picture of the balance, it is useful to organise these factors into a table (an actual case study) Figure 4.

Family systems model

The models described to this point do not adequately account for transmission of patterns of behaviour and family structure across generations. An understanding of how children's moral behaviour is passed down from generation to generation can be partly understood in a multigenerational developmental perspective based on Murray Bowen's theory of transmission of interactive strategies that individuals use to organise their relationships (Anderson & Sabatelli, 2003, p. 60). In this perspective the transmission process involves family members acquiring a set of interpersonal behaviours toward each other based on an unconscious balance of loyalties and indebtedness that replicates itself in the next generation. This model is useful in that it informs interventions designed to disrupt the transmission of destructive strategies and improve positive strategies. Family system theory does not, however, provide explanations of an underlying biological transmission mechanism.

Figure 4. Vulnerability and protective factors in an ecological-transactional model

	Ontogenic	Microsystem	Exosystem	Macrosystem
Vulnerability factors (enduring)	Birth apnoea. Failure to thrive (?). Current height & weight < 3rd %tile. Extreme impulsivity from toddlerhood. Low intelligence. Learning difficulties.	Abuse as a child. Mother abused. Domestic conflict. Divorce. Extended family distancing. Family members' dysfunction/crime. Lack of parenting skills. Poverty.	Crime in neighbourhood. Drug/alcohol availability. Bullying in schools and workplaces.	Materialistic and me-first society. Social acceptance of corporal punishment and aggression. Social acceptance alcohol/drug use. Social concept of mental disorders. Positive portrayal of violence in media.
Challengers (transient)	Drug treatment of ADHD. Hormone changes at puberty.	Sibling conflict. Parent social service refusal. Negative peer relations.	Social isolation. Teachers' low expectations. Challenging peer behaviour at current school.	Past NZ education policy and budget. Limited special education funding. Teacher and support training budgets.
Protective factors (enduring)	Good physical health and zest. Work ethic. Good 1-on-1 ability with adults.	Mentors in family. Good relations with cousins. Small family size. Strong attachment with mother.	Good local mental health support. Good community supports in city.	Social support systems policies. No Family Left Behind policy. Family Court.
Buffers (transient)	New attachments w/ HRC staff. New interest and competency around farm animals.	Grandad's patience. Mother's new parenting skills. Increasing home structure/rules. Dad increased education/control. New interesting Farm Class. School success.	HRC supportive teachers/staff. Grandad's counselling. Interventions in family by HRC.	Jobless rate down. Increased government spending on social services/education.

Note: Table layout taken from (Cicchetti, Toth, & Maughan, 2000, p. 696).

Emotional Security Theory (EST)

Prospective studies examining process-oriented links between marital relationships and child adjustment (Cummings, Schermerhorn, Davies, Goeke-Morey, & Cummings, 2006) have recently provided evidence that an explanatory mechanism by which a family system with marital conflict and insecure attachment accounts for both internalising and externalising problem behaviour in children as late as adolescence is most easily accounted for by the emotional security response system. This system regulates, organises and motivates a child's responses to interpersonal discord. This does not contradict the other theories presented here but rather may explain how the interactions of people and contexts, the balancing influences of protective and vulnerability factors and patterns of family behaviour affect the regulatory systems within the child in terms of neurological mechanisms, which affect the child's ability to regulate their behaviour and be able to gain the most from positive interactions in the home and later in school.

Cultural-historical theory

L S Vygotsky's contributions to understanding moral acquisition during childhood includes understanding how adults scaffold children's learning in what is called the Zone of Proximal Development (ZPD) (Tappan, 1998) where strategies to self-regulate complex activities are learned between the lower and upper limits of the learner's competency. The ZPD is the space between what learners can do independently and what they can accomplish only with the assistance of a competent adult or peer. The ZPD model of learning is implicitly a social constructivist one (Aulls, 2002). Vygotsky also proposed a cultural-historical account of acculturation occurring during the early development of the child's brain and mind by a process of internalising the language system that reflects the social history of the culture (Akhutina, 2003). Both of these levels of learning led Vygotsky to claim that speech is the source of social behaviour and consciousness.

Inner speech, neuropsychology and evolution

A R Luria, a friend and collaborator of Vygotsky and accepted as the founder of the science of neuropsychology in both the USA and Russia (Cole, 2002), wrote the following: [T]o a large degree we owe this enormous superiority of intellect over instinct to the mechanism of inner speech. . . . Turning from outside inward, speech formed the most important psychological function, representing the external world within us, stimulating thought, and, as several authors believe, also laying the foundation for the development of consciousness (Luria 1993 as cited in Akhutina, 2003, p. 163). For Luria, neuropsychology was part of cultural-historical psychology and helped explain the interactions of the culture-mind-brain triad (Zinchenko, 2005). This is supported by theories of the reciprocal interactive evolution of language, brain structure, consciousness and group social culture (Lakatos & Janka, 2008). One account is that the human brain and linguistic environment of the group evolved together, first by gesture (including facial movements) and then increasingly by verbally produced sounds (language), and that this is the developmental pathway that the modern child follows from protolanguage to mother tongue (Tomasello, Carpenter, & Liszkowski, 2007).

Psychological "structures"

The complex systems of language, interpersonal and moral behaviour appear to be acquired so rapidly and effortlessly by children, that some psychologists have proposed psychological mechanisms encoded in the human DNA and realised through early brain structures and capacities to account for the ease and speed of learning these social/cultural abilities compared to other sorts of learning, such as maths, reading and procedures. This was led by Noam Chomsky's Language Acquisition Device (LAD) system, now called Universal Grammar, which he proposed was needed to account for both the rapid acquisition of language and for the limits of known variability amongst the world's languages and the limits to mistakes children make in trying to acquire these languages (Chomsky, 2006). Cognitive psychologists and linguists, following the work of Chomsky, conceptualise cognition as an individual phenomenon and ignore its social aspects according to Paul Thibault (Thibault, 2000). This lack of articulation between individual cognition and social cognition results in lopsided models unable to explain the role of discourses in social

reproduction (Achugar, 2007). Also, Chomsky and earlier linguistic studies did not consider fully early child communication with primary caregivers and how this protolanguage builds toward acquiring the mother language. Language does not just spring into existence when the child starts to speak words that are clearly in the mother tongue. So what precisely is going on in the space that a child occupies in the culture whereby they become socially, linguistically and morally competent beings?

Early communication and sociolinguist theories

Although the array of theories thus far mentioned may seem to provide complex claims and counterclaims to understanding how behaviour and, in particular, how moral behaviour is constructed, one could say that all of the factors influencing the child are mediated through language in the broadest sense (e.g., communication), including behaviours that accompany words, such as tone, facial expressions, gesture and body postures. Advances in the conceptual framework for developmental processes have moved from behaviour modification and applied behavioural analysis toward understanding the communicative function of all behaviour (Durand, 1990, 2003). Theories regarding how language works to enhance moral behaviour go to a deeper and often ignored level of understanding. We have moved theoretically from the general to the specific, from present to past influences and back again, from considering factors relating closely to the child to the wider influences, including history, and from observable behaviours to encodings in the systems internal to the child and to systems passed down by culture through language. Sociolinguistics is a theoretical approach which started out as an atheoretical examination of language purely through its function and which came to a detailed understanding of how culture is transmitted to the child through language while the child is learning language (Halliday & Webster, 2003). The unit of analysis is not words as such, but the transaction between meanings that the child attempts through communication and the response from the adults. Some earlier theorists had been coming toward what Michael Halliday and other sociolinguists proposed in the importance of meaning making. John Dewey and Lev Vygotsky both tackled the idea of meaning making as the central issue rather than genes, neurons, parts of speech or concepts at a time when “virtually all psychologists and philosophers considered concept to be the basic unit of meaning” (Prawat, 2002, p. 18). Dewey and Vygotsky became very interested in the role of language in the process of concept development and although they used different terminology they both came to the conclusion that meanings were the central organising principle in concept formation and that concept labels mediated between the meaning created by children in their own minds and the meanings adults share in a culture. They both went further than this and came to believe that action was the mediator between the individual and the environment (e.g., meaning making), with a transactional approach that viewed meaning making as something that goes on in the world and not just in the head (Prawat, 2002). This is where the interacting parties are not conceptually isolated from one another, are not independent things and the interaction is not an intervening third “thing”. What for Vygotsky had been an organism-action-environment model became an organism/environment co-action model or a unity (Minick, 1986).

Sociolinguistic theory, therefore, does not fundamentally conflict with the theories previously mentioned, but grows out of them and does not presuppose inherited internal mechanisms of universal grammar or moral grammar. It does seem to explain

how a child comes to make meaning in dancing with life and becomes an actor in the mother culture and language through early interactions.

Adult-child mutual, shared, connected communications

The child and mother communicate with each other through what can be called a protolanguage from about the child's age of 9 months. This may influence moral behaviour in the child by means of the mother/child mutually responsive orientation (MRO) (Kochanska, Forman, Aksan, & Dunbar, 2005). Children's conscience in this complex system is seen to encompass moral emotion (or guilt), conduct, and cognition. Results of experiments show that MRO has a direct, unmediated effect on moral emotion and that MRO works to enhance moral conduct through two mediated pathways: by increasing the child's enjoyment while interacting with the mother and by increasing committed compliance.

Rosie Ensor and Claire Hughes at the University of Cambridge (2008) have identified what they call "connected conversations" where the mother/child communicative turn takings and mental-state references within these turns predicted children's social understanding two years later.

A very large study of 3,000 children in preschools by researchers at the Universities of London and Oxford (Siraj-Blatchford, Sylva, Muttock, Gilden, & Bell, 2002) showed that children advancing the most from preschool experience on measures of cognitive, social and educational outcomes attended the most "excellent" preschools where more "sustained shared thinking" adult/child interactions occurred and where clear discipline and behaviour policies promoted talking through conflicts.

A comprehensive and recent review of research on the child's neural mechanisms and their interaction with social influences on their development (Peter Fonagy, Gergely, & Target, 2007) suggests the child constructs a sense of a subjective self through acquiring knowledge about the environment through the caregiver's pedagogical communicative acts which relate specifically to the child's thoughts and feelings (e.g., "connected" or "shared" conversations). The child focuses on the attachment figure as the main source of reliable information about the environment. The child's abilities in seeking and assessing good information about how to relate to the environment and culture in which they need to socially succeed would have been an important survival skill selected for in our long social evolution. Infants by age 18 months learn words selectively from speakers who clearly refer to certain objects, and avoid learning words from informants who do not display such social cues (Baldwin & Moses, 2001). At about the same age, they are surprised by and dispute claims that conflict with prior information by saying "no" (Pea, 1982). Children also encode the identity of that speaker. The ability to evaluate the trustworthiness of an informant is necessary for communication according to Melissa Koenig and Paul Harris (2005). In three experiments (N=119) exploring preschoolers' understanding that information from reliable informants is preferable to information from unreliable informants in cases of conflict, they found that 4-year-olds – but not 3-year-olds – predicted whether an informant would be accurate in the future and sought out and chose information from the accurate over the inaccurate informant. Both age groups displayed trust in knowledgeable over ignorant speakers and they trusted only reliable informants when learning both verbal and nonverbal information.

Fivush and Nelson (Fivush & Nelson, 2006) argue and provide a summary of research evidence that until children start to converse with adults about their or others' past experiences, they are unable to represent themselves in the past or to project themselves into the future. Parent-guided reminiscing about internal states, in particular, scaffolds children's ability to perceive that their understanding of past events may not be the same as others, and thus appreciate conflicting viewpoints, and develop empathy. They are also able then to empathise with others' desires about different futures.

Commonalities – From Theories to Functionality

Common underlying phenomena – accurate functional matching

From these various accounts it would appear that we are talking about essentially the same communicative phenomena which start very early and which predict not only social, but cognitive competency in early childhood. An important concept in all of these understandings is the functional match between the adults' communication and the children's expressed meaning either through behaviour or talk. Parents' ability to correctly understand the internal meanings of their children's communicative bids (mind-mindedness), has been shown to predict positive social outcomes and better attachment (Arnott & Meins, 2007; Sharp, Fonagy, & Goodyer, 2006), whereas disability in this ability predicts future psychological problems in children (P. Fonagy, 2001). It has also been argued with some evidence (Grusec & Goodnow, 1994) that internalisation of parental moral values as a result of discipline is based on a child's accurate perception of the parental message. This relates back to the idea that children learn to discern who has accurate information and who to trust. In other words, it is a reciprocal interactive developmental path. A child will accept discipline and internalise the message if they trust the ability of the adult in providing true, fair and accurate information, which can only be built over time from repeated experiences of trustworthiness from the adults.

It has also been found in most of these understandings that these conversations need to be framed in the most positive language and behaviour as a first choice (Sadler, Slade, & Mayes, 2006; Twemlow & Fonagy, 2006), and where, in particular, the adult is taught to prompt the "preferred alternative behaviour", or the positive opposite to the negative behaviour which is perceived as a problem (Sanders, 1999).

Indigenous evidence

In Jean Liedloff's *Continuum concept* (1977) it is recounted that after many years of visiting the isolated Yequana Indians in South America, only one child was ever observed to have what we would call conduct disorder or even difficult to manage behaviour of any sort. This child's parents were also the only Yequana who also spoke Spanish. Because the child was born and raised purely within the isolated Yequana village and careful observation by Liedloff did not detect any parenting differences from other Yequana, one could suggest that these parents acquired some subtle culture practice or attitude at the same time they learned Spanish, which would account for their child's unique (within Yequana culture) behaviour. Although Liedloff has not published her work in journals, one author providing strategies for

parents to help with crying and sleep problems in infants, recommends parenting practices of the Yequana (St James-Roberts, 2007) and another follows these indigenous approaches in psychological discussions about mother's body language (Sansone, 2004). These practices have to do with close contact between mother and infant and are similar to mother/child mutually responsive orientation (MRO).

Indigenous versus European language differences in states of being

For an ecological, transactional and/or systems model of social change to succeed, people need to be freed from the constraints of linear causality which, in Western languages, is especially locked into our thinking by the verb "to be" and its associated idea of static states of being (Plas, 1986). There are several uses of the verb "to be" in this sense that are unique to Indo-European languages (Brown, 1994; Kahn, 1986). "The challenge of creating strategies for forcing ourselves away from linear view and toward recursive thinking looms large. A good place to begin is with the language. The verbs 'to be' and 'to have' lock us into looking at things in terms of straight lines. They force us to isolate a part of a living system and then to treat it as if it were an independent whole, which exclusively possesses characteristics and is the sole owner of behaviors" (Plas, 1986, pp. 64-65). Native American languages cannot label children, or anything else for that matter, in a static state of being, because there is no way to say this in their languages. A stick is "being pushed up on by the water" (an accurate description from the science of physics) rather than "floating" in English, which is a static state. Even nouns in Cherokee, for example, have verb cores. A horse is "he who carries heavy burdens". A flag is "a place to be defended". California is "place where white men get money" (Holmes & Smith, 1977). If we assist children to change the way they speak and think about themselves and each other as developing spiritual beings engaged in an ever-advancing path of helpful and caring social interactions, then they may, in fact, be the ones to progress the ever-evolving English language into new forms. Ann Senghas, explaining recently published research in the journal *Science*, which studied the emergence of a child-invented sign language in Nicaragua (Senghas, Kita, & Özyürek, 2004) said in an interview regarding this research: "It seems, it is children who drive the evolution of language…this process can be seen when a small child learns to talk and 'breaks' the rules of grammar. She'll start out trying to make her own rules…by the time she is an adult, she'll talk a lot like you. But not exactly like you" (Fox, 2004).

Interventions

Improving interventions

When language's contributions to both coercive systems and healthy systems of human interaction are understood, then interventions can be designed to specifically take advantage of the power of language in shaping culture. According to Michael Halliday (1990) when interventionists plan a change in language, they are creating an active systemic change that can shape people's consciousness, and are therefore not forging an ideologically neutral instrument. It is therefore important that language change that accompanies school intervention is based on the highest desired ethical standards, clear and established theoretical perspectives, and is discussed thoroughly by stakeholders.

Essential village culture reinforced in modern culture

What are the essential missing cultural elements from peaceful isolated village cultures that can be realistically reinserted or reinforced in modern cultures where up to 20% of preschool children have been identified with emotional or behavioural problems at moderate to clinically significant levels (Lavigne et al., 1996)? Stability of these problems into later childhood is well established and is confirmed by recent evidence from a group of 33 children's doctors, research scientists, and mental health and youth service professionals (The Commission on Children at Risk, 2003), where it is reported that 21% of US children ages 9 to17 had a diagnosable mental or addictive disorder associated with at least minimum impairment and that 20% of students reported having seriously considered suicide in that year. This report is entitled "Hardwired to connect: The new scientific case for authoritative communities" and argues that the genetically underpinned need to be connected to community is best satisfied in structured and orderly but loving environments of social institutions, where young people can establish close connections to other people, and deep connections to moral and spiritual meaning.

Australia – the challenge and reaction

In February 2004, a national survey of 3,000 parents by the Australian Federal Education Ministry found that "values and discipline are among the top social virtues parents consider when deciding a school for their children" as reported in the *Age*, Melbourne (Tomazin, 2004). A National Framework for Values Education in Australian Schools was developed from the outcomes of a Values Education Study started in 2003 and with widespread consultation on a Draft Framework (Commonwealth of Australia, 2005). Australia undertook what could be considered a vast experiment by encouraging schools to consult and find common values and then use this to improve student engagement and social interaction. In other words, schools were asked to develop interventions to improve moral behaviour through values education.

The aforementioned theoretical importance of language is supported by some of the discussions resulting from schools attempting to follow the Draft Framework (Commonwealth of Australia, 2006) where it states that, "There are numerous accounts from teachers in the good practice schools of how generalised they initially found the list of values in the National Framework. In such form, the values were unlikely material for teaching and learning. Over time, several good practice projects have successfully addressed this issue. Virtually all projects recount the importance of developing a 'shared language' for their values education programme – a language that is shared between all involved, teachers, parents and students. Sometimes the shared language is arrived at through good values education teaching and discussion with colleagues, at other times it comes from interrogating the National Framework so that it correlates with the language the school uses" (p. 14). There then appear in this document repeated phrasing from school reports referring to a "common values language" and "shared language of values", a "language and discourse of values", a "virtues language", and "shared language", a "specific language", and that "This whole question of developing common language has, according to teachers involved in the project, been behind the sort of 'fruitful discussions' that lead to 'real changes in behaviour'" (p.172). These perceptions come not from theoretical discussions, but

from the everyday efforts of teachers and school principals to implement meaningful moral behaviour change in their school communities.

That the Australian experience in trying to construct useful moral interventions in their schools appears to align well with current cutting edge moral development and language theory is not surprising. The positive psychology movement in the last 15 years has brought to the fore and gathered a variety of researchers who subscribe to an understanding of human potential based on strengths virtues, rather than on describing humans in terms of deficits (Peterson & Seligman, 2004). The reason researchers and philosophers of universal human positive strengths call these "virtues" rather than "values" is because values are culturally determined. People can "value" anything, whether positive or negative, material, or non-material; whereas "virtues" have always been held by cultures to be the underlying moral foundation of good behaviour (Hursthouse, 2007). Nevertheless, through this confusion, most Australian schools have actually adopted virtues rather than values to be their core "values", showing that they actually understand the significance of the difference to their usually culturally diverse school and community populations.

The most recent evaluation of the effort to provide values education in Australian schools (Commonwealth of Australia, 2008) is even more clear about the language needed for a culture change to be effective, and this discussion states: "Establishing, articulating and disseminating a common and shared values language is essential to good practice in values education…In a values-based school the shared values language comes to inform everything that school does and says. It underpins pedagogy, leadership, planning, policy positions, curriculum practices and behavioural expectations. If there is no common values language, if the values within the school are neither owned nor shared by the school community, there can be no basis for implementing effective, planned and systematic values education" (p. 9).

Further to this discussion Professor Terry Lovat (Pro Vice Chancellor, University of Newcastle) "listed some indicators of the change, in particular the shift in language around quality teaching, pedagogy, modelling, whole school approaches, student engagement, improved relationships and the practice or living out of the values" (p. 23).

Later in the same document Dr Thomas Nielsen, the UAN adviser for the Lanyon Cluster of Schools (ACT) project cluster, described the importance of the language shift that occurred in those schools as follows: "Developing a common language for students to discuss, reflect and act on their learning in relation to values has had positive, exponential effects that go beyond communicative competence. Having a shared language seems to be at the centre of developing deeper understandings of values, as it allows students to engage in discussions, clarify their thinking and develop socially constructed connections to values. Because language is so central to social interaction and communication – and perhaps even to the very process of thinking itself (Vygotsky 1985) – having a metalanguage provides a pivotal reference point from which students can explore, consolidate and build values-related knowledge, whether that be in formal learning situations or out of their own accord" (p. 25).

Although all clusters reported the importance of developing a common language, not all schools within each cluster achieved the goal of creating a common values language. The learning that the successful schools achieved, although welcomed, did not provided a replicable system to transmit this language, nor train other schools in a common values language. One could conclude that if nearby schools in a cluster failed to be able to copy successful schools even when there was a great effort to discuss and align efforts in clusters, then it is unlikely that most schools in Australia will be able to achieve this independently or learn how to achieve this from reading about the reportedly successful schools.

An obvious and important question that follows from this would be: how do we teach schools a common language of values? One way to answer this question would be to intervene in a school which has few or no systems for values education using only a language-based values intervention. Is there such a program available which combines the theoretical approaches so far outlined?

The Virtues Project

Whole school culture change through language

Combining the need for authoritative communities and what has so far been outlined as the most supportive language features for social/moral development is an intervention called The Virtues Project (VP) (Popov, 2000; Popov, Popov, & Kavelin, 1997) where adults are trained to scaffold children's interactions in their environment in connected conversations using virtue words that are common to all civilizations and successful cultures, and to construct strong boundaries, guidance and correction using the same words.

The Virtues Project's "virtues language" as a possible research solution

In a previous report (Commonwealth of Australia, 2003) of 50 case studies in 69 schools, three schools adopted an existing program called The Virtues Project (Popov, 2000), that explicitly teaches a "language of the virtues" and four other strategies of where, how and when to use this language through 12 hours of teacher training. Djarragun College, a Kindergarten to Year 12 (K – 12) Anglican school which specifically caters for Aboriginal and Torres Strait Islander students, had been experiencing significant management difficulties prior to 2001 which resulted in very poor student behaviour and high staff turnover, and ultimately led to a more interventionist approach by the governing body and the appointment of a new principal to the school. The intervention they used was the Virtues Project. "The whole experience with the Virtues Project has been very positive for the college in turning around behaviour" (Commonwealth of Australia, 2003, pp. 96-97).

An investigation of school websites and other government documents accessible on the internet, by this author, found that the Virtues Project (VP) is currently being used in at least 50 schools and school volunteer training organisations in Australia. These include preschools, K – 7 primary schools and high schools, both public and religious of various denominations and schools with specific theoretical orientations such as a number of Montessori schools. Although the VP language is predetermined and not created by the school community, schools seem quite content to choose which of 52

virtues fit their situation through discussion amongst teachers and community, and develop additional resources and customise their approaches. VP is not a manualised or curriculum program but trains teachers in principles, how to use the virtues language (pedagogical practices), and encourages teachers to adapt the system to their context. Some of these schools report that the "virtues language" underpins all their other efforts at creating a whole school ethos. Students in one school report there is no bullying in the school. A number of others report not only parent support, but have noticed a change in parent language. One school published *A Little Book of Virtues* (Forrestfield Primary School, 2005) based on VP learning and was recognised by the then Prime Minister John Howard and won national acclaim (Bedrock Books, 2005).

It was reported (Government of South Australia, 2005) that in 2003, Lonsdale Heights Primary School, with 180 students, 11% indigenous and 65% on school cards (an indication of low socioeconomic status – SES), was struggling with persistent problems of bullying, violence and disenchantment among some of the students. Teachers were challenged and felt disempowered by the constant disrespect for authority and the language being used towards staff and peers, as well as students' disengagement from learning. The school used the Virtues Project strategies and language to help students make amends or restore a relationship after a behavioural issue in the classroom or yard. In addition, a series of four workshops on the "Virtues Project" were conducted with parents who gained a greater understanding of using virtues in parenting and teaching. They also learned about the concept of restorative practice as a non-punitive, educative approach to raising children. The principal says this "marked the beginning of a theoretical shift from punitive-behaviourism to a more educative and humanistic approach to student social and emotional development…and through the implementing of restorative practices within a positive school culture we believe that our students and teachers have a better understanding of themselves and others. It is important to remember that 'Forgiveness alone is not enough' from Linda Popov – The Virtues Project. Repairing the harm forces students to learn from the experience that has led to the conflict and examines the attitudes, beliefs and behaviours which have contributed to it" (Lang, 2005).

There is one school in Australia that may have independent data supporting the efficacy of the virtues language. Unfortunately, the school used more than one intervention. A Wellbeing In Schools Evaluation (WISE) research report attributes part of the changes in the school to these interventions (private communication A/Prof Helen Street, School of Psychiatry and Clinical Neuroscience, University of Western Australia). The teacher who is the coordinator of the school's emotional intelligence program, of which the virtues language is a part, said that: "Our Virtues Program continues to realise long-term positive effects, particularly as younger children, with longer exposure, move up through our school. It was exciting to note that our ex-students, now at xxxHS [high school], have outscored 140 other high schools in their knowledge and understanding of desirable values. WISE Research during 2007, supports our view that the Virtues Program, in combination with our Emotional Intelligence strategies, is effective in reinforcing positive social outcomes at MRPS" (private communication with the VP coordinating teacher).

There are reportedly 70 schools in New Zealand using VP (Virtues Project Trust Board, 2006), and a number of them have been the subject of research. One primary school has good evidence from trained peer mediators, that bullying was eliminated.

Another school kept naturally occurring data which has been shown to be valid for research in education (Horner et al., 2004). Lunchtime detentions for misbehaviour in 2004 rose each term until 4th term, which had 26 detentions. The Virtues Project was implemented early in 2005. Lunchtime detentions in 2005 dropped from 14 in the first term to 0 in Term 4. Reportedly, this was the first time Term 4 had ever had a zero incident rating and the usual trend had been an increase in incidents over the school year. The principal and two deputies reported their experience to a Catholic schools conference in Christchurch NZ in 2007. A Word document of the data is available on request from this author who received it from NZ Ministry of Education Resource Teacher of Learning and Behaviour (RTLB) John Lukkassen.

One example from North America where the Virtues Project originated is taken from the Calgary School District website which shows an increase of schools using VP to nearly a quarter of schools in the district,or approximately 52 schools with 18,400 students involved (Calgary Board of Education, 5 June 2007), and also shows a drop in antisocial behaviour and an increase in student reported perceptions of safety. Another example from Canada is the Parry Sound High School (2009; Skinner, 2008) with 800 students, 50% of whom are First Nations and which was experiencing a lot of intercultural and behaviour problems. The claim is made that it was the Virtues Project intervention that changed this. The high school students have taken it upon themselves to visit the feeder primary schools and train them in the virtues system, which started from the idea that this would make it easier to acculturate the new entrants to the high school.

Researching The Virtues Project

Research proposal

There would appear therefore to be sufficient evidence to indicate that schools, communities and parents would accept The Virtues Project in their schools as a useful tool for implementing “values education”. It is unlikely that random sampling of schools and teacher language will find a school where all teachers use a consistent enough language in the naturally occurring variation of teacher talk to test the hypothesis that a common shared language of values will have had a measurable effect on student outcomes. It is also unlikely that one of the few schools that currently use either a common values language they have created or a school that has adopted the virtues language is doing nothing else to help the situation (i.e., the effect of the virtues language would be confounded by other factors). What would work is to find schools which have adopted neither a common values nor a virtues language and intervene only with the virtues language from VP, which can be studied before and after training. It can be made an even more extreme test by doing case studies of the children with the most problems rather than taking the mean behaviour of the group. These are the children, in any event, who need the most help, often cause the majority of disruption and are likely to continue to do so in the future.

> “When the objective is to achieve the greatest possible amount of information on a given problem or phenomenon, a representative case or a random sample may not be the most appropriate strategy. This is because the typical or average case is often not the richest in information. In addition, from both an understanding-oriented and an action-oriented perspective, it is often more

> important to clarify the deeper causes behind a given problem and its consequences than to describe the symptoms of the problem and how frequently they occur. Random samples emphasizing representativeness will seldom be able to produce this kind of insight; it is more appropriate to select some few cases chosen for their validity" (Flyvbjerg, 2006, p. 229).

The Virtues Project emphasises using the language of the virtues in all interactions in a context and this, more than anything else, distinguishes the VP from "character education" programs more broadly. Some children have said they do not use the respectful language taught in moral education classrooms in other school activities because that way of talking is for that class, which James Paul Gee (2004, 2005) explains is simply part of a child learning specialised ways of talking and behaving in different classes, e.g., "situated" language, such as social studies language, sports class language, biology language and so on. To make a pervasive language change in all contexts, a new way of talking must be modelled and used in all activities.

Since its inception the Virtues Project has been taught in 90 countries as an intervention at home, school, businesses and prisons, and in 1993, during the International Year of the Family, the United Nations Secretariat and World Conference of Cities and Corporations listed it as a model global program for families of all cultures (The Virtues Project, 2007). There is anecdotal evidence from my private communications, from accessing training and school websites and through the VP facilitators email chat group, that the "language of the virtues" regardless of specific language does provide a common foundational conceptualisation that is acceptable to all groups and narrows the perceived "gap" between cultures.

My hypothesis is that when all teachers use the VP language, this creates a whole-school culture shift through changing interpersonal interactions. Teachers notice virtuous behaviour in children, the children are acknowledged and the behaviours are reinforced, but even more important the children come to know they have these character traits within them and can use them when called upon which leads to using them on their own accord. If parents are trained as well, then virtually the entire world of the child is constructed to train a culture based on virtuous social interaction. This language-created culture appears to train cognitive, social and moral capacities in children at a faster rate and with a more complete cognitive schema of social interaction than would otherwise be the case.

It is therefore proposed that The Virtues Project's (VP) "language of the virtues" (Popov, Popov, & Kavelin, 1997) which is taught not as a curriculum, but as a pervasive language change used by all adults in the child's environment could act as a research tool to investigate the current anecdotal claims that a whole school language shift changes the culture of the school sufficiently to produce benefits for children's behaviour and moral development.

The advantage of using VP as a research tool is that it already has training materials in a variety of languages, trained facilitators and supporting systems widely dispersed around the world which we could use as our "test" language. It has high social validity and acceptance in multiple cultures and language systems. Using VP facilitators and materials, we could design research that includes schools and parents in multiple locations.

Early Childhood Education (ECE): a strategic place to intervene

Malleability of problem behaviors appears to decrease as children grow older (Loeber, 1991). ECE is a good first point of intervention as child peer relations are more modifiable than in later settings and this context is oriented more toward social competence (Vitaro, Tremblay, & Bukowiski, 2001, p. 369). Developing social competence is a key task in early childhood, as it predicts social and academic outcomes later in life (Blair, Denham, Kochanoff, & Whipple, 2004, p. 420). Furthermore, effect sizes for reduction of problem behaviours are almost always larger in ECE children than older children when similar programs are compared (Wilson & Lipsey, 2005; Wilson, Lipsey, & Derzon, 2003). The US *Head Start* program (Zero to Three Policy Centre, 2005) and the *High/Scope Perry Preschool Studies* (Schweinhart, 2003) show how a well designed ECE program can change life-course antisocial behaviours (Rutter, Giller, & Hagell, 1998, p. 327), especially when it engages both parents and teachers in learning how to extend their children's development and decision making capacity (Schweinhart & Weikart, 1997, p. 137), rather than simply training academic ability. Parents of young children are often open to suggestion about parenting strategies early in their parenthood as can be seen at the parent/teacher interactions at pickup and drop off times in ECE. Teachers are expected by parents to have knowledge about helpful child rearing practices, but these need to be imparted in quick simple advice. Increasing ECE teacher capabilities in effective parenting strategies and their ability to articulate these in simple language is likely to increase parent learning. Parent teacher cooperation has been shown to be effective in programs like Head Start and the Webster-Stratton Dinosaur Program (Fantuzzo et al., 1997; Webster-Stratton, 1999) and the development of partnerships between the teachers and parents has been shown to have multiple benefits for both parties (Power, 1992). If children hear consistent language and experience similar adult behaviour about expected social norms at both home and school, then they are likely to learn faster and have more resilience in these capabilities.

Pilot study: does it work?

My Master's dissertation was designed as a pilot study to provide the first objective research evidence for the effectiveness the Virtues Project (VP) in reducing challenging behaviours (and increasing social behaviour) in 3- to 4-year-old children in a preschool. Surprisingly, the three most antisocial and the three most shy/withdrawn behaving children with scores close to or in the clinical range had substantial and rapid reductions in these behaviours which were normalised after the 3-month implementation and further improved and maintained at a 6-month follow-up using the SDQ teacher report and by independent observations using the Early Screening Project (ESP) (Walker, Severson, & Feil, 1995).

Data from one of the three children with antisocial behaviour is shown in Figure 5. Figure 6 shows an example of a shy/withdrawn behaving child and Figures 7 and 8 show all the children's Strengths and Difficulties Questionnaire results. See NOTE at end for an explanation of statistical calculations shown in Figures 2 and 3.

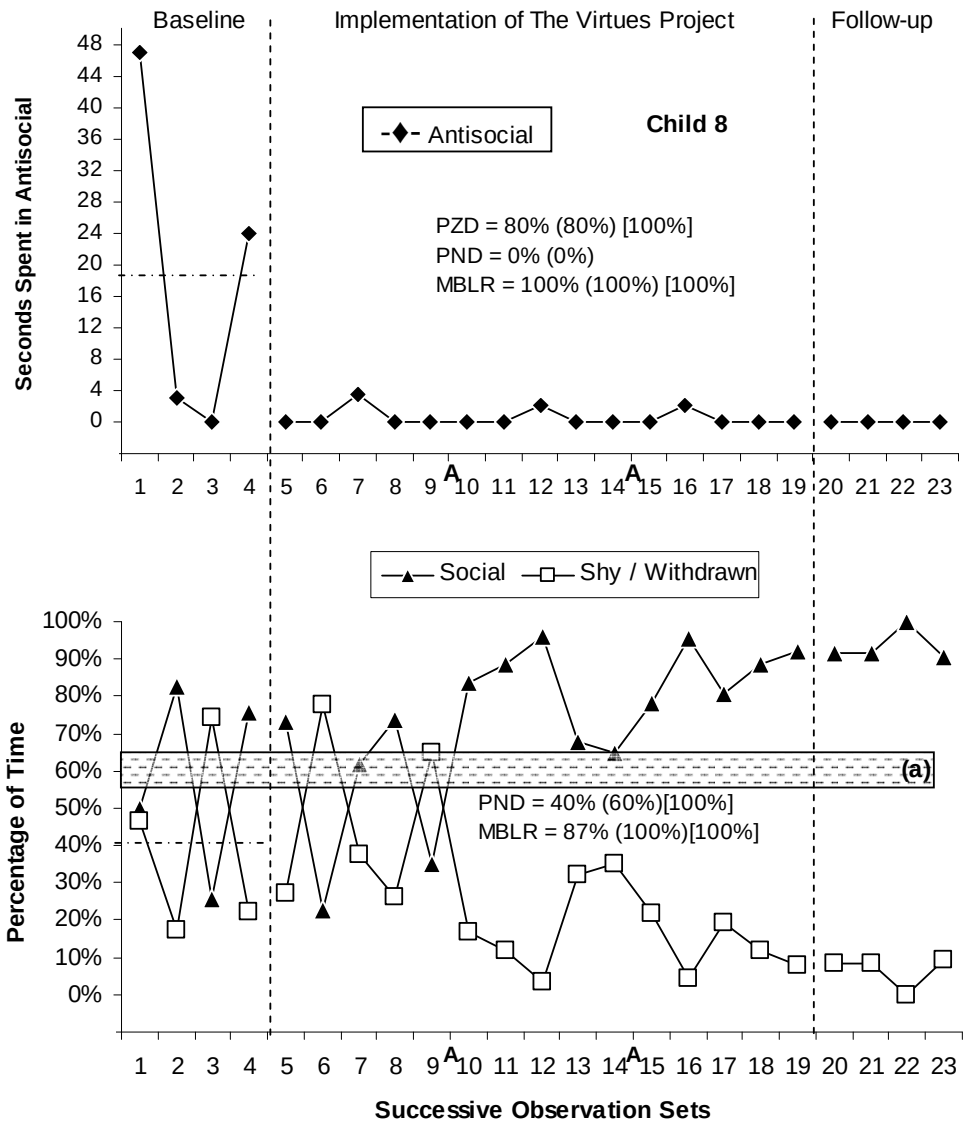


Figure 5. Child 8's duration of antisocial behaviour shown in seconds and social and shy/withdrawn behaviours shown as percentages of the 20-minute total observation time per set of two 10-minute observations. Calculations of percent zero data (PZD), mean baseline reduction (MBLR) and percent nonoverlapping data (PND) are shown for implementation (no parentheses), while figures in parentheses are for the last five data points only and figures in brackets are for follow-up data only. The dot matrix band marked (a) is the "at risk" level of social behaviour above which a child is not at risk (Walker, Severson, & Feil, 1995). The means of baseline data are shown with a dash-dot line. A_1 and A_2 mark the booster session training times**.**

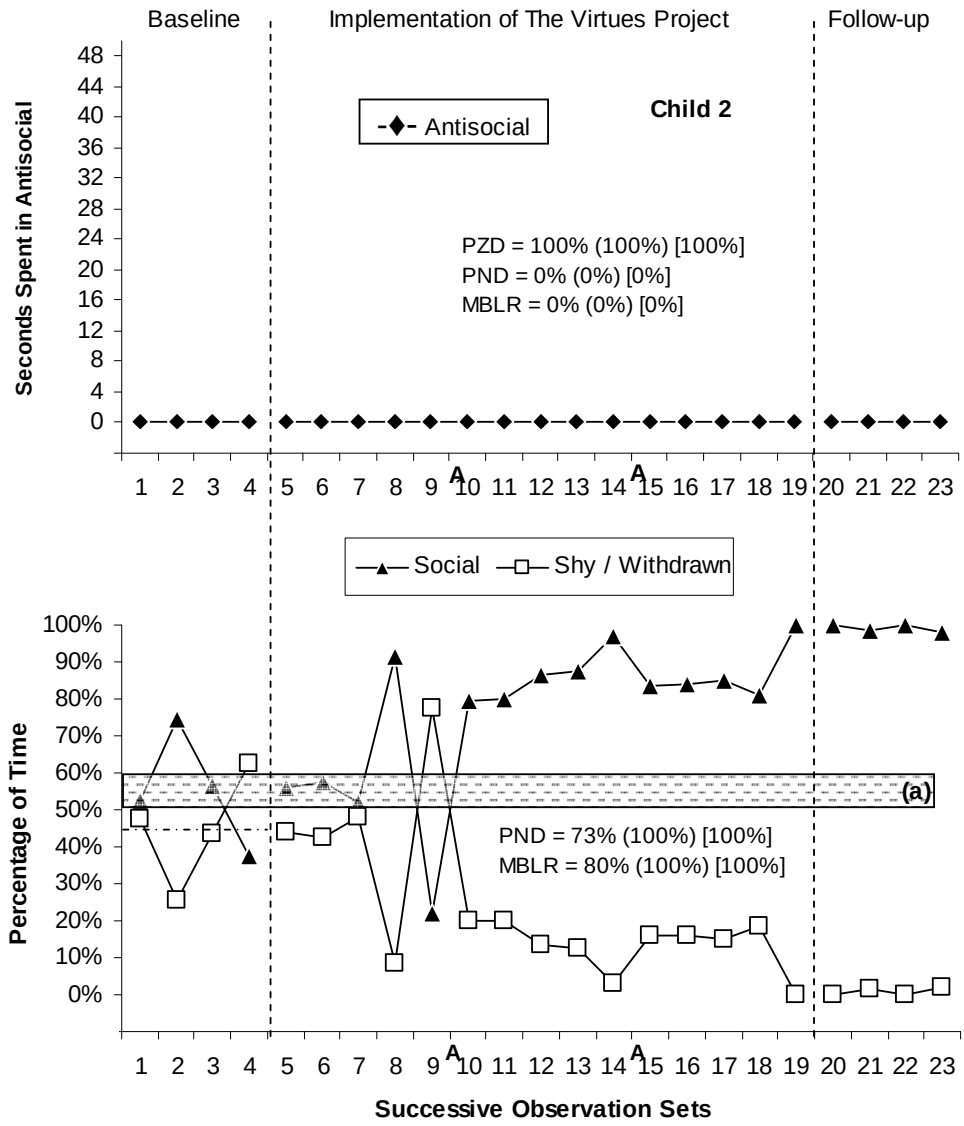


Figure 6. Child 2's duration of antisocial behaviour shown in seconds and social and shy/withdrawn behaviours shown as percentages of the 20-minute total observation time per set of two 10-minute observations. Calculations of percent zero data (PZD), mean baseline reduction (MBLR) and percent nonoverlapping data (PND) are shown for implementation (no parentheses) while the figures in parentheses are for the last five data points only and figures in brackets are for follow-up data only. The dot matrix band marked (a) is the "at risk" level of social behaviour above which a child is not at risk (Walker, Severson, & Feil, 1995). The means of baseline data are shown with a dash-dot line. A_1 and A_2 mark the booster session training times.

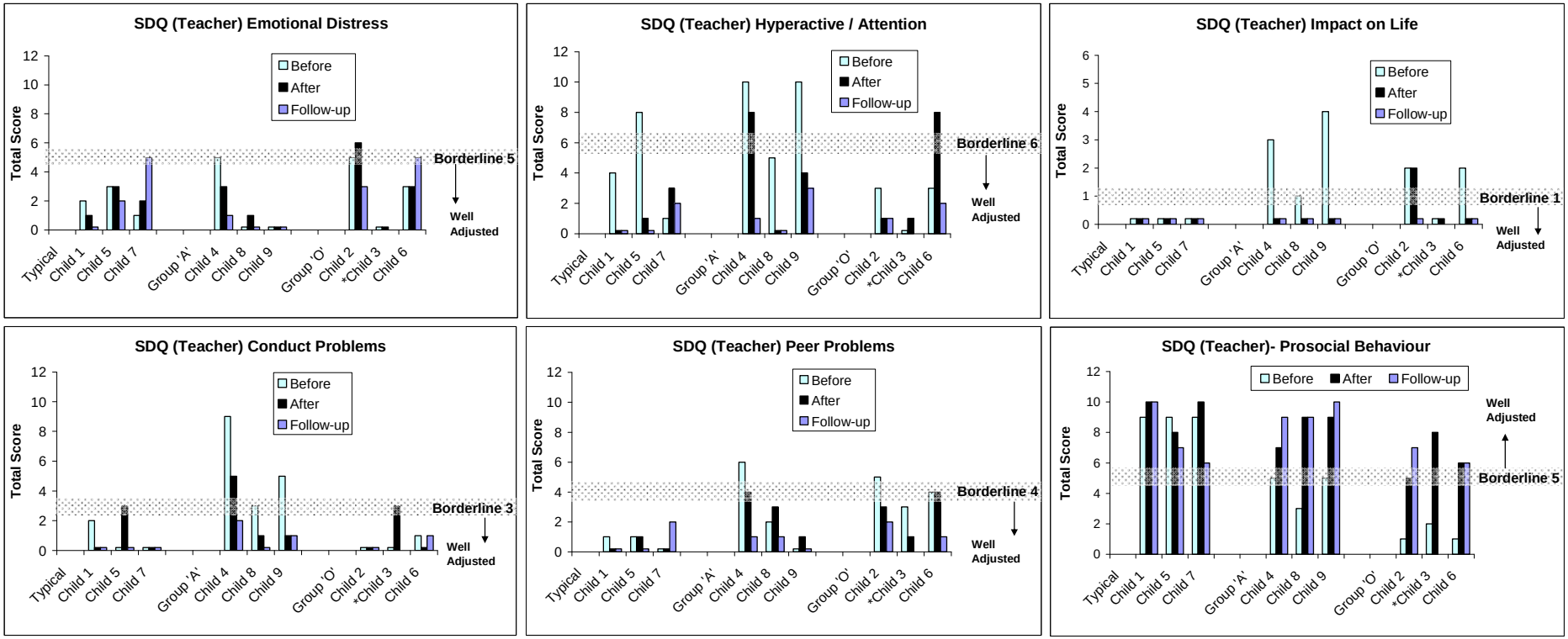


Figure 7. Teacher-report SDQ (Goodman, 2002) subscale scores for all children pre-baseline (before), post-implementation (after) and at follow-up . The borderline clinical score is shown in a dot matrix band and the direction of scores indicating a "well adjusted" child is indicated with an arrow. All scales are in integers on a 10-point scale except Impact on Life, with a 6-point scale. * Child 3 was not attending at follow-up.

A' Group SDQ Teacher

Child 4	Pre-B	Follow-Up	
E	**5**	1	40%
*C	**9**	2	70%
H	**10**	1	90%
PP	**6**	1	50%
*IP	**3**	0	50%
*P	**5**	9	40%

Child 8	Pre-B	Follow-Up	
E	0	0	0%
*C	**3**	0	30%
H	5	0	50%
PP	2	1	10%
*IP	**1**	0	17%
*P	**3**	9	60%

Child 9	Pre-B	Follow-Up	
E	0	0	0%
*C	**5**	1	40%
H	**10**	3	70%
PP	0	0	0%
*IP	**4**	0	67%
*P	**5**	10	50%

O' Group SDQ Teacher

Child 2	Pre-B	Follow-Up	
*E	**5**	3	20%
C	0	0	0%
H	3	1	20%
*PP	**5**	2	30%
*IP	**2**	0	33%
*P	**1**	7	60%

Child 3	Pre-B	Post-Implmnt	
*E	0	0	0%
C	0	**3**	-30%
H	0	1	-10%
*PP	3	1	20%
*IP	0	0	0%
*P	**2**	8	60%

Child 6	Pre-B	Follow-Up	
*E	3	**5**	-20%
C	1	1	0%
H	3	2	10%
*PP	**4**	1	30%
*IP	**2**	0	33%
*P	**1**	6	50%

Typical Group SDQ Teacher

Child 1	Pre-B	Follow-Up	
E	2	0	20%
C	2	0	20%
H	2	0	20%
PP	1	0	10%
IP	0	0	0%
P	9	10	10%

Child 5	Pre-B	Follow-Up	
E	3	2	10%
C	0	0	0%
H	**8**	0	80%
PP	1	0	10%
IP	0	0	0%
P	9	7	-20%

Child 7	Pre-B	Follow-Up	
E	1	**5**	-40%
C	0	0	0%
H	1	2	-10%
PP	0	2	-20%
IP	0	0	0%
P	9	6	-30%

A' Group SDQ Parent

Child 4	Pre-B	Follow-Up	
E	3	2	10%
*C	**6**	**4**	20%
H	**8**	5	30%
PP	2	3	-10%
*IP	0	1	-17%
*P	7	7	0%

Child 8	Pre-B	Follow-Up	
E	3	2	10%
*C	0	0	0%
H	2	3	-10%
PP	0	0	0%
*IP	0	0	0%
*P	7	8	10%

Child 9	Pre-B	Follow-Up	
E	0	1	-10%
*C	**3**	1	20%
H	3	2	10%
PP	0	0	0%
*IP	0	0	0%
*P	9	9	0%

O' Group SDQ Parent

Child 2	Pre-B	Follow-Up	
*E	2	2	0%
C	2	1	10%
H	4	2	20%
*PP	2	0	20%
*IP	0	0	0%
*P	9	7	-20%

Child 3	Pre-B	Post-Implmnt	
*E	3	1	20%
C	1	1	0%
H	1	2	-10%
*PP	1	1	0%
*IP	0	0	0%
*P	7	9	20%

Child 6	Pre-B	Follow-Up	
*E	1	2	-10%
C	1	1	0%
H	4	3	10%
*PP	1	0	10%
*IP	0	0	0%
*P	6	8	20%

Typical Group SDQ Parent

Child 1	Pre-B	Follow-Up	
E	2	0	20%
C	0	0	0%
H	4	5	-10%
PP	1	0	10%
IP	0	1	-17%
P	9	10	10%

Child 5	Pre-B	Follow-Up	
E	1	1	0%
C	1	0	10%
H	0	2	-20%
PP	2	0	20%
IP	0	0	0%
P	10	9	-10%

Child 7	Pre-B	Follow-Up	
E	2	1	10%
C	0	1	-10%
H	1	1	0%
PP	0	1	-10%
IP	0	0	0%
P	10	10	0%

Figure 8. Teacher- and parent-report SDQ (Goodman, 2002) scores showing percentage changes pre-baseline to follow-up (or post-implementation for child 3) for each child for each subscale: Emotional (E), Conduct (C), Hyperactive/attention (H), Peer Problems (PP), Impact on Life (IP), and Prosocial (P). Shaded bold numbers indicate a clinical score, while dot matrix bold numbers indicate a borderline score. Positive scores are improvements while negative scores indicate worsening behaviour. Category labels with an asterisk (*) indicate criteria used for inclusion in that group. Percentages are calculated as (A-B)/10 for problem scales, (-A+B)/10 for Prosocial (both 10-point scales), and (A-B)/6 for Impact on Life (6-point scale).

Conclusion

Summary

The power of giving children rules of interaction in the form of language, at a time in life when they are rapidly acquiring language, developing their social skills, and acquiring their culture, not only helps them as individuals, but can affect a change in the whole culture if enough children adopt the new rules. Systems theory (Anderson & Sabatelli, 2003) and meme theory and its derivatives (Boyd & Richerson, 2000; du Preez, 1996; Shichijo & Kobayashi, 2002) provide one way of understanding the rapid changes in behavior reported by some schools using The Virtues Project.

Peter Fonagy's idea that there exists an Interpersonal Interpretive Mechanism (IIM) (Peter Fonagy & Target, 2003); Noam Chomsky's idea that there is a genetically endowed biological language acquisition system (Universal Grammar) (Chomsky, 2006) which has led some to hypothesise that there is a Universal Moral Grammar (Mikhail, 2007); Jonathan Haidt's Social Intuitionist Model (SIM) of moral judgement (2001) which is much like aesthetic judgment – a rapid intuitive process; C Robert Cloninger's (2004) research showing we inherit an intuitive understanding of compassion, ethics, art, and culture; Marc Hauser's (2006) idea that we are biologically designed to have a moral sense which, according to some researchers can be explained in terms of virtues or character strengths (Peterson & Seligman, 2004); A R Luria's idea (2002) that a neurologically based language system includes the wider and historical social system based partially on Vygotsky's "zone of proximal development" which facilitates moral development (Tappan, 1998); and Michael Halliday's idea that children construct social reality through intersubjective acts of meaning in learning their language and culture from significant adults (Bernstein, 1998; Halliday, 2004), could be investigated in more detail using the virtues language as a research tool to test the effects on children's moral development through changes in adult constructed communicative cultures in schools.

Future research questions

What change in teacher discourse is trained by VP and does this change precede improvements or rates of improvement in child behaviour, Theory of Mind (ToM), executive functioning, inhibitory control, moral reasoning, social functioning and/or language ability that is not likely to otherwise occur? What does the VP training change in teacher discourse that is easily measured and a consistent marker of overall discourse change and is likely to be the main active ingredient as a causal factor in child behaviour change? This is most likely to be found in elements of what the teacher says and how it is said in response to "teachable moments" when there is contextually significant social interaction engaging the child's full attention and emotion, e.g., when the teacher demonstrates for the child "knowledge that is appropriate to a complex social situation couched within a conversational interaction" (de Rosnay & Hughes, 2006, p. 23) or, in other words, moments of sustained shared thinking (Sylva et al., 2007).

NOTE: Statistical treatment of graphed data in Figures 5 and 6
Comparing single-case designed studies using visual analysis alone has raised concerns (Thomas E. Scruggs, Mastropieri, & Regan, 2006) and several statistical treatments of the data have been suggested that can supplement and clarify visual analysis. Effect sizes for single subject designs have been calculated to analyse data using: percent nonoverlapping data (PND) (Thomas E. Scruggs, Mastropieri, & Casto, 1987) for interventions reducing antisocial behaviours (T. E. Scruggs & Mastropieri, 1998), increasing compliance (Lee, 2005) and reducing socially withdrawn behaviours (Mastropieri & Scruggs, 1985-1986); using PND and percentage of zero data (PZD) (Scotti, Evans, Meyer, & Walker, 1991); using mean baseline reduction (MBLR) (Campbell, 2004; Faith & Allison, 1996); and using MBLR, PND and PZD for interventions to reduce problem behaviours in persons with autism (Campbell, 2003). Each method has strengths and weaknesses and applicability to certain kinds of data. PND, PZD and MBLR were calculated for antisocial behaviour, and only PND and MBLR will be calculated for shy/withdrawn behaviour, as PZD, which is a measure of behavioural suppression, is inappropriate where zero behaviour is neither expected nor desirable (Campbell, 2004, p. 244). PND is a measure of behavioural reduction and is therefore more appropriate for measuring shy/withdrawn behaviour than PZD. It has been recommended that single-subject designed research using programmes designed to eliminate problem behaviours use both PND and PZD (Campbell, 2004). The three measures were calculated following standard procedures of the researchers who developed them:

Percentage of nonoverlapping data (PND) (Thomas E. Scruggs, Mastropieri, & Casto, 1987) was calculated by counting the number of data points in implementation (or the phase under consideration) that were lower than the lowest data point in baseline, for antisocial and shy/withdrawn behaviours. This number was then divided by the total number of data points in implementation (or the phase under consideration) to arrive at a percentage of data that did not overlap baseline data.

Percentage of zero data (PZD) (Scotti, Evans, Meyer, & Walker, 1991, p. 238) was determined for antisocial behaviour only. This is calculated by starting at the first data point in implementation (or the phase under consideration) that was zero and calculating the percentage of data points from then on, including the first zero, which remained at zero.

Mean baseline reduction (MBLR) (Campbell, 2004) was determined for antisocial and shy/withdrawn behaviours by calculating the mean score of the baseline data, and then calculating the percentage of data points in implementation (or the phase under consideration) that were below this value.

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