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Prosocial Behaviour in Adolescents: Classroom and Sport Specific Environments

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Abstract

Research has found that participation in sports is positively associated with physical health, academic achievement, and social wellbeing. New Zealand lacks studies in this area, particularly in an intermediate school-aged population. For this reason, the purpose of the current study was to examine prosocial behaviour between two major educational contexts to determine if the change in environment had an effect on the self-reported social behaviour perceived of students.

A group of 175 males and females aged 10 -12 years participated in the research. The sample attended a public intermediate school on Auckland's North Shore. Data collection was undertaken on the school premises, through administration of anonymous self-report questionnaires engaging perceived social behaviours including self-efficacy, altruism, empathy, aggression, and prosocial behaviour. The results were interpreted in the context of Bandura's (1991a) social cognitive theory of moral behaviour.

Confirmatory factor analysis was employed to initially assess the fit of the data. Psychometric evaluations found that measures exhibited adequate internal consistency, and adequate fit of the data to the models. Following preliminary analyses, the two contexts in which prosocial behaviour was measured were retained as the focus in multiple regression analyses, utilising given predictor variables. Regression analysis tested found Altruism and Social-Efficacy to be important predictors of prosocial behaviour, whereas Cooperation, Social-Efficacy, and Helping found to contribute to aggression.

Hypothesis testing suggested that physical context did not account for significant differences in prosocial behaviour. However, aggression was affected by a change in physical context. Gender was seen to produce effects, with significant differences noted between the classroom and physical education settings when comparing male, though no differences were found when comparing females between contexts. Limitations and implications for future research are discussed.

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1. Introduction to the Current Research

Social wellbeing is an integral part of a healthy development in children. For many years key theorists have produced an abundance of research on the development of social behaviour (Bandura, 1969; Bowlby, 1973a; Erickson, 1963; Piaget, 1948). However, the research has been contradictory, specifically regarding the attainment and progression of social behaviour. Theorists argue from both an 'early experiences' perspective (Wyatt & Carlo, 2002), where social behaviour is determined by experiences at a young age. As well as arguing from a current experiences' perspective (Strack & Deutsch, 2004), where social behaviour is a function of relevant, impulsive processes.

An early experiences perspective maintains that neonates are exposed to social activity from the moment they are born, and continue to receive social attention as they progress (Connellan, Baron-Cohen, Wheelwright, Batki, & Ahluwalia, 2000). Children learn social etiquette and in the process, behavioural boundaries are developed (Frey & Meier, 2004). On the other hand, the current experiences perspective views social behaviour as directed by appropriate discipline as a way of natural social control. Where negative behaviour is punished and positive behaviour is reinforced. Social behaviour has in reality been shown to develop progressively through childhood into adolescence and beyond (Shaffer, 2009), postulating that prosocial behaviour is motivated by an interaction between dispositional and situational factors, dependant on the person and the circumstances (Bandura, 1986). This means that behaviour is influenced by both past and current experiences.

Great individual differences exist in the development of social behaviour and the current experiences point of view lends hand to the influence of environment on behaviour. This is where prosocial behaviour is deemed dispositional, where demonstrations of prosocial behaviour are stable and remain unaffected by contextual influences (Oliner & Oliner, 1988). On the other hand, according to early experiences perspective, prosocial behaviour has been shown to be context specific, or situational, where the environment is what influences an individual's displays of behaviour (Latane & Darley, 1970). Situation specific environments have been shown to exert different effects on behaviour, particularly social behaviour (Taylor, Peplau, & Sears, 2000). Children and adults may be exposed to some environments that encourage displays of positive behaviour, or other environments which may inhibit these behaviours.

Adolescence, in particular, is a period of great change, resulting in the exploration of various social attitudes and outlooks (Carlo, Fabes, Laible, & Kupanoff, 1999). Prosocial behaviour and aggression are both important aspects of an adolescent's social development. Prosocial behaviour encompasses actions that benefit another person (Shaffer, 2009). Most importantly, we require prosocial skills in order to fulfil social desires, such as making friends (Wentzel, Barry, & Caldwell, 2004). Alternatively, aggression is a form of antisocial behaviour, which is a negative activity that has the potential to damage another person's quality of life (Gaik, Abdullah, Elias, & Uli, 2010). Aggression has commonly been studied alongside prosocial behaviour, mainly in consideration of the effect of media exposure on children (Ostrov, Gentile, & Crick, 2006; Wiegman, Kuttschreuter, & Baarda, 1992).

In fact, it was a research interest in aggression that illuminated 'prosocial behaviour', coined by Lauren Wispe in 1972. It is thought that prosocial behaviour developed out of necessity for human survival (Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007). Cooperative behaviours were recorded very early on in history, with 'helping' evolving as a part of human culture (Levine & Levine, 1992). Today, prosocial behaviour remains imperative to social survival. It has been linked to other social behaviours, specifically: altruism, empathy, and self-efficacy (Batson & Powell, 2003). Relationships also exist between prosocial behaviour, antisocial behaviour, and aggression (Pastorelli, Barbaranelli, Cermak, Rozsa, & Caprara, 1997).

Parents, caregivers, and educational systems provide important sources of influence on the development of prosocial behaviour in adolescents (Baumrind, Larzelere, & Owens, 2010). Schools contain peers, friends, teachers, role models, mentors, and disciplinary figures, which are important in promoting prosocial behaviour (Roeser, Eccles, & Sameroff, 2000). However, there are also negative aspects of socialisation that cannot be eradicated from home life or schooling contexts. Consequently, contention exists around school activities that may promote antisocial activity, such as contact sports (Mintah, Huddleston, & Doody, 1999). In New Zealand, rugby, is an iconic national sport and promoted in schools, though due to its contact nature, it could have detrimental effects on some aspects of social behaviour.

Social behaviour is not specifically taught in schools, though it is acknowledged as present in all educational systems, through teacher role modelling, discipline, and reward (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). The school environment has a significant influence on children through two main educational contexts within which children learn. The classroom and the physical education setting both contribute to learning by providing a source

of influence for children, though it is not yet known how they differ in their influence on children's displays of behaviour (Pellegrini & Davis, 1993; Trudeau & Shephard, 2008). The effect of school context on the social development of children and adolescents is largely unknown and requires more investigation.

Prosocial behaviour has been found to be modelled and reinforced in school settings (Beller, & Stoll, 1995). The rules and norms which dictate behaviour tend to be stricter in a classroom setting compared to a physical education setting. Thereby, allowing less moderated displays of behaviour during physical education, such as raised voices and physical contact (Trudeau & Shephard, 2008).

The social behaviour of children in physical activity domains has seldom been studied in comparison to other life domains, such as school and home life (Anderson, Sabatelli, & Kosutic, 2007; Bredemier, Weiss, Shields, & Cooper, 1986). Therefore, it has previously been difficult to determine whether children's behaviour in sport will correspond directly with their behavioural tendencies in other areas of life. Bredemeier et al. (1986) noted that social behaviour in sport had rarely been compared to behaviour in daily life contexts. In the same study it was found that sport was a means of moral development and taught important qualities (Bredemeier et al., 1986). Research in this area remains scarce, making it difficult to ascertain whether social behaviour during physical activity corresponds highly with everyday behavioural tendencies.

In this way there is a lot to be gained by measuring and interpreting the factors that influence social behaviour. Knowledge in this area can help with designing appropriate models to support and encourage displays of prosocial behaviour and to minimise displays of aggressive behaviour. Contexts in which children perceive themselves as displaying prosocial behaviours are likely to be beneficial areas for developing positive social attitudes, which are imperative to a successful transition into adulthood (Jarvis, 2012).

Therefore, the purpose of this research is to understand prosocial behaviour and aggression in a classroom environment as well as a physical education environment in order to determine if the change of environment has an effect on behaviour. The secondary aim of the research is to develop viable measures for use in prosocial behaviour research. A third objective is to examine the predictors of prosocial behaviour, also focusing on self-efficacy as a predictor in the classroom. And a final purpose of the research is to examine gender differences in prosocial behaviour and aggression across environmental contexts.

Specifically, this research project explores the central components of reciprocal determinism theory in relation to the perception of prosocial behaviour. The model of reciprocal determinism was developed through social cognitive theory and initiated by Albert Bandura (1985). Figure 1 demonstrates the model used in the present research, which was derived from Bandura's (1985) model.

Accordingly, the following thesis is organised as follows. Section two provides an overview of the relevant literature. Section three defines the methodology used, and section four presents the results. Section five discusses the findings of this research as well as drawing conclusions.

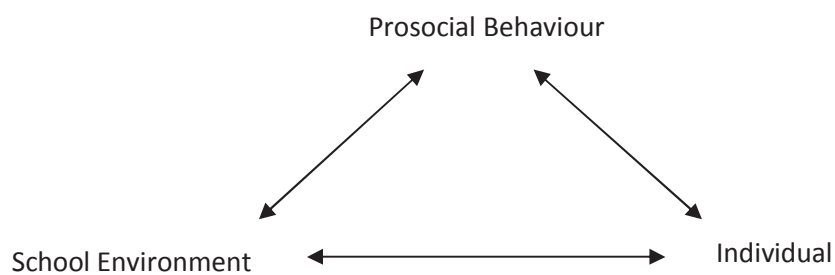


Figure 1. Interactional Model of Prosocial Behaviour

2. Literature Review

2.1. Development of Social Behaviour

2.1.1. *Social Development*

Social development refers to the process by which a child learns to interact with others around them (Anderson, 1939). Shaffer (1996) describes it as a process through which children learn to communicate with others, develop friendships, and resolve conflicts. Social development refers to the acquisition of social skills and emotional maturity that are required to forge relationships and relate to others (Shaffer, 1996). The acquisition of social skills is essential for children to form healthy, stable relationships. Children require interaction with peers and adults, whilst witnessing and engaging in acceptable behaviours in order to mature socially (Anderson, 1956).

Furthermore, social development involves the learning of values, knowledge and skills that enable effective relationships with, and positive contributions to family, school, and the community (Anderson, Carter, & Lowe, 1999). It also involves an understanding of the needs of others and empathetic ability (Anderson, 1956). This form of social competence is an important factor at both individual and collective levels and has been shown to be fundamental in the success of learning (Elicker, Englund, & Sroufe, 1992).

Children learn about social behaviour directly and indirectly, through social relationships, roles and participation in the culture around them (Anderson et al., 1999). As adolescents, they develop further socially and are, at the same time, affected by physical, cognitive, and emotional changes (Oswalt & Meier, 2004). Social development is consequently linked with emotional development due to the control and communication of emotions being necessary for successful interpersonal relationships (Blakemore & Choudhury, 2006).

Because of this, social development also results in an increased understanding of the uses of positive and negative social behaviour. Adults develop patterns of behaviour consistent with what they learn during childhood and adolescence (Blakemore & Choudhury, 2006).

Depending on both earlier and current experiences, an individual may be motivated to display prosocial, or beneficial, behaviours towards others (Hays, 1994). Behaviours that are intended to benefit others are termed prosocial (Shaffer, 2009), while behaviour that has the potential to damage another's quality of life is referred to as antisocial (Carlo, Roesch, & Melby, 1998).

2.1.2. *History of Prosocial Behaviour*

Prosocial behaviour was largely neglected in the academic literature until the 1960's. The focus lay instead on negative social behaviour, due to the awareness of negative behaviour as a threat to society (Loeber & Schmalzing, 1985). Researchers believed it was essential to understand negative social behaviour in order to promote change (Kazdin, 1987). Many years later, due to its importance in regulating society, positive social behaviour was recognised in research by Bandura (1969), Bowlby (1973), Erickson (1963), and Piaget (1948). The interest in prosocial behaviour and development ultimately stems from a need for society to function harmoniously (Kavussanu, Seal, & Phillips, 2006). As it became more important for people to work collectively, human behaviour was studied more intently, and a need to investigate prosocial behaviour was duly recognised.

Following from this development, behaviourists dually began to recognise the significance of preventing harmful behaviour through the reinforcement and support of constructive behaviour (Kleiber & Roberts, 1981). From the extensive literature on moral behaviour stems the study of prosocial behaviour; a cognitive process closely linked with morality (Bar-Tal, 1982). Moral behaviour has been the focus in social development literature, with prosocial behaviour fitting in the same context (Stuab, 1978). Moral behaviour is defined as a concern for equality, fairness and justice in human relations (Kohlberg & Turiel, 1973). The terms prosocial behaviour and antisocial behaviour have been used to refer to the positive and negative dimensions of morality (Kavussanu et al., 2006).

Although prosocial behaviour is now a well researched concept, there are significant variations in its definitions across the literature. The term 'prosocial behaviour' was coined as an antonym to the existing 'antisocial behaviour' (Wispé, 1972). Since then, many have attempted to provide a viable operational definition of prosocial behaviour for use in research, and consistency across studies, though definitions are rarely agreed upon (Jackson & Tisak, 2001). Definitions of prosocial behaviour are similar, but tend to vary according to research focus and across time. Some of the more commonly recognised definitions are listed below:

- a) Prosocial behaviour refers to positive interactions with other people, including helping, sharing, cooperating and comforting (Hays, 1994).

This definition is popular, but has been criticized for its focus on altruistic concepts. Altruism is an important aspect of prosocial behavior, though it does not encompass prosocial behavior

as a whole (Eisenberg & Fabes, 1998). There is more to prosocial behavior than an altruistic dynamic. Additionally, this definition does not specify a motivation behind the interaction, which is necessary for defining prosocial behavior (Malti, Gummerum, Keller, & Buchmann, 2009).

- b) Prosocial behaviour is any action that is intended to benefit other people (Shaffer, 2009).

The definition used by Shaffer is efficient, though it is broad and unspecific. From a measurement point of view, the definition lacks clarity and could lead to ambiguities. Further explanation is required to make this a complete definition.

- c) Prosocial behaviour is voluntary, intentional behaviour that results in benefits for another; the motive is unspecified and may be positive, negative, or both (Eisenberg, 1982; Staub, 1978).

Eisenberg (1982) generated this definition in her work and it was used by others thereafter. The important focus is on the motive, which specifies that the behavior may not only benefit the receiver, but that the contributor may also benefit from the behavioural exchange. The definition has since been expanded and used in further work by Eisenberg (1982).

- d) Prosocial behaviours are defined in terms of their consequences for others including intentions to help individuals or groups. They are performed voluntarily, for any motivated reason, and have positive outcomes for others (Eisenberg & Mussen, 1989).

Eisenberg and Mussen provided one of the most effective definitions, following on from their earlier work on prosocial behaviour. It encompasses each aspect of prosocial behaviour and is specific enough to operationally define behaviour for measurement, as well as dissociating prosocial behaviour from other similar concepts. Eisenberg and Mussen's (1989) definition of prosocial behaviour will be employed in the present research.

2.1.3. Stages of Prosocial Development

Over the years, research in psychology has been subject to the great debate of 'nature versus nurture'. The development of prosocial behaviour is no exception. In previous times, personality was originally assumed to be detached from displays of prosocial behaviour. They were viewed as independent concepts, with no effect on each other (Hogan, Johnson, & Emler, 1978). For many years, theorists argued over prosocial behaviour as innate, or as a developmental process (Aronfreed, 1970; Staub, 1978).

In comparison, contemporary views on social behaviour regard prosocial behaviour as a developmental process (Bandura, 1969; Bowlby, 1973; Erickson, 1963; Piaget, 1948). Humans display social behaviour very early on in life, which develops with age (DeHart, Sroufe, & Cooper, 2004). Social behaviour first begins as a survival mechanism, by which newborn babies use involuntary or reflex movements to form relationships with their parents. Behaviours such as sucking, crying, and grasping allow communication and commence the relationship between parent and child, thereby reinforcing the displays of social behaviour (Stark, Bernstein, & Demorest, 1993).

Naturally, increasing age is an important predictor of social development. As early as twelve months of age, infants show an ability to empathise and share (Kestenbaum, Farber, & Sroufe, 1989). At 18 months of age children begin to show helping behaviours such as assisting adults with cleaning and tidying (Rheingold, 1982). At age two, children begin to display sympathy for their peers, for example, giving a toy to another upset child (Kestenbaum et al., 1989). Hays (1994) recognised the capacity for prosocial behavior to develop in the second year of life, where it becomes incorporated into the individual personality. In due process, three-year-old children begin to help more often and give 'gifts' to parents and friends, they have been seen to cooperate, help, and share effectively (Bar-tal, 1982). Preschoolers, aged three and four, display social behaviours such as independence, affection, manipulation, cooperation, and emotional awareness (Sroufe, 2005). The commencement of school attendance, at 5 years old, marks an important period (Furman & Buhrmester, 1992). The opportunity for social interaction tends to increase with age; it is expected that as a person ages, they will interact more often, and have more opportunity to learn about social behavior (Furman & Buhrmester, 1992).

Accordingly, demonstrations of prosocial behaviour become more frequent from primary school onwards, coinciding with the transition into adolescence (Eisenberg, Fabes, & Spinrad, 2007). Variation exists between children, most of whom make the transition to adolescence at around 11 to 12 years of age (Payne & Issacs, 1999). The definitive chronological age of adolescence is contentious and agreed upon infrequently. The approximate transition from childhood to adolescence occurs through extensive changes in physiological and biochemical systems, as well as behaviour (Hamburg & Takanishi, 1989). Researchers and institutions provide different definitions for the age of adolescence; defining an adolescent either by their chronological age, or as a point in development, centred on the pre-teen to early teen years (Payne & Issacs, 1999). Adolescence has been historically connected to the onset of puberty,

therefore, signifying the teenage years as the age period most closely associated with adolescence (Larson & Wilson, 2004). However, puberty now often occurs prior to the teenage years and is often associated with the 'preadolescent' phase observed in older children (Larson & Wilson, 2004). Therefore, in psychology, adolescence is generally viewed as a transitional period between childhood and adulthood, not restricted by chronological age (Carlo et al., 1999).

Socially, adolescence is a time when children begin to form and expand many types of relationships. During childhood, they have a smaller social circle consisting of family, teachers, and a few friends. Growing older, adolescents spend more time with their friends than children do; therefore, adolescents are more likely to be influenced by their friends than are younger children (Crockett, Losoff, & Petersen, 1984). Social development during adolescence consists of large changes in the quantity and quality of relationships (Larson & Wilson, 2004). Social networks expand vastly during adolescence to include many more friends and acquaintances from different areas of life (Furman & Buhrmester, 1992).

Adolescence is also a time of psychical, psychological, and social transition that motivates adolescents to seek guidance from social supports (Sprinthall & Collins, 1995). Behaviours, such as volunteering, are more common in adolescents than younger children (Bortree, 2010). This is most likely because young adolescents value the opinions of peers and are receptive to peer pressure (Sroufe, 2005).

2.2. Theories of Prosocial Behaviour

A wide range of theories have been postulated on the development of prosocial behaviour (Bandura, 1969; Bowlby, 1973; Erickson, 1963; Piaget, 1948), some more successful than others, in describing the process. The following influential theories investigated include a range of historically established theories as well as a current influential choice, social cognitive theory. These theories are most relevant to the research, seen as highly impactful, driving knowledge in the field.

2.2.1. Earlier Theories on Prosocial Behaviour

Through decades of research one theory has stood out. Freud's psychoanalytic theory (1948) has influenced many areas of psychology, including research on social behaviour, in particular, the development of prosocial behaviour. Freud's (1948) theory has been challenged and

modified, though it remains significant in the history of prosocial behaviour study (Haidt, 2008).

Other significant theories include a range of stage theories, from the 1960's, used by developmental psychologists to explain prosocial behaviour (Grusec, 1992). Literature on social behaviour from developmental psychology has been influenced heavily by stage theories (Erickson, 1950; Freud, 1948; Kohlberg, 1968; Piaget, 1948). Great disparity is noted when comparing stage theories, both in terms of the number of stages, and the ages at which they are succeeded. However, they all share the idea that personality development, and in particular social behaviour, can be classified in terms of a predetermined sequence of successive developmental periods (Hays, 1994).

Freud's Psychoanalytic Theory

Freud's Structural Model was expounded in 1920, describing three hypothetical constructs of the psyche. The subconscious 'id' had a capacity of uncoordinated instinctual behaviour, the 'ego' was the organised and realistic part of the personality associated with conscious thought, and the 'superego' policed moral behaviour whilst helping us to act in socially acceptable ways (Freud, 1933). Psychoanalytic theory premised that prosocial behaviour commenced development at around five years of age, signifying the development of the superego. During this phase, it was thought that the child began to identify with their opposite sex parent, incorporating and internalising their values (Shaffer, 2009).

However, psychoanalytic theory does not provide any explanation for behavioural differences across environmental contexts. Freud's theory was refuted due to the finding that prosocial behaviour can be observed and measured in children less than five years of age (Batson, 2012). Freud's original psychoanalytic theory remains flawed, but has been modified by Freud's followers due to its importance as a prominent historical theory (Hoffman, 1983).

Piaget's Theory of Cognitive Development

Piaget's (1948) work followed that of Freud, with Piaget diverging in observations of children in their day-to-day environments. According to Piaget (1948), prosocial development follows a strict developmental sequence, with a gradual transition from one stage to the other, resulting in the second phase succeeding the first (Piaget, 1948).

Piaget (1948) demonstrated two explicit stages of moral judgement that differentiate from each other when the child reaches approximately seven years of age. *Objective responsibility* is the primary stage in which children judge an antisocial act in terms of the material damage caused. Leading on, at the secondary stage, *subjective responsibility*, the child will judge the act in terms of their perception of the intent behind the act. Piaget (1948) gathered empirical evidence with reports of young children demonstrating objective responsibility, and an absence of the phenomenon in older children. However, the theory lacked insight into factors responsible for the transition between the two stages and would hold more credibility if these were understood. Later, in dispute, Bandura and McDonald (1963) demonstrated that moral judgement responses are less age-specific than implied by Piaget and that objective and subjective responses existed concurrently in many children.

Kohlberg's Theory of Moral Development

Kohlberg's (1964) theory of moral development is also based on the earlier work of Piaget. This stage theory explains how cognitive development and relevant social experiences underlie the growth of moral or prosocial reasoning. This growth occurs through a predetermined sequence of three levels of morality, which children work through. Each level is composed of two moral stages and once a higher state of moral reasoning is attained, an individual will not regress to an earlier stage. Kohlberg's theory does acknowledge an environmental influence, though moral growth is to some extent predetermined and remains stable at each of the hypothetical levels.

While stage theories provide a generalised hypothesis of behavioural progression, they also tend to lack explanation of the reasons for social development. Research on stage theories has typically operated with small sample sizes that are under-representative of many groups (Bredemeier & Shields, 1984). Much of the testing employed young Western males and excluded gender, cultural, and ethnic representations, employing the notion that people are homogenous across demographic groups (Bredemeier & Shields, 1984). Freud (1948) and Piaget (1948) did not take into account relative or contextual factors in their research, and Kohlberg failed to extend the effects of current experience. Therefore, stage theories are useful approximations, rather than insightful theoretical paradigms.

2.2.2. Social Cognitive Theory – Reciprocal Determinism

Essentially, the framework that guides the present study is the social cognitive theory of moral thought and action (Bandura, 1986). Within this theory, Bandura (1986) acknowledged two

dimensions of moral behaviour, defined in terms of the consequences for others. Proactive morality is manifested when one engages in behaviours that benefit others (Bandura, 1999). Conversely, inhibitive morality is manifested when one refrains from engaging in behaviours that are detrimental to others (Bandura, 1999). The present study will look into proactive morality, also known as prosocial behavior.

In the 1970's developmental psychologists examined children's prosocial behaviour in relation to social learning and cognitive processes. There was specific interest in the link between prosocial behaviour and negative social behaviour. Personality theorists such as Rogers (1978) accounted for behaviour in terms of internal motives, with little regard for external motivation. In a similar way, psychologists with an interactionist perspective have recorded the person and environment in unidirectional relationships, where personality has an effect on the environment in a consistent manner (Allport, 1927). However, with the purpose of examining the behavioural link, social learning theory was proposed by Miller and Dollard (1941), and later Bandura (1986) took control with the aim of broadening the theory.

Bandura's (1977b) social learning theory has been highly influential in the field, and was built on earlier theories of social development. Behaviourist Skinner (1938) (operant conditioning), and social learning theorist Sears (1951) were influential at this time. In 1986, Bandura added a new cognitive element to the premise of his original learning theory. Bandura's (1986) basic premise is that rewards and punishment facilitate learning in an anticipatory manner. These consequences remind individuals of the benefits of positive behaviour and the costs of inappropriate behaviour. People do not only learn through reinforcement, but they also learn by imitating other people, or modelling, which has been used to explain the development of prosocial behaviour (Khan & Cangemi, 1979).

Social cognitive theory was criticised as stage theories became more prominent because of its lack of attention to the importance of age affecting changes in development. However, social cognitive theory is once more popular due to the inability of stage theories to adequately explain behavioural development.

Later Bandura (1991a) studied the attainment of moral behaviour through the processes of *differential reinforcement* (responses to a person's behaviour that increase or decrease the chances of recurrence) and *observational learning* (beliefs based on observing others). Social cognitive theory expounds that prosocial behaviour is developed as children grow older, as a result of behavioural modeling, or cognitive and emotional development (Bandura, 1991a).

Bandura (1991a) also found that it was not unusual for a person to display differences in moral behaviour across a range of situations.

Furthermore, social cognitive theory differs from stage theories in that there is no reliance upon time or age in explaining changes in prosocial behaviour (Bandura, 1991a). Stage theories also stress intra-individual variability with little regard for inter-individual differences, meaning all children are subject to the same developmental trajectory. On the other hand, social cognitive theory takes into account the variation between people, such as cultural diversity, which is likely to explain divergence in developmental pathways (Bandura & McDonald, 1963).

Human behaviour has often been explained as a fixed interaction in which environmental or internal factors influence or produce behaviour in a unidirectional manner (Scourfield, John, Martin, & McGuffin, 2004). Learning theorists such as Skinner (1978) suggested that behaviour was controlled by situational forces and that the environment was the instigating force, to be counteracted by the individual. The environment was defined as an autonomous force which shaped, controlled and determined behaviour.

Conversely, a social cognitive interpretation of human functioning assumes an interdependent cycle, rather than autonomous, and argues that behaviour is influenced both by external and internal stimuli. However, Bandura (1986) believed that social behaviour could not be fully understood in terms of exclusively

internal or external factors. A full understanding of behaviour requires an integrated perspective in which external influences operate through internal

mechanisms, to produce behavioural effects (Bandura, 1985). As shown in Figure 2, a reciprocal determinism outlook gives a dynamic interrelationship between the individual, their behaviour, and environment in which the behaviour occurs. Accordingly, our behaviour, environment, and cognition have an interactional influence on each other, allowing expectations, perceptions, and physical structures to influence and direct us.

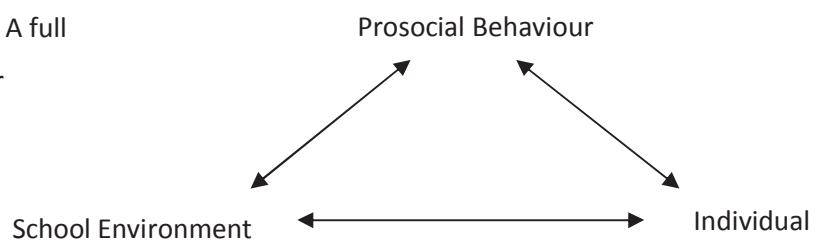


Figure 2. Hypothetical Model of Prosocial Behaviour

In this way, the interactive forces between a person, their behaviour, and their environment determine how an individual will think and behave in any given setting. Firstly, the Person–Environment interaction is concerned with personal characteristics (cognition), and external influences (Bandura, 1989). It describes how people adapt to social expectations through modelling and imitation. Secondly, the Person–Behaviour interaction involves thought, affect, and action. Essentially, an individual’s thoughts, beliefs, and feelings dictate their behaviour (Bandura, 1986). And thirdly, the Behaviour–Environment interaction is facilitated in everyday life because an individual’s behaviour alters their environmental conditions, and is in turn altered by the environment that it creates (Bandura, 1989). This connection implies that social behaviour is sensitive to external conditions. Therefore, people are both producers and products of their environment.

It follows then that prosocial behaviour is socially situated, and transpires in different ways depending on the situational conditions under which people transact their lives (Wang & Lin, 2007). This is an interactional perspective, where prosocial actions are the products of the reciprocal interplay of personal and social influences (Bandura, 1986). However, reciprocal causation does not require equal strength of influence from each source, nor do all influences occur simultaneously. By way of this model, Bandura (2001) maintained that the environment was a relevant source of experience, and essential in making connections between actions and outcomes.

According to social cognitive theory, children’s and adolescent’s prosocial behavior is influenced by the observations of parental relationship quality as well as friendship quality and behaviour of close friends (Bandura, 1991a). Bandura and McDonald (1963) also demonstrated how moral judgements of young children could be modified through specific training in social reinforcement with the use of modelling. Children have been shown to observe and directly imitate parental behaviour (Wang & Lin, 2007). Prosocial behaviour can also be reinforced in children through peer modelling, as shown by Radke-Yarrow, Zahn-Waxler, and Chapman (1983) who found that children who observed adults displaying behaviour such as sharing, helping, and sympathy, acted more often in these ways, after a two week period, than the control group. It has also been shown that children who witness charitable acts may become more prosocially inclined, possibly due to learning through observation (Shaffer, 2009).

In summary, social cognitive theory expounds a socially based development of prosocial behaviour. Firstly, prosocial behaviour is modelled by others. Young children begin to imitate

the behaviours they see around them. These behaviours are then externally rewarded or punished as a way of directing future behaviour. As children grow older, the theory of reciprocal determinism continues to dictate how earlier-learned prosocial behaviour is displayed (Bandura, 1986). From a reciprocal determinism point of view it is unlikely that a small change in one aspect of the triad would encourage immediate significant changes in behaviour. Behaviour is relatively stable, and is influenced multi-directionally over time as people are neither exclusively driven by inner forces, nor controlled by external stimuli; there is a complex interaction between the two (Bandura, 1986). Individuals function as contributors to their own behaviour within a system of interacting influences (Bandura, 1986). Following on, a change in physical environment could provoke changes in behaviour, though it is unlikely that significant behavioural changes would be seen due to the stability of behaviour over a short period of time.

Reviews have critiqued Bandura (1986; 1999) for being overly concerned with the influence of modelling without enough emphasis on punishment and reinforcement, which are the very basic tenets that he based his theory on. However, social cognitive theory has been identified as the most plausible theory for explaining why people display prosocial behaviour (Batson & Powell, 2003).

2.3. Environmental Influences

Around 1970 researchers began to investigate whether dispositional or situational factors were the best predictors of prosocial behaviour (Moore, Underwood, & Rosenhan, 1973). Developmental psychologists have traditionally argued in favour of behaviour influenced by situational factors, more than secure, internal influences such as personality (Batson, Darely, & Coke, 1978). Situational factors are the external circumstances or events that increase or decrease the likelihood that prosocial responses will occur (Eisenberg & Mussen, 1989). Children may be exposed to external stimuli that encourage positive behaviours, whereas other stimuli may repress these behaviours.

Very early on, Hartshorne, May, and Shuttlesworth (1930) incorrectly found that displays of prosocial behaviour in school children were specific to the situation those children were placed in, and that there was no consistency across behaviour. However, other reviewers came to the conclusion that the expectation of a personality trait to relate to behaviour across all situations was too simplistic, and situational variables appeared much more powerful in predicting prosocial behaviour than dispositional factors (Huston & Korte, 1976; Piliavin,

Dovidio, Gaertner, & Clark, 1981). Rushton (1980), using multiple measures, found better evidence of consistency across situations than had analyses based on individual measures. It was later found that there is great consistency in an individual's displays of prosocial behaviour and that dispositional and situational factors both effect cognition (Bandura, 1991a).

One of the major studies bringing attention to the influence of situational events on prosocial behaviour was that of Latane and Darley (1970). They postulated the 'bystander effect', in relation to the fatal stabbing of Kitty Genovese in 1964 witnessed by 40 bystanders. After studying this phenomenon, Latane and Darley (1970) formulated a theory regarding helping behaviours theorising that when there is an ambiguous chain of events, individuals are less likely to demonstrate prosocial behaviours if other people are around. People are also more likely to help those in need if there is no one else around, thereby describing prosocial behaviour as somewhat dictated by environmental influences.

Interestingly, Radke-Yarrow and Zahn-Vlarler (1984) tested toddlers aged 18 to 330 months old on their prosocial responses. After retest at seven years of age, two-thirds of the sample showed consistency in their category of response, presenting evidence for dispositional factors as motivators of prosocial behaviour. Following on, Staub (1974) compared psychometric measures and found that a dispositional measure was a reasonably good predictor of prosocial behaviour across several different other measures.

However, researchers have found that predictors of prosocial behaviour in one setting are not likely to account for the same amounts of variance in different settings and that prosocial behaviour may change depending on the environment (Levine, Martinez, Brase, & Sorenson, 1994; Omoto & Snyder, 1995; Rutten, Dekovic, Stams, Schuengel, Hoeksma, & Biesta, 2008). Thereby suggesting a situational determinant is present alongside prosocial behaviour. Early on, Latané and Darley (1970a) cited a study by Granet that demonstrated different forms of situational helping in airports compared to train stations. Later, Gillis and Hagan (1983) showed that people are more helpful in districts that are closer to where they live than they are in more remote regions.

Oliner and Oliner (1988) studied rescue operations for the Jews in Nazi Germany and found evidence of situational factors in predicting helping of others, such as how badly victims were hurt, and how risky it was to rescue them. Romer, Gruder, & Lizzardo, (1986) also believed in a disposition-situation interaction, as reported when they observed differences in behaviour

between emergency and non-emergency situations. Carlo, Eisenberg, Troyer, Switzer, and Speer (1991) argue for the power of dispositional factors as predictors only when situational pressure is weak, for example, during testing in a laboratory, where external, situational factors are absent. More recently, Lister (2007) investigated prosocial behaviour online compared to a face-to-face context. It was concluded that situational aspects do not exert the only influence over social behaviour, but certain characteristics are fostered in different environments (Waters, Cross, & Runions, 2009).

A neglect of focus on environmental interaction is apparent across social psychology, particularly when studying prosocial behaviour, where the concept of environment is inherently spatial (Dixon & Durrheim, 2000). According to reciprocal determinism, it is the environment, as well as an individual's perspective and thoughts that influence behaviour (Bandura, 1986). Individual cognition and behaviour are important determinants, and the present study is interested in the effect of changing the environment triadic element in order to determine the recurring effects on the behavioural elements. Therefore, the external environment is discussed further in terms of its researched effects on behaviour.

Environments contain different agents of socialisation, the major external or situational ones being parents, peers, teachers, siblings, and culture (Patterson, Reid, & Dishion, 1992). These environmental factors are seen to be the main determinants of social behaviour (Patterson et al., 1992). An educational environment contains many agents of socialisation and has a large influence on children and adolescents due to the amount of time spent in that environment. Within the school domain there are two main contexts that influence students. The benefits of both the classroom environment and the physical education environment have been studied.

Physical activity has been studied since the 1950's, compiling an overwhelming amount of scientific evidence on the positive effects of sport and physical activity on health and well-being (Bailey, 2006; Taylor, Sallis, & Needle, 1985; Vilhjalmsson & Thorlindsson, 1992). As well as the physical benefits, physical activity has mental and emotional benefits, and importantly, helps to develop social skills through interaction, collaboration, and communication (Kleiber & Roberts, 1981). In addition, time spent inside the classroom has many benefits for children. As well as the important academic lessons learnt, children develop important social skills in the classroom such as following rules, sharing, and giving positive feedback (Chan, Ramey, Ramey, Schmitt, 2000).

According to Bandura's (1986) theory of reciprocal determinism, social behaviour is not exclusively determined by internal or external factors of an individual. It is an interaction of the internal cognitive factors, and the external environmental factors that guides behaviour (Bandura, 1986). According to this theory, behaviour tends to be stable and changes do not usually occur simultaneously with a change in cognition or environment. Reciprocal determinism contradicts research, finding the changes in prosocial behaviour related to either situational or dispositional factors, thereby advocating an intricate effect of both in endorsing prosocial behaviour.

2.3.1. Schooling Environment

The classroom is one of two environmental contexts under examination in order to determine any reciprocal effects on perceived prosocial behaviour. The classroom environment is comparable around the world, generally consisting of a group of students and one or more teachers dedicated to learning (Trussell, 2008). For many children and adolescents, the classroom at school is a place to learn about the social-self and others by providing a consistent and balanced learning environment (Trussell, 2008). There are many benefits associated with classroom style learning including social and emotional encouragement (Trussell, 2008). Schools operate as a primary setting for the development and validation of social competencies (Rosenholz & Rosenholz, 1981).

Accordingly, social behaviour in the classroom has directed a lot of research, the majority limited to problem behaviours, mainly aggression (Thomas & Bierman, 2006). However, the study of positive social behaviour in the classroom has been gaining credit for over a decade (Howes, 2000). The main reason for this is that researchers have recognised the benefits of classroom learning, and the related benefits of studying prosocial behaviour in this context.

Adolescents are sensitive but respond well in an appropriate context, such as the classroom, which is designed to support adolescent development (Wentzel, 1994). In accordance, it was found that adolescents need to feel as though they belong in order to maintain a level of connectivity to the school, and to feel respected by others (Wilson, 2004). This type of school engagement is vital to a student's academic and social success (Van Acker & Wheby, 2000). It has been found that a school-based network of social support promotes positive academic outcomes and prevents negative psychological outcomes in adolescents (Garnefski & Dijkstra, 1996; Malecki & Demaray, 2007; Wang, Selman, Dishion, & Stormshak, 2010).

Unfortunately, much of this research on the classroom–behaviour link has drawn on the perceptions of teachers and parents in order to quantify children’s behaviour in the classroom (Alexander, Entwisle, & Dauber, 1993). There are benefits to an outsider’s perspective, though it is also important to draw on the individual’s perspective of their own behaviour in order to achieve reliability of the data (Alexander et al., 1993).

2.3.2. Physical Education Environment

The physical education setting is the other environmental context under examination in order to discover any multidirectional effects it has on an individual’s behaviour. Physical education is an enjoyable and essential aspect of the curriculum in New Zealand schools. ‘Sport’ is also referred to in literature as a part of physical education, being defined as a range of activities, processes, and relationships with physical, psychological, and sociological outcomes (Bailey, 2006). In the present research ‘sport’ and ‘P.E’ are used interchangeably. A physical education environment refers to the area of the school curriculum concerned with developing physical competence and confidence, and the ability to perform in a range of activities (Department for Education and Employment, 2000). This may come in the form of a designated room, gymnasium, court, field, or other outdoor space. For many children, physical education classes at school are the main environment for physical activity and the development of skills that accompany physical activity (Bailey, 2006).

There are many physical health benefits associated with playing sport, as well as advantages to one’s emotional wellbeing. The idea that physical education positively affects young people’s social development and prosocial behaviour goes back many years (Weiss & Bredemeier, 1990). The physical health benefits of physical activity are well established, for example, regular participation in sport is associated with a longer and better quality of life as well as psychological and emotional benefits (Sallis & Owen, 1999). Sport promotes inclusion, health, contributes to social and emotional wellbeing, and develops a sense of belonging (Donnelly & Coakley, 2007). Talbot (2001) claimed that physical education helped children to positively enhance self-confidence and self-esteem, as well as enhancing social and cognitive development and academic achievement.

In line with the present research, moral issues in sport have been an area of interest over the last 20 years (Shields & Bredemeier, 2001; Weiss & Smith, 2002). Advocates propose that sport is beneficial and essential to positive social development (Vilhjalmsson & Thorlindsson, 1992; Weiss & Bredemeier, 1990).

On the flip side, others believe that sport encourages negative social development (Batali, Zaxariadis, Adramerinos, & George, 2005). Accordingly, the literature on moral behaviour in sport has at times focused on the negative aspects of morality (Bredemeier et al., 1986; Kohn, 1992; Stephens, 2000). Though it is important to understand any undesirable effects of sport, it is also important to lend attention to the traditional purpose of sport as a means of developing positive social behaviours such as fairness and teamwork (Shields et al., 1995). Though there has been much investigation into the positive aspects of physical education, there has been little focus on its benefits for moral development (Weiss & Smith, 2002).

Although sport has involved negative connotations in a few studies, there is now fairly consistent evidence that physical activity can have a positive influence on behaviour (Shields & Bredemeier, 2001; Trudeau, & Shephard, 2008; Vilhjalmsson & Thorlindsson, 1992). Physical activity is thought to help develop moral character, though the mechanisms explaining these effects are still unclear (Shields, Bredemeier, Gardner, & Bostrom, 1995). Physical activity can reduce stress and depression, thereby decreasing negative thoughts and behaviours (Svoboda, 1994). Effects on behaviour may be due to the provision of opportunities to meet and communicate with other people, take different social roles, and learn social skills such as respect and cooperation (Svoboda, 1994).

Importantly, Bredemeier et al. (1986) found that moral decisions may be influenced by the context in which they occur. They believed that sport was a context distinct from everyday life and collected empirical support for the contention that moral behavior was less prosocial in a sporting context. This was due to the motivation in sport being more self-centered than in an everyday setting (Bredemeier et al., 1986). However, there is evidence that sport participation may be positively related to social behaviour (Weiss & Bredemeier, 1990). Numerous studies have demonstrated that appropriately structured physical activity can make a contribution to the development of prosocial behaviour by combating antisocial behaviours in youth (Morris, Sallybanks, Willis, & Makkai, 2003). Horrocks (1979) found a positive correlation between sport involvement and prosocial reasoning in school aged children.

To date, research into prosocial behaviour in sport extends to Bredemeier's (1986) investigation into the relationship between sport involvement and children's moral reasoning. Up until this point there was paucity in the research regarding the connection between sport and social development. Earlier, Romance (1984) found a low, negative correlation between length of sport participation and moral maturity. Similarly, basketball players were found to have lower moral reasoning than non-athletes (Bredemeier & Shields, 1984). Sport was

thought to have a negative influence on social development due to the intensification of conflict and aggression in a sporting environment (Giulianotti, 2004). Bredemeier, Weiss, Shields, and Cooper (1987) found that aggressive behaviour in sport may be learned. Specifically, young male sports-men were reported to learn aggressive acts during play through observation of more experienced players (Mugno & Feltz, 1985).

The research literature on the relationship between physical activity and social development is ambiguous. Prosocial behaviour has not always improved as a result of engagement in sport (Reddiford, 1981), and there is also evidence that, in some circumstances, negative behaviour is reinforced (Beller & Stoll, 1995). However, much of the research points to a link between physical activity and social development in children and adolescents.

2.4. Research on Prosocial Behaviour

2.4.1. Importance of Prosocial Development

Developmental psychology explores the pathways of social progress from childhood through adulthood. This exploration has provided a focus for research and lead to further interest in the development of positive social behaviours.

Positive social behaviour is a predictor of later academic, social, and emotional success. Healthy social development in young children correlates with healthy cognitive development and therefore creates a strong foundation for future school achievement (Ryan & Patrick, 2001). Young children who were socially competent were found to have a greater chance of achieving academic success in school (Roeser et al., 2000). Bandura, Barbaranelli, Caprara, & Pastorelli (1996a) found that early moral/prosocial behaviour was also effective in warding off depression and transgressive behaviour, and in promoting academic achievement. Correspondingly, one study showed that children who have a hard time getting along with classmates as early as preschool are more likely to experience later academic difficulties (Olson, 1992).

Accordingly, healthy peer relationships allow for better adjustment to school settings and challenges (Kupersmidt & Coie, 1990). This is due to a child's ability to interact with other children allowing them greater opportunity to develop speech and language skills (Wentzel, 1991). Then, as those communication skills improve, a child is even better able to relate to and

react to the people around them (Wentzel, 1991). Improved language skills and a stronger self esteem increase the ability to resolve conflicts and accept differences among peers (Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005). A positive attitude and prosocial behaviour ultimately lead to better relationships with others, and higher levels of self confidence (Barry & Wentzel, 2006).

Importantly, the use of prosocial behaviours has been shown to have positive psychological outcomes for children, including increased self-control, and coping skills (Eisenberg & Mussen, 1989). Most adolescents act in a prosocial manner by abiding by social norms in order to fit in (Hoffman, 2008). However, there are also adolescents who do not respect guidance, choosing instead to be involved with antisocial activities and behaviours (Gaik et al., 2010). Consequences for this negative behaviour may involve temporary removal from the situation, such as the classroom or sports team (Morris et al., 2003). If behaviour persists, more permanent measures may be taken, such as school expulsion, which often predicts further increases in negative behaviour (Morris et al., 2003).

For this reason, prosocial behaviour is essential in social development. When an adequate level of social functioning is not reached by adolescence, or when insufficient, negative, or antisocial behaviours are commonly displayed, it is likely that delinquency and criminality will result (Donnellan et al., 2005). Antisocial youth are at serious risk of a number of negative outcomes: school dropout, substance abuse, relationship issues, and higher hospitalization and mortality rates (Walker, Colvin, & Ramsey, 1995). Adolescents are an important group because they are more likely to rebel against normed behaviour, displaying detrimental conduct. This is endorsed by a steep incline in antisocial behaviour seen from age 7-17 (Loeber, Stouthamer-Loeber, Van Kammen, & Farrington, 1989).

Antisocial behaviour can have a debilitating effect upon communities by increasing fear and social withdrawal (Skogan, 1990). This can be seen as reluctance to become involved in community activities. There are many costs of victimisation to society including crime prevention, costs of a criminal justice system, and rehabilitation programmes for offenders and victims. The total cost of crime in New Zealand in 2003/04 was estimated at \$9.1 billion (Roper & Thompson, 2006). This was accounted for by 1,792,400 crimes (Roper & Thompson, 2006). As well as the financial cost, there are also personal costs such as; changes in human behaviour, residual effects for individuals, communities and taxpayers, and burden on the perpetrator, victims, and their families (Skogan, 1990). Negative effects include exclusion from school, eviction from their homes, losing contact with service providers, loss of job and

income, homelessness, and coming to the attention of the criminal justice system (Skogan, 1990).

Following this, several studies have suggested that antisocial behaviour can act as a catalyst for crime. Skogan's (1990) contagion theory, suggests that the presence of vandalism encourages others to act in the same way. This is supported by a study, which originally found that the presence of antisocial behaviour such as vandalism, lead directly to an increase in antisocial behaviour (Zimbardo, 1970). Therefore, engaging in antisocial behaviour has negative consequences for the individuals that elect to do so.

It can be seen that an appropriate development of prosocial behaviour is important for many reasons, largely to instil positive social behaviours which benefit the social experiences, and to discourage the negative social behaviours which can lead to many further harmful behaviour.

2.4.2. Measuring Prosocial Behaviour

Throughout the last decade, prosocial behaviour has been measured using five key methods. The following measurement methods are most commonly acknowledged throughout the literature as viable methods and are thought to produce the most accurate measures of prosocial behaviour.

Naturalistic observation occurs in natural environments. The researcher operationally defines the target then records all manifestations of the defined behaviours during a set period of time (Merrell, 2001). Data collection may involve tally counts, narratives, audio recordings, or video recordings. Observation is unobtrusive and does not interfere with participants, who may or may not know they are being observed (Merrell, 2001). Naturalistic observation has the advantages of; consistent measurement, cost effectiveness compared to lab research, allowing the study of those variables not able to be manipulated in a laboratory setting, and supporting external validity by allowing generalisation to a population (Rushton, 1984b). However, the disadvantages of naturalistic observation are that observers may draw differing conclusions, and participants may try to act in certain ways if they know they are being watched (Foster & Ritchey, 1979).

Situational judgement tests are administered in a controlled setting, designed to elicit certain responses in participants (Elliott, Stemler, Sternberg, Grigorenko, & Hoffman, 2011). For example, an actor will walk into a room, tripping over. Participant's prosocial behaviours are assessed in regards to the actor's fall. This type of testing is assumed to give an indication of a

participant's tendencies, but usually requires the support of correlation analysis (Elliot et al., 2011).

The ratings method is designed to assess a person on a continuum of behaviour from high to low. Child ratings are usually provided about children by a teacher or parents who know the child well and have observed their behaviour in a variety of settings (Gresham, 2000). This type of measurement is most successful in younger children, due to the rater accomplishing a higher level of contact with the child (Merrell, 2001).

Sociometric questionnaires are given to children in a group situation (classroom), and children are asked to rate their relationships with peers as well as their peers social behaviour (Hoffman, 1963; Hoffman & Saltzsein, 1967). This measurement method is particularly successful in primary schools, where children know each other well (Merrell, 2001). However, one apparent problem with this method is the halo effect, where children rate their friends or peers with inflated positive feedback (Ogilvy, 2000). Because of this sociometry is less stable in populations of children over 10 years of age (Ogilvy, 2000).

Self-report questionnaires are a commonly used measure, where the individuals rate their own performances or frequencies of prosocial behaviour (Eisenberg, Miller, Shell, McNalley & Shea, 1991 – adolescents; Rushton, Chrisjohn, & Fekken, 1981 - adults). Social desirability can become an issue with the use of self-report questionnaires (Ones, Viswesvaran, & Reiss, 1996). This is because prosocial behaviour is a highly valued concept and may elicit overly positive responses from those wanting to present a good image of themselves (Choshen-Hillel & Yaniv, 2011). This problem can be alleviated with the addition of anchor items and social desirability items used to monitor answering bias. The overriding advantage of self-report is that it allows the participant to give their own opinion of themselves, instead of a rater's opinion of them (Danielson & Phelps, 2003).

A major limitation of the current research into children and adolescents social behaviours is the tendency to rely upon the judgements of teachers and parents (Fagan & Fantuzzo, 1999). However, teachers and parents may be subject to bias, forgetting, and perception. When researching social behaviour, it is most thorough to rely on more than one method of measurement, of which self-report should be included (Kavussanu, Seal, & Phillips, 2006).

2.4.3. Forecasting Prosocial Behaviour

It is important that prosocial behaviour is developed in children and adolescents in order to combat any detrimental aspects of antisocial behaviour. All behaviours correlate positively or negatively to some degree. Those behaviours highly correlated with prosocial behaviour will predict it in the strongest way and are therefore investigated as predictors of prosocial behaviour. Behavioural predictions are important in a healthily functioning society, specifically to promote positive behaviours and discourage negative behaviours.

There is major interest in discovering the predictors of children's behavioural trajectories, with the goal of guiding progression in desirable directions (Hays, 1994). Knowledge of these predictors enables the promotion of socially valued pathways, from the people exerting an influence on a child's psychosocial development, and at the same time, ideally prevents detrimental displays of behaviour (Cairns, Cairns, Neckerman, Ferguson, & Gariépy, 1989). Some predictors of prosocial behaviour include gender, age, friendships, involvement in sport, living arrangements, and other displays of behaviour, such as aggression and empathy (Denham, McKinley, Couchoud, & Holt, 1990). In particular, gender has featured numerous times across the literature as a predictor of social behaviour (Bussey & Bandura, 1999).

Gender and Prosocial Behaviour

Gender differences in moral disengagement are correlated with age and are not as evident in the earlier years, but nearing adolescence, boys tend to disengage from moral behaviour more readily than girls do (Bussey & Bandura, 1999). There is consistency across the literature in the expectation that test scores become increasingly differentiated by gender as children grow older (Hays, 1994). This is supported by the finding that females, 12-17 years old, placed more importance on prosocial behaviour than males (Beutel & Johnson, 2004).

Adolescent females engage in prosocial behaviours more frequently than males (Fabes, Carlo, Kupanoff, & Laible, 1999), which is consistent in ratings across parents, teachers, and peers (Holmgren, Eisenberg, & Fabes, 1998; Stevenson, 1997).

Adolescent girls have been shown to exhibit higher moral reasoning than adolescent boys (Eisenberg, Carlo, Murphy, & Van Court, 1995; Eisenberg & Mussen 1989). Barry and Wentzel (2006) found childhood gender differences in prosocial behaviour, which were consistent with the differences found in early and middle childhood by Eisenberg & Mussen (1989). Eckel and Grossman (1998) also found that women, on average, are more likely to give to others and are

more generous than men. Additionally, observational studies have indicated that females are more likely to share and cooperate (Burford, Foley, Rollins, & Rosario, 1996).

Zimmer-Gembeck, Geiger, & Crick, (2005) found females to be more prosocial and preferred by peers than males. Females exhibit prosocial behaviour to a greater extent than boys do, as argued by Eisenberg and Fabes (1998) who found in a meta-analysis that females do tend to be slightly more prosocial than males. Females were reported to help, comfort, and share more than boys, though these differences were not large (Eisenberg et al., 2007). Many studies have found that gender differences in moral reasoning are small to nonexistent (Rest, 1979; Thoma, 1986; Twenge et al., 2007; Walker, 1984). A large portion of the variance in their analysis remained unexplained, and it was concluded that differences in kind and type of measurements had a bearing on gender differences (Eisenberg & Fabes, 1998).

Despite the prevailing view that females are more prosocial than males, the empirical evidence is equivocal (Moore & Eisenberg, 1984; Radke-Yarrow, ZahnWaxler, & Chapman, 1983). Various studies have found higher levels of prosocial behaviour emitted by females (Eisenberg et al., 2007). On the other hand, Eagly and Crowley (1986) conducted a meta-analysis of sex differences in helping behaviour, and found that men helped more than women. They concluded that sex differences in prosocial behaviour are inconsistent across studies and vary as a function of the qualities of the studies (Eagly & Crowley, 1986).

Though there are many studies advocating gender differences in prosocial behaviour, the majority of meta-analysis research has found that gender, as a predictor of prosocial behaviour, does not have determined effects. Typically, gender stereotypes have led the research (Eagly, 2009). Gender differences may exist due to the type of measurement used, the specific dimension of prosocial behaviour being measured, or the context in which behaviour is measured (Eagly, 2009). All things considered, the effects of gender on prosocial behaviour need to be considered in the situation in which they are measured.

2.5. Predictors of Prosocial Behaviour

2.5.1. Self-Efficacy

Self-efficacy is also a recognised predictor of prosocial behaviour. Fogle, Huebner, and Laughlin (2002) defined self-efficacy as “an individual’s judgement about how effectively he or she will be able to deal with social tasks in the future” p376. Self-efficacy is the belief of one’s

capabilities to exercise control over their level of functioning and the events that may affect them (Bandura, 1991b).

Importantly, one's self-efficacy beliefs influence perceived causes of success and failure (Bandura, 1991b). Specifically, they are judgments about how effectively a person believes they are able at meeting goals or coping with challenges (Di Giunta, Eisenberg, Kupfer, Steca, Tramontano, & Caprara, 2010). Efficacy beliefs influence the type of activities and environments individuals choose to be involved in. Self-efficacy beliefs arise from an individual's history of achievement in specific areas, and from observing other's accomplishments, (Grusec, 1992). It is these social influences operating within environments that promote certain competencies, ideals, and interests (Bandura, 2001). Developmental studies show that a high sense of self-efficacy promotes a prosocial orientation (Bandura, 1993, Bandura et al., 2001).

Bandura, Pastorelli, Barbaranelli, & Capara (1999) acknowledged two dimensions of self-efficacy; social self-efficacy and academic self-efficacy. Social self-efficacy is the belief that one has the ability to engage in the social interactions necessary to initiate and maintain interpersonal relationships (Smith & Betz, 2000). Academic self-efficacy is the confidence in one's ability to successfully engage in and complete specific academic tasks or meet an academic standard (Bandura et al., 1999). Academic-efficacy fosters engagement in academic pursuits, as well as involvement in a wide range of prosocial activities. A secure sense of academic self-efficacy promotes academic achievement and prosocial relations and reduces involvement in problem behaviour (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996b). A strong sense of social efficacy reduces vulnerability to depression by fostering social relationships and restricting problem behaviour.

Self-efficacy theory has directed and influenced research in a variety of domains, including academic achievement, and athletic performance. Self-efficacy is especially prominent in social cognitive theory where it is learned and reinforced through modelling and mastery, as well as success (Bandura, 1993). Social cognitive theory dictates that people develop domain-specific beliefs about their own abilities, which guide their behaviour by determining what they try to achieve and how much effort they need to put into their performance (Bandura 1977b). As a result, self-efficacy impacts on an individual's performance and achievement in various tasks (Bandura, 1993).

In the conceptual model (Figure 3) derived from Bandura et al. (1999), academic efficacy and social efficacy are predicted to contribute to prosocial behaviour, counteract depression, and to counteract problem behaviour. Perceived self-efficacy was seen to affect problem behaviours and depression, both directly and through its effects on prosocial behaviour and engagement in problem behaviour. The model articulates that children with high academic efficacy should be less vulnerable to depression because they anticipate fewer academic stressors and substandard performance (Bandura et al., 1999). Bandura et al. (1999) further expanded the model to include academic achievement as a factor though this was outside the scope of the current research.

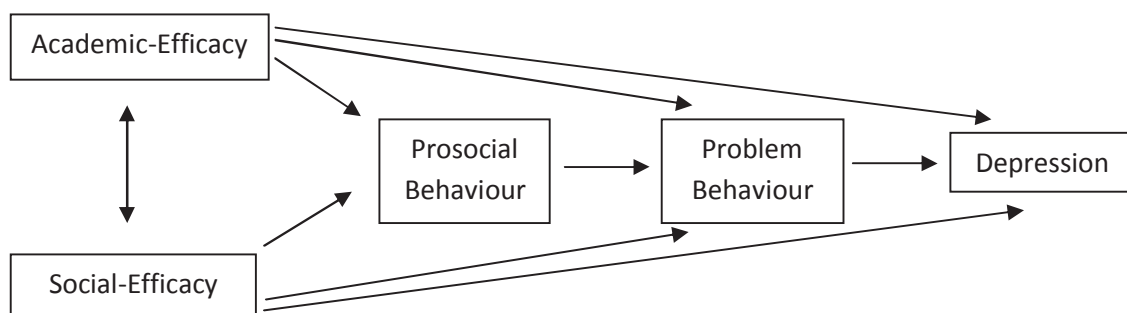


Figure 3. Conceptual Model of the Effects of Efficacy on Prosocial Behaviour derived from Bandura et al., (1999).

2.5.2. Altruism

‘Altruism’ comes from the Latin word “alter” meaning ‘the other’ (Kakavoulis, 1998). Altruism was first introduced on a philosophical level by August Comte (1798-1857), and used by Comte to describe a devotion to the interest of others. It was later picked up as a psychological concept and studied by social psychologists, such as Latane and Darley (1970) and Aronfreed (1970).

Altruism is any voluntary action that has an intended benefit for another person, and is not performed with the expectation of reward or avoidance of adverse stimuli or punishment (Eisenberg & Miller, 1987). Hay and Rheingold (1983) reviewed children’s altruistic behaviour and operationally defined children’s altruism to include displays of friendliness and affection, sharing objects and experiences, caring, cooperating, and complying with requests, comforting people in distress, and helping adults to complete their work. Many expressions have been

used in the research in order to operationally define altruistic behaviour. Concepts such as beneficence, compassion, charity, benevolence, and selflessness have been used interchangeably to relate to the idea of altruism (Visser & Roelofs, 2011). The central issue surrounding altruism and similar concepts is that of a balance between an individual's self-regard and their regard for others (Franke, Miller, & Jefferey, 1993).

Altruism has at times been defined as a dimension of prosocial behaviour (Eisenberg & Fabes, 1998). However, altruism and prosocial behaviour are traditionally defined in terms of their different motivators, and are therefore related concepts but different behaviours (Eisenberg & Miller, 1987). Altruism and prosocial behaviour are both voluntary, helping behaviours but altruism is intrinsically motivated. Altruism is motivated by internal motives, as opposed to prosocial behaviour, which is motivated by personal gain. Another difference resides in the existence of altruism as a moral behaviour, whereas prosocial behaviour may be motivated by non-moral circumstances (Eisenberg, 1982). Altruism and prosocial behaviour are highly linked constructs and have been shown to correlate strongly, and predict one another across research (Batson & Powell, 2003).

Social behaviour and the influence of multiple demographic variables are present in research on altruism. Eisenberg (1992) found altruistic children to have good coping skills and be well adjusted. Importantly, females have shown to be more altruistic than males (Andreoni & Vesterlund, 2001), perhaps due to the social expectations surrounding each gender, and reflective of the gender roles and characteristics (Kakavoulis, 1998). On the contrary, Eisenberg et al. (2002) found that demographic variables such as gender, socioeconomic status, and birth order may not have an effect on altruistic behaviour and that individual differences in displaying altruistic behaviour appear stable over time.

2.5.3. Empathy

Empathy is another commonly used predictor of prosocial behaviour. The psychological construct of empathy elicits a number of definitions in the literature. Originally, empathy was defined in the German language – “Einfuhling” (Titchener, 1924). Originally, the ability to discern others' internal states was termed sympathy (Mead, 1934). Later, empathy was defined in cognitive terms, as the ability to comprehend the affective or cognitive status of another (Deutsch & Madle, 1975; Hogan, 1969).

Empathy refers to the responses of one individual to the observed experiences of another and involves both cognitive and affective components (Davis, 1983). Hoffman (2008) maintained

that empathy makes human social life possible. Broadly speaking, empathy is an emotional response to another person. Researchers have defined empathy as a person's ability to match another's affective state (Feshbach & Roe, 1968; Stotland, 1969). Empathy has also been defined as a concern for another's position, or, presenting a response congruent with the other's well being (Batson & Coke, 1981). The term empathy has also been used to refer to a combination of emotional matching and sympathetic responding (Hoffman, 2001; Mehrabian & Epstein, 1972).

The idea that empathy or sympathy is a major determinant of prosocial and altruistic responding has been widely accepted among psychologists (Aronfreed, 1970; Batson & Coke, 1981; Rushton, 1980; Staub, 1978). Commonly, there has been a distinction made between the ability to identify other's emotional states (affective empathy) and the ability to understand other's perspectives (cognitive empathy) (Underwood & Moore, 1982). Developmental and social psychologists currently define empathy in more affective terms (Miller & Eisenberg, 1988). For example, Hoffman (2000) defined empathy as "feelings that are more congruent with another's situation than with one's own situation" p30. This is a definition of affective empathy rather than cognitive empathy. In the present study it is affective empathy that is being measured.

Affective empathy has been linked positively to prosocial behaviour (Eisenberg & Miller, 1987). Individuals high in empathy are more likely to attend to others' needs and feelings and therefore more likely to behave prosocially and refrain from behaving aggressively toward others (Eisenberg, Spinrad, & Sadovsky, 2006). Therefore, it is plausible to assume that empathy predicts prosocial behaviour, but supporting evidence is scarce.

Lovett and Sheffield (2007) found that empathy was an important motivator of prosocial behaviour in children and adults though a characteristic found to be deficient in aggressive youth. This may be due to most empirical evidence being derived from adult samples (Barnett, Thompson, & Pfeifer, 1985; Underwood & Moore, 1982). Preston and de Waal (2002) found that the tendency to display empathetic behaviour is variable, and concluded it was likely to be predictive of other characteristics. A positive correlation was seen between empathy and aggression in children, but interestingly this was only apparent in males not females (Feshbach & Feshbach, 1972). Empathy is an important predictor in the extensive research on altruism and aggression.

2.5.4. Aggression

As has been reviewed, prosocial behavior predicts some positive social behaviour, but it has also been shown to predict negative social behavior, specifically aggression. Aggression is a widely acknowledged problem in society and is frequently observed both in sport and daily life (Keeler, 2007). Aggression is defined as behaviour that is intended to cause harm or pain to another person (verbally or physically) or to damage the physical environment, or objects and living beings in the environment (Atkinson, Atkinson, Smith, & Bem, 1993; Anderson & Bushman, 2002).

Baron and Richardson (1994) define human aggression as ‘any form of behaviour directed toward the goal of harming or injuring another living being who is motivated to avoid such treatment’ (p7). The use of this definition in sport research is problematic because behaviours that are integral to competitive success would be described as harmful or injurious (rendering an opponent unconscious in boxing, or tackling an opponent in rugby). An alternative definition was adopted by Maxwell (2004) who operationally defined *aggression in sport* as any intentional behaviour, not recognised as legal within the official rules of conduct, directed towards an opponent, official, team-mate or spectator who is motivated to avoid such behaviour’. This definition was adopted in the present research.

Researchers have taken a specific interest in aggressive behavior in sport, school, and daily life (Keeler, 2007). As a result of the research, aggression has been divided into two dimensions, reactive and instrumental. Reactive aggression is often referred to as overt aggression and includes direct verbal and physical aggression towards another individual (Isberg, 2000). Whereas instrumental aggression is often referred to as relational aggression, encompassing the more subtle acts of aggression, such as exclusion of others or spreading rumours (La Fontana & Cillessen, 2002; Rose, Swenson, & Waller, 2004).

According to a social cognitive perspective on aggression, children who observe aggressive adults weaken their aggressive inhibitions, due to a belief that the behaviour is acceptable (Bandura, Ross, & Ross, 1961). Those children are also more likely to respond aggressively in the future to situations similar to those they have observed (Bandura et al., 1961). They also postulated that society supports higher levels of aggression in males but expects females to be less confident in expressing aggression. Boys have also been seen to display aggressive behaviour more frequently than girls (Cairns et al., 1989). Aggression predicts prosocial behaviour at all ages, though it has been seen to increase sharply at two developmental

points; firstly at age four, where gender differences begin to appear, and then at the onset of adolescence, around age eleven (Cairns et al., 1989).

Prosocial behaviour has specifically been directly linked to aggression through moral disengagement (Bandura, Caprara, Barbaranelli, Pastorelli, & Regalia, 2001). Moral disengagement is the theory of moral disengagement is defined as “selectively disengaging one’s moral prohibitions against negative or destructive behaviour” p52 (Bachman & Alvarez, 2007). Moral disengagement appears to mediate a negative relationship between prosocial behaviour and aggression (Bandura et al., 2001).

Aggressive behaviours also create discord within home and school settings. Childhood aggression is the best known behavioural predictor of future social adjustment issues (Coie, Dodge, & Kupersmidt, 1990). Children deemed aggressive are more likely to commit criminal acts, engage in domestic violence, and abuse alcohol by the time they reach adulthood (Olweus, 1993; Zarzour, 1994). Interestingly, the effects of aggression are similar for both those who aggress and their victims, who are more likely to have low self-esteem and become depressed (Austin & Joseph, 1996; Horne, Glaser, & Sayger, 1994). Children who show aggression tend to be disliked and rejected by peers (Newcomb, Bukowski, & Pattee, 1993).

The highest levels of aggression have been found in sporting contexts, implying a causative relationship between sport and aggression (Endresen & Olweus, 2005). A number of authors have noted that aggression and violence are serious problems in sport (Conroy, Silva, Newcomer, Walker, & Johnson, 2001; Stephens, 2000), particularly contact sports such as ice hockey (Worrell & Harris, 1986).

Summary

The literature on prosocial behaviour spans across many different areas in psychology. However, where specific information is required, the literature is somewhat lacking. Specifically, research into the effect of the environment on social behaviours is deficient, as well as examination of adolescents, who are at a crucial social stage. For these reasons, the present research has a contextual focus on the social behaviour of adolescents in a wider education environment.

2.6. Research Questions

1. What are the observed influences of environmental context on self-perceived (a) prosocial behaviour and (b) aggression?
2. What is the viability of developing two new measures for use in prosocial behaviour research?
3. What are the strongest predictors of (a) prosocial behaviour in the classroom and prosocial behaviour in physical education and (b) self-efficacy predictors in the classroom?
4. Are gender differences apparent in the relationship between (a) prosocial behaviour and (b) aggression in classroom and physical education contexts?

3. Methodology

3.1. Participants

The participants in the current study were 175 Auckland intermediate school students. The school was recruited via visitation, and a formal introduction to the research. The letter introduced the research and researcher, and the school was asked to make contact if they were interested in research participation. Two intermediate schools in the greater Auckland area were approached and one declined to participate in the research. A follow up meeting was arranged with the principal and the director of research at the participating school. The participating school is domiciled on the North Shore of Auckland, and the majority of those enrolled lived in the North Shore area. The school is comprised of students in years 7 and 8 and is a co-educational state school.

The participating school was a decile 10 school, referring to the relatively low proportion (<10%) of the students enrolled who came from a low socio-economic community. The majority of students enrolled in the school came from higher socio-economic areas.

Of the initial 212 participants, 37 supplied incomplete responses or had failed to complete all of the measures. The final sample consisted of 175 participants.

As shown in Table 1 the final research sample had a mean age of 11.8 ($M= 11.8, S.D= .66$). There were slightly more year 7 students than year 8 students, with similar numbers of males and females. The majority of the sample spoke English as their first language, played sport outside of school, and indicated that they lived with both parents the majority of the time.

	N	%
11 Year Olds	57	32.6
12 Year Olds	93	53.1
13 Year Olds	25	14.3
Year 7	100	57.1
Year 8	75	42.9
Female	89	50.9
Male	86	49.1
English as First Language	146	83.4
Play Sport	148	84.6
Living with Both Parents	142	81.1

Table 1. Means and Percentages of Demographic Variables

3.2. Measures

3.2.1. Sport Behaviour Scale

This Sport Behaviour Scale (SBS) was adapted from both the Prosocial and Antisocial Behaviour in Sport Scale (PABSS) and the Bredemeier Athletic Aggression Inventory (BAAGI-S). The SBS was developed for use in the present research by utilising the two self-report scales referred to above (PABSS and BAAGI-S). The SBS measures three constructs in adolescents; antisocial behaviour, prosocial behaviour, and aggression. Scale length had to be minimised due to the age of the participants, resulting in a need to combine the two original scales.

Prosocial and Antisocial Behaviour in Sport Scale - Kavussanu & Boardley (2009)

The PABSS has been employed across various research (Kavussanu & Boardley, 2009; Boardley & Kavussanu, 2010). It consists of 20 items that report responses on how often an athlete has engaged in the specified behaviours in a group environment.

Responses are recorded on a five-point Likert Scale ranging from 1 (never) to 5 (very often). Participant scores on subscales are summed and averaged to provide a score for prosocial behaviour and a score for antisocial behaviour. The PABSS contains two subscales; 'prosocial behaviour' (7 items) and 'antisocial behaviour' (13 items). Factor analysis has revealed two factors reflecting prosocial and antisocial behaviour (Kavussanu & Boardley, 2009). The prosocial subscale has an internal consistency of $\alpha = 0.74$, and the antisocial subscale shows an internal consistency of $\alpha = 0.86$ (Kavussanu & Boardley, 2009).

Bredemeier Athletic Aggression Inventory (Short) – Loughhead and Leith (2001)

The original Bredemeier Athletic Aggression Inventory (Bredemeier, 1975) measured self-reported aggression in sport. Wall and Gruber (1986) condensed the original 200 item scale into a 30 item short form (BAAGI-S). Loughhead and Leith (2001) further condensed the scale into 12 items, including 6 items measuring instrumental (trait) aggression and 6 items measuring reactive (state) aggression. Reactive aggression has the primary goal of inflicting injury, whereas instrumental aggression has the primary goal of attaining a reward (Isberg, 2000). Responses of the BAAGI-S are recorded on a four-point Likert scale ranging from 1 (strong agreement) to 4 (strong disagreement).

The BAAGI-S has been widely used, and found to have adequate levels of reliability with a two-factor structure (Chantal, Robin, Vernat, & Bernache-Assollant, 2005; Isberg, 2000). The reactive subscale was found to have a higher internal reliability ($r = 0.82$) than the

instrumental subscale ($r = 0.68$), which has shown some inconsistencies (Chantal et al., 2005; Mintah et al., 1999). Factor loadings have been found to represent the elements of anger, hostility, and frustration (Wall & Gruber, 1986).

Sport Behaviour Scale (The New Scale)

The Sport Behaviour Scale (SBS) was developed in the present research, derived from the PABSS and the BAAGI-S (discussed above). All 20 items from the original PABSS were included in the SBS, as well as all 12 items from Loughhead and Leith's (2001) BAAGI-S, resulting in a 32 item scale. PABSS items were incorporated, due to their reported reliability, in order to accurately measure prosocial behaviour as a construct. It was important to include all items in order to preserve the reliability of the original measures. The 12-item short version of the BAAGI-S was also employed in order to reliably capture aggression without the use of lengthy questionnaires. The time frame for collection was constrained by the 45 minute school periods, dictating that measures were clear and concise to ensure all participants received adequate time to finish. Appropriate measures did not exist prior to the present research; therefore it was necessary to design the new measure to capture prosocial behaviour and aggression in a physical education context.

The SBS utilised a five-point Likert scale, from 1 (never) to 5 (very often). This was in alignment with the scoring on the PABSS. A five-point Likert scale is also consistent with previous research tools evaluating prosocial behaviour (Miller, Roberts, & Ommundsen, 2003; Kavussanu & Roberts, 2001). Scoring resulted in three subscale scores each measuring the separate constructs. There was no overall score on the measure due to the different constructs being measured. Two of the aggression items (SQ27 and SQ28) were worded positively, requiring score reversal. This was to eliminate answering effects and hold the participants attention whilst answering the questions.

3.2.2. Classroom Behaviour Scale

The Classroom Behaviour Scale (CBS) was derived from the Sport Behaviour Scale (developed in the present research) and is similarly adapted from the Prosocial and Antisocial Behaviour in Sport Scale and the Bredemeier Athletic Aggression Inventory Short.

The CBS consists of 26 items, developed from items in the SBS. Seventeen of these items were developed from the PABSS and nine from the BAAGI-S. Anchor items (23) were used to establish consistency of measurement between the two newly developed measures (SBS and CBS). Items were taken from the SBS (all items excluding SQ6, SQ15, SQ16, SQ17, SQ18, SQ23,

SQ24, SQ27, SQ30) to make the CBS (all items excluding CQ6, CQ15, CQ24). Not all of the 26 items were able to be worded effectively as anchor items, though 23 of the CBS items relate directly to items in the SBS in order to make accurate comparisons between the two measures.

Items were compared across measures by way of reliability analysis, showing that the items were referencing the same construct across environments. Items were carefully reworded for applicability in the classroom. For example, “I encourage my teammates” became “I encourage my classmates”. However, not all of the 32 items from the SBS were able to be reworded from the physical education perspective to a classroom perspective; therefore, only 26 applicable items were taken.

Responses were recorded on a five-point Likert scale ranging from 1 (never) to 5 (very often). The CBS was derived from the SBS due to the need for a classroom specific measure on prosocial behaviour and aggression. Measures exist for these constructs, but without relation to measurement in a physical education environment. These constructs are able to be measured using existing scales, though no specific scale exists for measurement in a physical education environment.

As mentioned above, the internal consistencies of subscales in the original measures (PABSS and BAAGI-S) were very high ($\alpha = .80$ and higher), except for the instrumental aggression subscale in the BAAGI-S, which was adequate ($\alpha = .68$) (Chantal et al., 2005; Kavussanu & Boardley 2009; Wall & Gruber, 1986).

3.2.3. Index of Empathy for children and adults – Bryant (1982)

Bryant (1982) developed the Index of Empathy for children and adolescents. The Index of Empathy (IOE) was based on the Emotional Empathy measure developed by Mehrabian and Epstein (1972), which was used to measure empathy in an adult population. Bryant’s IOE allowed assessment of children and adolescents, and is now a widely used self-report measure of affective empathy.

For younger children, under 10 years, a dichotomous ‘true’ or ‘false’ scoring system is used. For older children, a nine-point Likert, from -4 to +4, or a five-point Likert scale may be used. In the present study the five-point Likert scale was adopted, to ensure scoring was not confusing and remained consistent across data collection. The five-point Likert ranged from 1 (not at all like me) to 5 (very much like me), with higher scores indicative of higher levels of reported empathy. Negative items (CQ22, CQ23, CQ28, CQ29, CQ34, CQ35, CQ36, CQ38,

CQ39, CQ40) were reverse scored, followed by the summing of all items to obtain an overall score of empathy.

The original IOE consisted of 22 items. In the present study items 4 and 18 were removed as previous research suggested they were poor indicators of empathy (de Weid et al., 2007). The measure used in the present study comprised 20 items (see Appendix x). Example items are “I get upset when I see a girl being hurt” and “People who kiss and hug in public are silly”.

Bryant’s measure had acceptable test-retest reliability and convergent validity (Cohen & Strayer, 1996). Bryant (1982) reported coefficient alphas ($\alpha = .68$) for 10 year olds, and ($\alpha = .79$) for 14 year olds. However, Bryant (1982) failed to undertake factor analysis on the measure. Del Barrio, Aluja, & Garcia (2004) later analysed the IOE and found a three-factor structure to have adequate reliability ($\alpha = .77$) when testing 832 adolescent boys ($M = 14.4$). Though a reliable three-factor structure has been found, the measure is more commonly used to measure empathy as a single factor.

3.2.4. Altruistic Behaviour Questionnaire – Leontopoulou (2010)

The Altruistic Behaviour Questionnaire (ABQ) was developed for the purpose of measuring self-reported altruistic behaviour in children. The ABQ is a relatively new measure developed by Leontopoulou (2010), and based on the work of Kakavoulis (1998). It identifies four dimensions that Leontopoulou (2010) believed were the central concepts of altruism. The ABQ is based around these four dimensions of altruism, which comprised the four subscales; sharing, helping, cooperating, and comforting (Leontopoulou, 2010). It is specifically designed for use in a school environment, which is important in the present research to ensure reliability of measurement.

The measure consisted of 20 items, with each subscale comprised of five questions, related to altruistic acts displayed by the participant. Items were scored on a four-point Likert scale from 1 (almost never) to 4 (always). All of the questions were positively framed so that a high overall score on the scale indicated high reports of altruistic behaviour. The ABQ contained items such as “Do you offer your seat to an adult at a school function?” and “Do you help a classmate when he/she has trouble with an exercise?”

Leontopoulou (2010) administered the ABQ on a sample of 232 nine to eleven year olds in a classroom environment. An internal consistency was found ($\alpha = .78$), with individual items ranging from ($\alpha = .75$) to ($\alpha = .80$). The researchers also used factor analysis to show that the

ABQ had adequate construct validity with four factors, indicative of the four subscales (Leontopoulou, 2010).

3.2.5. Self-Efficacy Questionnaire for children – Muris (2001)

Muris (2001) developed the Self-Efficacy Questionnaire for Children (SEQ-C), based on the work of Bandura, Pastorelli, Barbaranelli, and Caprara (1999). The SEQ-C contains three subscales measuring social self-efficacy, academic self-efficacy, and emotional self-efficacy. Each subscale is comprised of eight questions, with items dispersed throughout the questionnaire. Subscales can be used to independently measure one of the three types of self-efficacy, or a total score of perceived self-efficacy is obtained by summing across all questionnaire items (Muris, 2001). Muris' (2001) questionnaire is a self-report measure containing 24 items designed to measure the level of self-efficacy an individual believes they display. The items are scored on a five-point Likert scale of how well a sentence describes a participant, with anchors ranging from 1 (not at all) to 5 (very well).

The SEQ-C was administered in the classroom as a global measure of self-efficacy. In the present investigation the SEQ-C was modified to suit the participants, with the extraction of one subscale. The measure required conciseness in order to keep within time constraints when administered alongside lengthy questionnaires. The 'emotional self-efficacy' subscale was extracted in order to test the Bandura et al. (1999) theory of the effects of efficacy on prosocial behaviour.

Bandura et al. (1999) examined three types of self-efficacy in their research; social efficacy, academic efficacy, and self-regulatory efficacy. After factor analysis, self-regulatory efficacy explained an insignificant amount of variance compared to other self-efficacy, and was the least reliable of the three factors, so was therefore discounted from that research (Bandura et al., 1999). In the same vein, emotional self-efficacy was removed in the present study in order to test the two more commonly used self-efficacy factors (Bandura et al., 1999; Smith & Betz, 2000). Academic-Efficacy was incorporated due to the educational nature of the present research, and Social-Efficacy was included due to the focus on social behaviour. This was also consistent with the model from which the research question was based.

Essentially, this meant that only the relative subscales 'academic' and 'social' were assessed. Academic self-efficacy and social self-efficacy scores were obtained by summing items across each independent subscale, then a total score calculated by summing across the two subscales. The revised scale comprised 16 items, such as "How well can you become friends

with other children?” and “How well can you tell other children that they are doing something that you don’t like?”

The SEQ-C has been found to have strong internal reliability in adolescent populations ($\alpha = .88$) for overall self-efficacy, ($\alpha = .85$) for social self-efficacy, and ($\alpha = 0.88$) for academic self-efficacy (Muris, 2001; Muris, 2002). Suldo and Shaffer (2007) also found a satisfying internal consistency of ($\alpha = .79$) in overall self-efficacy. Muris (2001) completed a factor analysis on the SEQ-C to reveal three factors, in keeping with the three subscales. Due to the removal of one subscale in the present research, the measure was intended to assess social self-efficacy and academic self-efficacy.

3.2.6. Demographic Questionnaire

Demographic information on participants was gathered using a questionnaire designed by the researcher. General information was collected from the students, such as their name, school class, age, gender, and school year, followed by questions on living arrangements, first language, and sport played. The questionnaire consisted of nine items with a mix of open ended questions and dichotomous questions. The questions were formulated in order to gather basic information on the demographic variables of the participants, and to record names of participants for subsequent matching of data sets. Following data collection, the demographic questionnaire was detached from the residual participant answer sets to ensure confidentiality.

3.3. Procedure

The Massey University Human Ethics Committee: Northern was approached for ethical approval and the project was approved in May 2012.

Two intermediate schools throughout the Auckland area were approached to take part in this research. One school did not reply to invitations to take part in the research. In consultation with the participating school, it was decided that data collection would take place over four days. The school dedicated a sub-section of the school (a mini-school) to be targeted. The school opted for participation to take place in respective class areas. Data was gathered in both the classroom and physical education domains (see Table 2).

Parents were contacted regarding the recruitment of students in the study. An information sheet (Appendix A) was sent home, as well as an opt-out form (Appendix B). Students who were not opted-out of the research by their parents were then approached and invited to

participate in the research. An information sheet (Appendix C) and an opt-in form (Appendix D) were provided and participation was indicated through signature.

Students were instructed in writing, and reminded verbally that participation was not compulsory, that they could withdraw from participating at any time, and their data would be viewed only by the researcher.

The measures were group-administered and students who elected not to participate were instructed elsewhere by a teacher. Students placed their completed questionnaires in a box. The questionnaires were not viewed by staff or other students and were taken away immediately by the researcher to ensure anonymity.

3.4. Research Design

The cross-sectional study examined prosocial behaviour in context specific environments, along with the predictors of prosocial behaviour. As shown in Table 2, self-report surveys were utilised for the collection of demographic and quantitative data on self-efficacy, altruistic behaviour, empathy, antisocial behaviour, and aggression in intermediate-school aged children. It was not feasible to administer all of the measures in each context due to time constraints, so they were divided across contexts.

	Sport Behaviour Scale	Classroom Behaviour Scale	Index of Empathy	Altruistic Behaviour Questionnaire	Self-Efficacy Questionnaire	Demographic Questionnaire
Administered in Classroom		X	X	X	X	
Administered in P.E	X					X

Table 2. Questionnaire Administration

Reliability

Cronbach's alpha (1951) was used to examine reliability on all scales, as well as the reliability on each individual item. This allowed for identification and removal of items that were decreasing the consistency of measurement in any given scale. Anchor item reliability was tested by comparing the total score of alpha items on one measure to the total score of alpha

items on another measure through correlation. Then, the anchor item scores on one measure were correlated with the scores on the rest of the items in that measure. Alpha items were used between measures in order to establish the equivalence of test scores over alternate forms of the test, showing that scores on each measure are able to be compared for validation of behaviours. Correlating total anchor items across measures allows analysis of how similar the measures are.

Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) was employed for each proposed measurement model using AMOS (IBM Corp, 2010). CFA allowed testing of the relationships between their indicators and the latent constructs they purport to represent (Kline, 1994). Each scale represented a latent variable, and each item was an indicator variable. Whereby, the proposed model accounted for correlations between the variables in the dataset. If the proposed correlations of the model account for the correlations in the data then there is good fit of the model to the data. The minimum fit chi-square (χ^2) statistic endeavoured to determine if the covariance matrix implied by the data was close enough to the sample covariance matrix. This was used to examine the relationship between variables and the set of factors accounting for them. Firstly, the models were specified according to prior testing of each measure. Then, estimates, factor loadings, and residuals were able to be examined.

A well fitting model is indicated by a non-significant chi-square, which signifies a rejection of the null hypothesis. When the null hypothesis is rejected, there is evidence that there may be differences in the population means, and one variable may predict the other. However, chi-square is highly dependent on sample size, so it is important to supplement the analyses with fit indices (Hu & Bentler, 1999).

Evaluating the goodness of fit is crucial to CFA and, to support the testing of means, different fit indices are available for use, some more applicable than others depending on the sample. Fit indices were selected in the present research based on suitability, in regards to the information presented by participants. Those used include the Tucker-Lewis Index (TLI), which ranges from 0 to 1, with an acceptable fit demonstrated by values of 0.90 and above (Bentler & Bonett, 1980). The Comparative Fit Index (CFI), as suggested by Ullman (2006), which has values that sit between 0 and 1, and indicates acceptable fit of a model if above 0.90 (Bentler, 1990). And the Root Mean Square Error of Approximation (RMSEA), which indicates the ability of a model to fit the population's covariance matrix (Hooper, Coughlan, & Mullen, 2008).

The RMSEA is used here as it is suggested to be one of the most informative fit indices (Hooper et al., 2008). It also has the added ability to calculate a confidence interval around its value, allowing for more accurate null hypothesis testing. Values should be as close as possible to zero with an upper limit of 0.08 to indicate an adequate fit of the data (Hooper et al., 2008). The TLI, CFI, and RMSEA were selected for use in the present research due to their sensitivity to misspecified measurement model components, or inaccuracies, in the model (Fan & Sivo, 2005). Fit indices all carry recommended cut-off values, though they will be interpreted in the context of the present analysis (Kline, 2000).

Correlations

Correlation analysis was used to determine the extent of a linear relationship between two variables. In this case, all dependent and independent variables were correlated with each other to determine relationships. Correlation analysis cannot establish a cause and effect relationship, but is useful in determining to what extent variables are associated with one another. Correlation coefficients in the range of .40 to .70 represent a moderate correlation with a substantial relationship, and generally values over .50 are acceptable to signify a relationship (Guilford, 1965).

Multiple Linear Regression Analysis

Multiple linear regression analysis was employed in order to investigate the predictors of prosocial behaviour in the classroom and physical education environment. Multiple linear regression is a model used to predict the value of a dependent variable, given two or more independent variables (Aiken, West, & Pitts, 2003). It analyses data by fitting a linear equation to the observed data and testing the fit (Aiken et al., 2003). Through this analysis it is possible to determine the relationship between one dependent variable and many independent variables. Multiple regression analysis also allows the testing of theories and models of factors that have the most bearing on behaviour (Aiken et al., 2003).

Simultaneous, forward, backward, and hierarchical entry each enter the predictors into the analysis in a different way. Hierarchical entry and forward entry were chosen to examine prosocial behaviour and aggression in the present research due to previous knowledge on predictors of prosocial behaviour. Hierarchical multiple regression focuses on the individual contributions of each variable to the model. By holding constant the hypothesised strongest predictor variable, it is possible to determine the effects of other variables over and above that of the first predictor variable.

Hierarchical entry was used here as Altruism is reported to be highly related to prosocial behaviour and a strong predictor (Eisenberg & Fabes, 1998), and in the current research held the highest correlation with prosocial behaviour. This knowledge allows Altruism to be entered into the regression modelled, and its effects on prosocial behaviour controlled in order to allow the effects of other predictors to be seen. Hierarchical entry allows an understanding of the contributions made by each of the predictor variables to the criterion variable in a theoretically defensible manner (Aiken et al., 2003). In the present research it was identified that altruism would explain more of the variance in prosocial behaviour than the other predictors so hierarchical entry allowed testing around this relationship.

Forward entry is a slightly different regression method that was used to investigate aggression in the present research. Forward entry was chosen due to a lack of knowledge regarding the predictors of aggression. Forward entry multiple linear regression commences without any variables in the model, adding variables one by one into the model depending on their strength as predictors. This type of selection tests the addition of each variable, adding variables that improve the model until no remaining variables make any further improvements to the model (Spicer, 2005). Forward entry selection involves relevant predictors being placed into the model, whilst insignificant predictors are eliminated (Spicer, 2005).

It was important to determine the proportion of variance in the dependent variable (prosocial behaviour) accounted for by predictors that were added to the model (independent variables). This proportion indicated the effect of the predictor on the dependent variable, and gave an idea of the influence of the predictor on prosocial behaviour. The coefficient of determination (R^2) statistic given in a multiple regression analysis is commonly used to explain how valuable the independent variables are at predicting the dependent variable; the higher the R^2 value, the better the independent variables are at predicting prosocial behaviour.

T-Test

T-tests are a method of hypothesis testing on either a between-subjects or a within-subjects design (Spicer, 2005). Commonly within-subject designs are tested with paired sample t-tests, which were used here to determine whether there was a significant difference between the mean values of measurements in two conditions. In the present research paired sample t-tests were used to test the difference of means between prosocial behaviour in the classroom and prosocial behaviour in physical education, including the

testing of gender differences across the two contexts, where the null hypothesis is that there will be no difference in the means.

Later, independent sample t-tests were used to compute differences in means between males and females. Testing gender differences is a common function of independent t-test.

However, using many t-tests inflates the chance of type I error (incorrect rejection of null hypothesis leading to belief that two means are different). To counteract this, significance levels were adjusted to $p=.01$.

Gender Analyses

The final aim of the research was to conduct analyses to determine if gender differences existed between males and females in prosocial behaviour across classroom and physical education contexts. As discussed earlier, gender differences and similarities in prosocial behaviour are apparent throughout the literature. In order to test for gender differences in the present research correlation and hypothesis testing were employed.

Independent t-tests were used to test the difference in means between two unrelated groups. In the present research, this included the testing of differences between males and females on the predictor variables.

Summary

One purpose of the study was to examine perceptions of prosocial behaviour across different situational contexts to determine the extent to which perceived prosocial behaviour differs between contexts. Participants were tested in both the classroom (Prosocial Classroom) and physical education (Prosocial P.E) environments in order to determine behavioural differences between the two domains. Aggression was tested in the same way, to determine any differences among individuals. Pearson's r correlation was used to determine the nature of relationships, and Confirmatory Factor Analysis (CFA), with maximum likelihood, was employed to assess the fit of the data to each of the given measures.

The second purpose of the study was to identify the strongest predictors of prosocial behaviour through application of multiple regression analysis. In accordance with this, specific theoretical claims were examined on social -efficacy and academic-efficacy as predictors of prosocial behaviour.

Thirdly, the viability of each measure was tested in accordance with its use in the present research and, specifically, the two newly developed measures (SBS and CBS) were investigated for practicality of use in measuring prosocial behaviour and aggression.

And finally, gender differences were studied with the use of correlation analyses, regression analysis, and statistical testing. All analyses were computed with the use of SPSS version 19.0 and Amos version 19.0

4. Results

4.1. Descriptive Information on the Sample

Displayed in Table 3 are the mean age for participants was $M = 11.8$ years ($SD = .66$) with a range of 11 to 13 years. There were 89 (50.9%) students who identified as female and 86 (49.1%) who identified as male. Of the 175 participants 100 of the participants were year seven students (57.1%) and the remaining 75 participants were year eight students (42.9%). The majority of the sample spoke English as their first language (83.4%), and 148 (84.6%) participants played sport outside of school. In regards to their living arrangements, 142 (81.1%) students indicated that they lived with both parents the majority of the time, and 26 students (14.9%) said they lived with one parent most of the time.

When comparing means across gender in Table 3, the main differences between males and females occur in relation to Living Arrangements and Sport Played. Though the differences were not large, males played sport ($X = 1.1$, $SD = .31$) more than females ($X = 1.2$, $SD = .40$). Also, males lived with both parents ($X = 1.1$ $SD = .38$) more often than females did ($X = 1.3$ $SD = .60$).

Descriptive	N			M			SD		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
Age	175	86	89	11.8	11.9	11.7	.66	.67	.65
Gender	175	-	-	1.5	-	-	.50	-	-
First Language	175	86	89	1.2	1.2	1.2	.37	.36	.39
School Year	175	86	89	1.4	1.4	1.4	.50	.50	.50
Living Arrangements	175	86	89	1.2	1.1	1.3	.51	.38	.60
Sport Played	175	86	89	1.2	1.1	1.2	.36	.31	.40

Table 3. Means and Standard Deviations of Sample Descriptives – Total, Male, and Female

4.2. Descriptive Statistics

Means, standard deviations and internal consistencies of the study variables are shown in Table 4. The mean score for Prosocial Classroom ($X = 24.19$, $SD = 4.59$) was seen to be very similar to the mean for Prosocial P.E ($X = 25.47$, $SD = 4.23$), with each scale consisting of seven items for a minimum score of 7 and a maximum of 35. The subscale means for each of the scales were very close, the Altruism subscale means ranged from $X = 13.39$ (Comforting) to $X = 14.01$ (Sharing). Possible scores for each subscale on the Altruistic Behaviour Scale ranged from 5 to 20. Self-Efficacy subscale means were also similar with $X = 21.79$ (Social-Efficacy) and $X = 23.02$ (Academic-Efficacy), with a possible score range of 8 to 32. Aggression scores varied between the classroom and physical education context with means of $X = 16.71$ and $X = 22.57$ respectively.

An initial analysis of the data suggested that a small number of participants did not answer items on some of the measures. This was accounted for automatically by SPSS, which deselected cases with missing data.

Variables	N	X	SD	Alpha
1. Empathy	175	53.82	7.50	.82
2. Altruism	174	55.25	9.50	.87
3. Sharing	174	14.01	2.64	.63
4. Helping	174	13.99	2.85	.75
5. Cooperating	174	13.75	2.51	.66
6. Comforting	174	13.39	3.13	.74
7. Self-Efficacy	174	45.05	6.36	.74
8. Social-Efficacy	174	21.79	3.22	.67
9. Academic-Efficacy	174	23.02	3.26	.68
10. Prosocial Classroom	172	24.19	4.59	.84
11. Prosocial P.E	174	25.47	4.23	.77
12. Aggression Classroom	172	16.71	5.13	.76
13. Aggression P.E	174	22.57	6.66	.82

Table 4. Descriptive Statistics and Reliability of all Measurement Variables

4.3. Reliability Analysis

Internal consistency analyses were performed on all scales. Judgements on item inclusion were made using point-biserial correlations and followed up with a Cronbach's alpha test following item deletion to ensure reliability. Items with negative point-biserial (r_{pb}) values were deleted from each scale as this signified that the item was flawed and did not accurately reflect in the total test score.

Reliability coefficients for each scale are displayed above in Table 3. Most scales had internal consistencies close to the recommended criterion level of .70 (Nunnally & Bernstein, 1994) and above the acceptance level of .50 (Guilford, 1965). As seen in Table 4, the internal consistencies of variables ranged from average ($\alpha = .63$) to good ($\alpha = .84$). The Sharing subscale had the lowest internal consistency with a less than adequate alpha ($\alpha = .63$). Empathy produced good consistency ($\alpha = .82$). Prosocial Classroom ($\alpha = .84$) Prosocial P.E ($\alpha = .77$), Aggression Classroom ($\alpha = .76$), and Aggression P.E ($\alpha = .82$) had sufficient reliability. On the other hand, Empathy, Altruism, Prosocial Classroom, and Aggression P.E had strong internal consistency with values over .80. On the other hand, Sharing, Cooperating, and Academic-Efficacy showed average internal consistencies.

Three items were deleted from the Index of Empathy (CQ34 and CQ36 and CQ40) based on point-biserial values, leading to an increase in the internal consistency of the scale ($r = .82$). Following the removal of items that did not meet reliability criteria, the Empathy Scale was left with 17 items. Internal consistency analysis was then rerun to check if the total reliability of the scale had increased to ensure that all good quality indicator items were retained and those lacking quality were deleted. The final Cronbach's alpha for each scale and subscale after item deletion are reported in Table 4. All scales used indicated reliability with alpha values over .50.

The CBS contained 23 items from the SBS (Appendix E & F). Correlation of the total scores of anchor items on the CBS to the total score of anchor items on the SBS showed how closely the two measures were related. The correlation between anchor items on each measure was $r = .86$.

Furthermore, anchor item scores on each measure were correlated with the rest of the items on that measure to see how closely the anchor items related to the other items on the measures, as a way of validation. The CBS anchor items correlated with the rest of the items ($r = .66$). The SBS anchor items correlated with the rest of the items ($r = .72$).

The prosocial subscale in the SBS demonstrated two items with lower reliabilities. These two items (SQ1 $r_{pb} = .51$ $r = .77$ to $.74$ and SQ5 $r_{pb} = .56$ $r = .77$ to $.73$) were removed from the Prosocial P.E. subscale to check if the removal improved the reliability of the overall measure ($\alpha = .88$ to $\alpha = .89$). However, deleting these two items negatively influenced the reliability of the Prosocial P.E, therefore, the items remained in the scale.

The reliability of each set of anchor items was computed. There were 23 anchor items in each measure. The CBS anchor item reliability was $\alpha = .89$ and the SBS anchor item reliability was $\alpha = .83$. Both sets of anchor items had indicated good internal consistency and showed to be reliable item sets.

4.4. Confirmatory Factor Analyses

Confirmatory Factor Analysis (CFA) allowed verification of the factor structure of each latent variable. The results of the CFA demonstrated the goodness of fit between the hypothetical measurement models and the empirical data.

The fit for the Altruistic Behaviour Scale (ABQ) was $\chi^2(164, N = 174) = 252.40$, Tucker Lewis Index (TLI) = $.89$, Comparative Fit Index (CFI) = $.91$, and Root Mean Square Error of Approximation (RMSEA) = $.056$. A four factor structure of altruistic dimensions (*Sharing, Helping, Cooperating, and Comforting*) represented the relationships between the latent factors. A visual inspection of the model showed adequate factor loadings for each item, ranging from $.30$ to $.86$. The Helping and Comforting subscales on the ABQ appeared to correlate near perfectly with a very strong positive correlation ($r = .99$). This near perfect correlation indicated that the subscales measured the same construct.

In order to test the viability of the four factor structure, a three factor structure was also tested. The three factor structure comprised (1) Sharing, (2) Cooperating, and 3 (Helping-Comforting), where the two subscales were combined into one. The three factor structure compiled Helping and Comforting items onto one factor (Helping-Comforting) then they were analysed as the same construct, due to the near perfect correlation between the two. The results of the three factor analysis were very similar to the results from the four factor analysis. $\chi^2(167, N = 174) = 254.54$, TLI = $.89$, CFI = $.91$, and RMSEA = $.055$. The three-factor structure showed a faintly better fit than the four-factor model.

The Self-Efficacy Questionnaire results were; χ^2 (103, N = 174) = 229.4, TLI = .62, CFI = .71, and RMSEA = .084 for a two factor structure. In accordance with the hypothetical model, a two factor structure of social-efficacy and academic-efficacy represented the latent items. A visual inspection of the standardised estimates of the model showed variable factor loadings, ranging from low (.22) to adequate (.63). The covariance between social-efficacy and academic-efficacy was strong ($r = .62$). Data analysis showed that the χ^2 was significant ($p = .000$), indicating poor model fit. After deletion of items CQ41 and CQ50 due to low factor loadings, the fit of the model improved to χ^2 (76, N = 175) = 166.40, TLI = .69, CFI = .78, and RMSEA = .082.

The Index of Empathy initially showed average fit with χ^2 (119, N = 175) = 354.4, TLI = .61, CFI = .70, and a poor RMSEA = .106. A preliminary inspection of the one-factor model showed eleven sufficient factor loadings, and nine insufficient factor loadings (CQ20, CQ22, CQ23, CQ28, CQ29, CQ34, CQ35, CQ36, & CQ38), signifying potential problems. Standardised regression weights theoretically should sit above .70, though it is acknowledged that real life data does not often reach this threshold and .30 is commonly used as a cut-off level (Tabachnick & Fidell, 2001). The fit of the one-factor model improved significantly after the removal of nine items with poor factor loadings, indicating an effect of the weak factor loadings. The new model χ^2 (44, N = 175) = 125.62 TLI = .80 CFI = .87 a poor RMSEA = .103, gave a better model fit, confirming the redundancy of those items. The measure was also tested as a three-factor model in line with the literature (Aluja & Garcia, 2004), though model fit did not improve significantly from a one-factor to a three-factor model.

The Classroom Behaviour Scale fit was χ^2 (296, N = 174) = 707.09, TLI = .77 CFI = .81 RMSEA = .089. The CBS indicated adequate fit as a three-factor scale in accordance with the original measure. In present analyses only two subscales (prosocial behaviour and aggression) were used in accordance with the research questions. Preliminary viewing of the model showed one unacceptable latent factor correlation (.12), where deletion of that item did not improve model fit. As predicted Prosocial Classroom correlated negatively with Antisocial Classroom ($r = -.39$) and Aggression Classroom ($r = -.39$), whereas Antisocial Classroom and Aggression Classroom correlated near perfectly ($r = .98$). This was potentially problematic when separating the effects of both due to one variable changing in similar ways to the other variable. The chi-square value was significant, though fit indices showed adequate fit of the model, with a fair RMSEA value.

The Sports Behaviour Scale χ^2 (461, N = 174) = 1049.48, TLI = .73, CFI = .77, and RMSEA = .085. The SBS also had a three-factor scale, and only two subscales (prosocial behaviour and aggression) were used in final analyses. All bar one of the factor loadings were adequate and the latent factor correlations ranged from low (.19) to high (.80). The item with inadequate factor loading was left out of the analysis. Prosocial P.E correlated negatively with Antisocial P.E ($r = -.23$) and Aggression P.E ($r = -.24$). One again, Antisocial P.E and Aggression P.E correlated very highly ($r = .90$) which indicated a strong relationship between the two variables. The chi-square statistic was significant, though essentially the RMSEA indicated sufficient fit.

Prosocial Classroom and Prosocial P.E. were modelled as two scales that correlated with each other. The model provided insufficient fit with χ^2 (76, N = 172) = 180.88, TLI = .82, CFI = .87, and RMSEA = .089. The chi-square value was significant, though fit indices hit adequate levels, indicating sufficient model fit. Aggression Classroom and Aggression P.E also correlated. The CFA showed a significant χ^2 (188, N = 172) = 547.45, TLI = .68, CFI = .74, and RMSEA = .105. The fit indices in this model were lower than the others, indicating a less adequate fit of the model. The fit did not improve significantly after removing two low factor loadings (SQ27 and CQ79).

Measure/Subscale	χ^2	df	P	TLI	CFI	RMSEA	90% CI
ABQ (4-factor)	252.42	164	.000	.89	.91	.056	.041-.069
ABQ (3-factor)	254.54	167	.000	.89	.91	.055	.041-.068
SEQ	229.44	103	.000	.62	.71	.084	.069-.098
IOE	125.62	44	.000	.80	.87	.103	.082-.124
CBS	709.09	296	.000	.77	.81	.089	.081-.098
SBS	1049.48	461	.000	.73	.77	.085	.079-.092
Prosocial Class & Prosocial P.E	180.88	76	.000	.82	.87	.089	.072-.106
Aggression Class & Aggression P.E	547.45	188	.000	.68	.74	.105	.094-.115
Social-Efficacy and Prosocial	504.94	208	.000	.74	.73	.090	.080-.100
Academic-Efficacy & Prosocial	505.01	208	.000	.66	.72	.090	.080-.100

Table 5. Confirmatory Factor Analyses

Most CFAs provided fit indices close to the fit boundaries, but did not adequately demonstrate good fit. In the present research CFA allowed the uncovering of simple structure in complex data. In measures where the fit was shown to be adequate, CFA was able to effectively confirm structure.

4.5. Correlation Analysis

The correlation matrix shown in Table 6 illustrates the Pearson correlations for each of the variables in the study. The correlations in the table range from weak to strong (.01 to .89) and most are statistically significant. All subscale variables are sufficiently correlated with the scale they belong to (e.g. Altruism and Helping, $r = .86, p < .000$).

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Prosocial PE	1												
2. Prosocial Class	.516*	1											
3. Empathy	.275*	.439*	1										
4. Altruism	.508*	.769*	.572*	1									
5. Sharing	.391*	.611*	.387*	.809*	1								
6. Helping	.491*	.702*	.496*	.875*	.603*	1							
7. Cooperating	.358*	.594*	.464*	.811*	.543*	.607*	1						
8. Comforting	.471*	.697*	.580*	.897*	.619*	.744*	.641*	1					
9. Self-Efficacy	.357*	.639*	.365*	.641*	.540*	.554*	.509*	.573*	1				
10. Social-Efficacy	.400*	.546*	.288*	.526*	.466*	.498*	.329*	.480*	.816*	1			
11. Academic-Efficacy	.187*	.502*	.310*	.525*	.418*	.411*	.504*	.459*	.822*	.342*	1		
12. Aggression Class	-.124	-.237*	-.103	-.318*	-.203*	-.194*	-.441*	-.261*	-.186*	.014	-.316*	1	
13. Aggression P.E	-.155*	-.267*	-.257*	-.366*	-.191*	-.303*	-.440*	-.318*	-.133	.038	-.254*	.690*	1

*. Correlation is significant at the 0.01 level (2-tailed). Significance level = .000. Pearson's r correlation

Table 6. Correlation Matrix of the Target Variables

Prosocial Classroom and Prosocial P.E were moderately positively correlated ($r = .52, p < .000$). This was ideal as the dependent variables were related, but the relationship was not so strong that the variables potentially measured the same concept. Academic-efficacy shows the largest discrepancy between the two contexts correlating with Prosocial Classroom ($r = .50, p < .000$), and Prosocial P.E ($r = .19, p < .000$). Social-Efficacy also differs between the two dependent variables, correlating with Prosocial Classroom and Social-Efficacy ($r = .55, p < .000$) and Prosocial P.E and Social-Efficacy ($r = .40, p < .000$). Empathy and Altruism showed a moderate significant correlation ($r = .572, p < .000$), whereas Empathy and Prosocial P.E correlated weakly ($r = .28, p < .000$).

Aggression Classroom and Aggression P.E correlated positively with each other ($r = .69, p < .000$), but negatively with most other variables. Interestingly, Aggression Classroom and Aggression P.E did not correlate very strongly with the three self-efficacy variables. Weak negative significant correlations were recorded with Academic-Efficacy ($r = -.32, p < .000$ and $r = -.25, p < .000$ respectively) though no significant correlations were found with Social-Efficacy.

4.6. Regression Analyses

Multiple linear regression analysis was conducted in order to examine the combination of variables that best predict prosocial behaviour across contexts. Residual scatter plots were first examined in order to determine whether the assumptions of linearity, normality, and homoscedasticity underlying the analyses were met (Tabachnick & Fidell, 2001). Assumptions of linearity and normality for the dependent variables Prosocial Classroom and Prosocial P.E were met. Note above (Table 6) that all predictor variables correlate with the dependent variables. However, many predictor variables are strongly correlated with each other as well, potentially indicating redundancy. The variables were not strongly homoscedastic, though did not show a heteroscedastic pattern, thereby meeting the criteria for multiple regression analysis.

Step one of the regression analysis, shown in Table 7, was a hierarchical entry multiple regression analysis, employed to determine which of the independent variables explained variance in the dependent variables. Altruism (including Helping, Sharing, Comforting, Cooperating subscales) was placed into the model first as the predictor with the highest correlations with the dependent variable (Table 6), and according to theory. This allowed determination of the effects of other predictors after any variance explained by Altruism.

The first model reported in Table 7 and demonstrates the hierarchical regression analysis for Prosocial Classroom, which produced two significant levels of predictors – Altruism (and subscales) on the first level ($R^2 = .60, F = 62.73, p = .000$), and all other predictors on a second level ($R^2 = .63, F = 5.65, p = .001$). Significance levels of individual predictors were examined in order to identify those that explained variance in Prosocial Classroom. Social-Efficacy identified as a significant secondary predictor of Prosocial Classroom ($B = .296, T = 3.12, p = .001$). Table 7 shows how scores in Altruism increased with the model predictions of an increase in Prosocial Classroom scores ($B = 1.06$). Similarly, an increase in Social-Efficacy scores predicted small increases in Prosocial Classroom ($B = .281$).

Prosocial Classroom	R²	F	df	F Sig	B	Std Err	T	T Sig
	Change							
1 st Level Altruism	.596	62.73	170	.000	1.060	.067	15.83	.000
2 nd Level Social-Efficacy	.633	5.65	167	.002	.296	.095	3.08	.002

Table 7. Hierarchical Entry Analysis of Predictor Variables on Prosocial Classroom

The second model examined the predictors of Prosocial P.E through hierarchical regression analysis (Table 8). Altruism was the only significant predictor variable accounting for 26% of the variance in Prosocial P.E ($R^2 = .26$, $F = 60.05$, $p = .000$). The unstandardised B coefficient shows that for every one-point increase in Altruism scores, Prosocial P.E scores are predicted to increase by .649 of a point. There were no significant secondary individual predictors identified.

Prosocial P.E	R²	F Change	df	F Sig	B	Std Err	T	T Sig
1st Level Altruism	.272	15.86	170	.000	.649	.084	7.75	.000
2 nd Level Helping, Comforting, Cooperating, Sharing, Empathy, Academic- Efficacy, Social-Efficacy	.301	2.33	167	.076	-	-	-	-

Table 8. Hierarchical Entry Analysis of Predictor Variables on Prosocial P.E.

In turn, Aggression was placed into forward entry regression models. The results in Table 9 suggested that there were three levels of significant predictors of Aggression Classroom; on the first level, Cooperation ($R^2 = .19$, $F = 41.76$, $p = .000$), indicating that Cooperation accounted for 19% of the variation in Aggression Classroom. On the second level, Social-Efficacy was a significant predictor ($R^2 = .22$, $F = 6.28$, $p = .013$), and on the third level, Academic-Efficacy ($R^2 = .245$, $F = 5.04$, $p = .026$).

Aggression Classroom	R²	F	df	F Sig	B	Std Err	T	T Sig
	Change							
1 st Level Cooperation	.194	41.76	173	.000	-.518	.080	-6.46	.000
2 nd Level Social-Efficacy	.223	6.28	172	.013	.260	.104	2.51	.013
3 rd Level Academic-Efficacy	.245	5.04	171	.026	-.254	.113	-2.24	.026

Table 9. Forward Entry Analysis of Predictor Variables on Aggression Classroom.

The results in Table 10 suggest that there were also three levels of significant predictors on Aggression P.E. Once again, Cooperation was the strongest predictor ($R^2 = .19$, $F = 41.54$ $p = .000$). Social-Efficacy predicted on the second level of the analysis ($R^2 = .23$, $F = 8.37$ $p = .004$). The third level of the model recognises Helping as a significant predictor of Aggression P.E ($R^2 = .25$, $F = 4.01$ $p = .047$).

Aggression P.E.	R²	F	df	F Sig	B	Std Err	T	T Sig
	Change							
1 st Level Cooperation	.194	41.54	173	.000	-.486	.075	-6.45	.000
2 nd Level Social-Efficacy	.231	8.37	172	.004	.281	.097	2.89	.004
3 rd Level Helping	.249	4.01	171	.047	-.177	.089	-2.00	.047

Table 10. Forward Entry Analysis of Predictor Variables on Aggression P.E.

Next, a forward entry multiple regression analysis was undertaken in order to investigate the proposal that Social-Efficacy is a stronger predictor of Prosocial Classroom than Academic-Efficacy (Bandura et al., 1999). As seen in Table 5, Social-Efficacy and Academic-Efficacy have moderate positive correlations with Prosocial Classroom and weaker, but still significant, positive correlations with Prosocial P.E.

In a model proposing Social-Efficacy and Academic-Efficacy (Table 11) as predictors of Prosocial Classroom, Social-Efficacy on the first level ($R^2 = .30$, $F = 73.39$, $p = .000$) appeared to be the strongest predictor, followed by Academic-Efficacy ($R^2 = .41$, $F = 32.89$, $p = .000$), where

both added unique contributions to Prosocial Classroom. Unstandardised B values indicated that Prosocial Classroom scores had predicted increases of .88 for every one-mark increase in Social-Efficacy score, and .57 for every one-mark increase in Academic-Efficacy, signifying both as important predictors of prosocial behaviour.

Prosocial Classroom	R²	F	df	Sig	B	Std Err	T	sig
1 st Level Social-Efficacy	.298	73.39	173	.000	.880	.103	8.57	.000
2 nd Level Academic-Efficacy	.411	32.89	172	.000	.568	.099	5.74	.000

Table 11. Forward Entry Analysis of Social-Efficacy and Academic-Efficacy on Prosocial Classroom

4.7. T-Tests

As shown in Table 12, the total sample did not show any significant differences between Prosocial Classroom ($M = 3.46, SD = .652$), and Prosocial P.E ($M = 3.55, SD = .631$), $t(174) = -1.87, p = .063$. The means did not differ significantly. On the contrary, the total sample did show significant differences between Aggression Classroom and ($M = 1.79, SD = .589$), and Aggression P.E ($M = 1.88, SD = .554$), $t(174) = -2.61, p = .01$.

Prosocial Class <i>M</i>	Prosocial P.E <i>M</i>	t	df	Sig level
3.46 (.652)	3.55 (.631)	-1.87	174	.063
Aggression Class <i>M</i>	Aggression P.E <i>M</i>			
1.79 (.589)	1.88 (.554)	-2.61	174	.010

Table 12. Paired Sample T-tests for Prosocial Behaviour and Aggression in Classroom and P.E.

4.8. Gender Differences

When testing gender differences on a continuous variable, the analysis initially correlated the dependent variable and independent variable separately for each gender. Hypothesis testing then examined the differences in means between males and females.

Correlation Analysis

In table 13, correlation analysis shows that the relationship between Empathy and Comforting changes between Gender with significant correlations of $r = .60, p < .000$ for females and $r = .40, p < .000$ for males. The relationship between Prosocial Classroom and Prosocial P.E. (Female, $r = .52, p < .000$, Male, $r = .56, p < .000$) does not appear to change between males and females. There are moderate gender differences in the relationships between Self-Efficacy and Prosocial Classroom (Female, $r = .69, p < .000$, Male, $r = .58, p < .000$) and Self-Efficacy and Prosocial P.E (Female, $r = .36, p < .000$, Male, $r = .51, p < .000$). Table 13 shows all variable correlations comparing male participants to female participants.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Altruism	1										
2. Self-Efficacy	.713[*] <i>.575[*]</i>	1									
3. Academic Efficacy	.499[*] <i>.512[*]</i>	.823[*] <i>.823[*]</i>	1								
4. Social Efficacy	.673[*] <i>.437[*]</i>	.820[*] <i>.827[*]</i>	.351[*] <i>.362[*]</i>	1							
5. Sharing	.823[*] <i>.768[*]</i>	.586[*] <i>.484[*]</i>	.439[*] <i>.343[*]</i>	.524[*] <i>.456[*]</i>	1						
6. Helping	.885[*] <i>.852[*]</i>	.621[*] <i>.465[*]</i>	.374[*] <i>.415[*]</i>	.648[*] <i>.353[*]</i>	.650[*] <i>.500[*]</i>	1					
7. Cooperating	.804[*] <i>.775[*]</i>	.572[*] <i>.435[*]</i>	.470[*] <i>.493[*]</i>	.470[*] <i>.226[*]</i>	.567[*] <i>.439[*]</i>	.582[*] <i>.591[*]</i>	1				
8. Comforting	.903[*] <i>.859[*]</i>	.653[*] <i>.485[*]</i>	.438[*] <i>.428[*]</i>	.637[*] <i>.373[*]</i>	.633[*] <i>.539[*]</i>	.758[*] <i>.686[*]</i>	.648[*] <i>.541[*]</i>	1			
9. Empathy	.590[*] <i>.395[*]</i>	.460[*] <i>.272[*]</i>	.271[*] <i>.248[*]</i>	.485[*] <i>.201[*]</i>	.428[*] <i>.196[*]</i>	.498[*] <i>.415[*]</i>	.472[*] <i>.269[*]</i>	.601[*] <i>.400[*]</i>	1		
10. Prosocial Classroom	.801[*] <i>.745[*]</i>	.692[*] <i>.578[*]</i>	.499[*] <i>.481[*]</i>	.638[*] <i>.474[*]</i>	.637[*] <i>.562[*]</i>	.750[*] <i>.636[*]</i>	.607[*] <i>.563[*]</i>	.730[*] <i>.660[*]</i>	.472[*] <i>.383[*]</i>	1	
11. Prosocial P. E	.508[*] <i>.525[*]</i>	.357[*] <i>.505[*]</i>	.187[*] <i>.332[*]</i>	.400[*] <i>.499[*]</i>	.391[*] <i>.358[*]</i>	.491[*] <i>.504[*]</i>	.358[*] <i>.406[*]</i>	.471[*] <i>.509[*]</i>	.275[*] <i>.374[*]</i>	.516[*] <i>.556[*]</i>	1

*. Correlation is significant at the 0.01 level (2-tailed). Significance level = .000. Pearson's r correlation

Table 13. Gender Correlation Matrix all Variables.

Female N = 89 Male N = 86 Note: *Males (Italicised)*, **Females (bold)**

T-test

Paired Samples T-tests were conducted to compare Prosocial Class to Prosocial P.E, in both male and female populations. As shown in Table 14, there was a significant difference in scores when comparing prosocial behaviour in the classroom and physical education settings

in males where prosocial behaviour in the classroom ($M = 3.38, SD = .655$) was significantly lower than prosocial behaviour in physical education ($M = 3.56, SD = .658$), $t(86)=2.65, p = .009$. On the contrary, there was no significant difference in the scores for females when comparing prosocial behaviour in the classroom ($M = 3.54, SD = .643$) means to prosocial behaviour in P.E means ($M = 3.54, SD = .606$), $t(87)=.042, p = .966$.

Aggression followed a similar course in which males differed between aggression in the classroom ($M = 1.86, SD = .624$) and aggression in P.E ($M = 2.05, SD = .644$), $t(86)=-3.86, p = .000$. This showed that aggression was also significantly lower in the classroom than during physical education. Once again, there was no significant difference for females between Aggression Classroom ($M = 1.73, SD = .548$) and Aggression P.E ($M = 2.05, SD = .644$), $t(87)=.311, p = .757$.

	Prosocial Class	Prosocial P.E	T	df	Sig level
All	3.46 (.652)	3.55 (.631)	-1.87	174	.063
Males	3.38 (.655)	3.56 (.658)	.042	86	.009
Females	3.54 (.643)	3.54 (.606)	2.65	87	.966
	Aggression Class	Aggression P.E			
All	1.79 (.589)	1.88 (.554)	-2.61	174	.010
Males	1.86 (.624)	2.05 (.644)	-3.86	86	.000
Females	1.73 (.548)	1.72 (.383)	.311	87	.757

Table 14. Paired Sample T-Tests for All, Males, and Females in Classroom and P.E

As recorded in Table 15, there were significant differences between males and females for some predictor variables and not others. Females ($M = 2.90, SD = .498$) showed significantly higher perceptions of Altruism than males ($M = 2.61, SD = .401$), $t(173)=-4.12, p = .000$. However, there was no difference between genders in Self-Efficacy. Empathy showed significant gender differences with females higher in Empathy ($M = 2.90, SD = .413$) and males lower ($M = 2.48, SD = .382$), $t(173)=-6.93, p = .000$. Aggression Classroom did not show any significant gender differences, but interestingly, Aggression P.E recorded males ($M = 2.05, SD = .644$) as significantly more aggressive than females ($M = 1.72, SD = .383$), $t(173)=4.22, p = .000$.

	Males	Females	T	Df	Sig level
Altruism	2.61(.401)	2.90(.498)	-4.12	173	.000
Self-Efficacy	2.78(.330)	2.83(.337)	-.979	173	.329
Empathy	2.48(.382)	2.90(.413)	-6.93	173	.000
Aggression Class	1.86(.624)	1.73(.548)	1.47	173	.143
Aggression P.E	2.05(.644)	1.72(.383)	4.22	173	.000

Table 15. Independent Sample T-tests for Males and Females on Predictor Variables

5. Discussion and Conclusion

5.1. Summary

The primary aim of the present research, based on social cognitive theory, was to examine the influence of environmental context on perceptions of prosocial behaviour and aggression. The initial purpose was to explore differences and similarities between perceptions of prosocial behaviour displayed in the classroom, compared to those displayed in a physical education context. It was found that prosocial behaviour did not differ between the two contexts, but aggression was shown to significantly differ between the two.

A second research question was to determine the viability of new measures developed for use in the present study. The Classroom Behaviour Scale and the Sports Behaviour Scale designed for the present research were reported to have adequate reliability, and anchor items showed good internal consistency, though CFA results showed sub adequate fit of the data to the models.

A third purpose aimed to explore predictors of prosocial behaviour and specifically, whether social-efficacy or academic-efficacy had a greater effect on prosocial behaviour in the classroom. It was found that one's belief in one's social abilities that is a greater predictor of prosocial behaviour in the classroom than one's belief in one's academic abilities.

The final aim of the research was to examine gender differences in prosocial behaviour and aggression. Males and females were shown to differ from each other in their perceived displays of prosocial behaviour. Males reported higher levels of prosocial behaviour during physical education compared to in the classroom, whereas females did not report any difference in prosocial behaviour between contexts. Males also perceived their aggression as higher during physical education than in the classroom, whereas again, females did not note a significant difference between contexts.

5.2. Environmental Effects

Environmental Context and Prosocial Behaviour

In regards to the first research question, there were no differences shown between perceptions of prosocial behaviour in the classroom and perceptions of prosocial behaviour in the physical education environment implying there were no significant differences found

between perceived prosocial behaviour in the two environmental contexts. However, further analysis showed that perceptions of prosocial behaviour were influenced by gender, with males in the study perceiving higher prosocial behaviour during physical education than in the classroom. Females and males had similar prosocial scores, though females did not differ between the two environments.

Environmental Context on Aggression

Following on to part two of the first research question, aggression is often measured alongside prosocial behaviour because researchers are interested in the motivation behind negative social behaviour as well as the rationale for positive social behaviour. It is important to understand both concepts in order to address or modify either. Though the two behavioural concepts do not appear to be on a continuum as such, they are most often negatively correlated. Therefore, in the present research, an individual who appears more aggressive than others in a given environment is likely to be less prosocial than others in that environment.

The present research supports the negative correlation while also examining changes in behaviour across contexts. Prosocial behaviour does not appear to be influenced by a change in school context, though aggression does appear to differ between educational environments. Results showed a significant difference between self-reported aggression in the classroom and self-reported aggression in the physical education domain. Furthermore, gender differences were also apparent.

Explanation of Results

The social cognitive theory of reciprocal determinism does not specify the exact influences of environment and cognition on behaviour; it simply indicates that the three factors change together in an interactional manner (Bandura, 1986). Social cognitive theory postulates that social behaviours are relatively stable concepts and that changes in behaviour occur across time, not instantaneously (Bandura, 1999). The findings here align with the notions of reciprocal determinism, suggesting that prosocial behaviour does not change rapidly across situations, remaining relatively stable. However, aggression does show slight changes in accordance with the environment. Behavioural changes are to be viewed in association with changes in cognitive processes together with the greater environment.

Environmental effects on behaviour were easily examined using the rationale of reciprocal determinism. In this case, the three reciprocal elements were specified in terms of the current

research (Figure 1, p4) and a model was derived from that of the Bandura et al. (1985) model of causality. This model was collapsed into its elements, and then the effects of each element were tested across a population. The relationship between behaviour and environment is in focus here because a cognitive element of the theory is outside the scope of the present research. However, this limits the extent of the study by only testing a bidirectional influence, not the multidirectional influence explained by the theory. Examining bidirectional relationships is within the scope of the present research, involving less time and intricacies than examination of multidirectional relationships. In the present research, an examination of multidirectional relationships would have called for information to be gathered on individual, cognitive patterns, requiring extensive qualitative measures.

A social cognitive perspective indicates that social behaviour is not only affected by the physical environment, but also by the situational environment, including the people in it and how they behave and interact. A school environment is governed by rules, which guide behaviour within the environment (Trudeau & Shephard, 2008). Environments outside of a school context potentially vary in their expected conduct, and this may also explain some of the previous differences in behaviour, recorded between environments that exist outside of a school context. In changing the physical environment, the situational environment changes inevitably, though in the present research, changes were minimised to the physical environment.

According to prior research, the environment has been shown to have a significant effect on social behaviour (Levine et al., 1994; Omoto & Snyder, 1995; Rutten et al., 2008). Historically, researchers have tested the differences in social behaviour between a laboratory setting and a natural setting (Frey & Meier, 2004), or between school life and home life (Mitchell, & Shepherd, 1966), or comparing school life and extracurricular activities (Bartko & Eccles, 2003), as well as measuring school and sport contexts (Rees, Howell, & Miracle, 1990).

However, the prior research lacks information on the magnitude of change between environments. A small, controlled change in physical environment may be enough to trigger significant behavioural changes, thereby explaining the results of this study. This claim is backed up by previous studies showing changes in behaviour between environments (Lister, 2007; Waters et al., 2009). Prior research has noted a difference in displays of prosocial behaviour across sporting contexts (Rees et al., 1990; Weiss & Bredemeier, 1990) However, Rees et al. (1990) research examined high school sporting environments, comparing pre and post-sport personality. Within the wider school environment such things as school rules,

classmates, teachers, and the interactions between each, are encapsulated under 'environment'.

Similarly, the studies mentioned above in Section 2 have isolated the environment as a predictor of behavioural change, and as a result, have drawn conclusions about the effect of environment on behaviour. However, they have failed to acknowledge that they are drawing on the wider environment and behaviour changes recorded may be due to the interaction of multiple factors in each environment. Differences may be due to one or more separate elements of the environment, in which case, the researchers may have missed or minimised the variable responsible for the change, by encouraging such a wide range of predicting factors. The present research ensured limited extraneous environmental variables.

These studies have provided meaningful information but it is impossible to pinpoint the actual cause of the change in behaviour with such a range of uncontrolled variables in each environment. The present research eliminated many of these extraneous variables by testing all participants within the greater school environment, and in the presence of the same group of individuals; changing only the physical context in order to test for differences based solely on the physical environment. This research design gave more credit to environmental influence than prior studies have been able to, allowing isolation of factors affecting behaviour. Therefore, it was possible to test the effect of environment on behaviour.

In summary, reciprocal determinism is a widely recognised though not reliably testable theory as it is difficult to investigate whilst maintaining the integrity of the theory. Social cognitive theory stipulates that the three components are interdependent and inseparable. Unfortunately, due to the capacity of the present research only the bidirectional influences were able to be tested.

The theory of reciprocal determinism, as applied to prosocial behaviour, has not been tested in such a way that is comparable to the results of the present study. Individualised cognitive processing dictates that all results will differ interpersonally and therefore cannot easily be applied to a greater population. It may be beneficial to investigate these behaviours at an individual level for a more thorough understanding and application to the theory. However, this will minimise the ability to generalise to a population and draw conclusions and predictions. Studies of this nature are complex but relevant.

Previously, physical activity environments have been seen to encourage disruptive and antisocial behaviours (Mintah et al, 1999). The results of the present research refute previous

claims that school sport promotes a social context with negative characteristics (Kohn, 1992; Stephens, 2000). Aggression in the physical education sector was significantly higher than in the classroom, however, prosocial behaviour was high across both contexts and aggression was relatively low across both contexts. Implying that sporting environments may promote a slight increase in aggressive behaviour, where aggression is recorded at a low level and positive behaviour is recorded at a high level. The present findings also challenge prior research findings of physical activity contexts supporting aggressive behaviours (Rutten et al., 2008), who found that aggressive behaviours increased immediately prior, during, and after sporting events.

Results from the present research show a slight increase in aggression during physical activity, in agreement with the works of Giulianotti (2004) as well as Endresen and Olweus (2005). Research in this area is noticeably inconclusive and more study is needed on diverse populations in order to draw stronger conclusions.

5.3. Structure of Measures

Findings

The reliability coefficients for all measures were adequate. All measures produced non-significant chi-square results when examined for model fit via CFA. However, when examining the informative fit indices all models showed sufficient fit, with some measure producing better model fit than others. The two measures developed for use in this research appeared viable though require further use and investigation.

Existing Measures

The Altruistic Behaviour Questionnaire (2010) showed reliability and an adequate model fit to the initial four-factor structure, as directed by prior research (Leontopoulou, 2010). However, possible multicollinearity presented a potential issue and the model was run again as a three-factor model (as discussed earlier). The three-factor model showed an improvement in reliability, thereby eliminating any multicollinearity, and suggesting that the factor structure of the measure be revised. Further investigation is required into the factor structure of the ABQ, in order to provide a consistent model for testing. As it is a new measure it has not been tested in a range of population, nor used in a variety of research settings.

Muris Self-Efficacy Questionnaire (2001) was originally a three-factor model, but due to the removal of one of the subscales in the present research, it was tested as a two-factor structure. The two-factor structure showed good model fit, improving further after weak item deletion. The analyses confirmed that the SEQ is still valid as a measure after the removal of one subscale. This is important for future research with similar constraints where the dissected measure is practical for use.

Previous research highlighted the fact that Bryant's Index of Empathy (1982) may be a multi-dimensional scale, and therefore not interpretable as a uni-dimensional scale. De Wied et al., (2007) and del Barrio, et al., (2004) tested a two-factor and a three-factor model respectively with mixed results when applying a factor analysis to the Index of Empathy. In the present study, the Index of Empathy model was tested as both a one-factor and a two-factor (de Wied et al., 2007) model with very little difference in model fit between the two, and without enough information to specify the use of a two-factor model with this data. This was consistent with the most recent literature on the Index of Empathy (de Wied et al., 2007), in which a two-factor model showed good reliability on the first factor and weak reliability on the second factor.

New Measures

The Sports Behaviour Scale (SBS) and the Classroom Behaviour Scale (CBS) were the two new measures developed for use in the present study. Both measures showed adequate fit, and in an ideal world model fit could have been increased for improved power of the measures. It is possible that low number of items in subscales (including item deletion) contributed to a lesser model fit. It is possible that a higher number of items in each subscale would improve the factor analysis results. This could have been achieved by improving items with low factor loadings that were deleted.

Anchor items were used to establish equivalence of test scores on both the CBS and SBS. This ensured a baseline was provided; from which to test equate comparable scores on the two different forms of the measure. Anchor item reliability analysis showed that the two different sets of anchor items correlated adequately ($r = .78$). Each set of anchor items also correlated sufficiently with the rest of the items on the same measure, demonstrating the high level of comparability between the CBS and the SBS. This then allowed an individual's scores to be accurately compared between the two environments.

Though there was a situational aspect to the present research, the use of dispositional measures (SBS and CBS) had the benefit of recording a general tendency to display prosocial behaviour and aggression across a variety of contexts. Situational measures would be likely to lack reliability and validity when comparing test scores, due to the different measures required for each context. In addition, it is likely that items would not be comparable across different measures and therefore useless to the present study, hence the use of dispositional measures of prosocial behaviour and aggression. The predictor variables (Altruism, Empathy, and Self-Efficacy) were measured solely in the classroom using situational specific measures for accurate measurement in one environment.

There is limited choice when selecting measures for social behaviours in adolescents. The ABQ (Leontopoulou, 2010) was developed recently to combat this, and similarly, the Index of Empathy is the only self-report questionnaire designed to assess empathetic tendencies in children and adolescents. More research is required to develop additional measures of empathy, specifically looking into the multidimensionality of the construct. The current measure is employed as a single factor model, though as mentioned, there is likely more than once dimension behind the construct.

5.4. Variance in Predictors

Prior studies have focused on a variety of prosocial behaviour predictors, employing different theoretical frameworks to describe the influence of factors on prosocial behaviour (Sage & Kavussanu, 2007). Differences recorded in the literature may be due to the employment of prosocial behaviour definitions, the measures used, the population being tested, and the context in which data collection takes place. In the present study predictors of prosocial behaviour were chosen in accordance with social cognitive research.

Results must be interpreted carefully when examining the predictors of prosocial behaviour and aggression in the physical education setting. Altruism, Empathy, and Self-Efficacy were not tested in the physical education environment due to time and measure constraints. Measures do not exist for testing these constructs in a physical environment. All predictor variables were tested in a classroom setting, and classroom scores were then used to predict prosocial behaviour and aggression in the physical education domain. Results must be appraised with this in mind.

5.4.1. Self-Efficacy

Self-Efficacy was not found to be a significant predictor of prosocial behaviour or aggression across either environmental context, however, once Self-Efficacy was analysed in its subscales, it began to predict other behaviours. Social-Efficacy was seen to predict Prosocial Classroom, Aggression Classroom, and Aggression P.E, and was therefore an important predictor in the research. Academic-Efficacy was a significant, though small predictor of Aggression Classroom.

In a direct comparison of Social-Efficacy and Academic-Efficacy on Prosocial Classroom, Social-Efficacy was seen to be the stronger predictor, accounting for 30% of the variance in Prosocial Classroom. These findings were aligned with Bandura et al. (1999) theory, which suggested that Social-Efficacy was the stronger predictor of prosocial behaviour after structural equation modelling of the pathways between self-efficacy, prosocial behaviour, problem behaviour, and depression.

A secure sense of social self-efficacy fosters positive relationships, whereas insecure social self-efficacy increases socially isolating behaviours (Bandura et al., 1996b). The development of social self-efficacy involves prosocial beliefs and perceived prosocial capabilities (Bandura et al., 1999). Comparatively, the development of academic self-efficacy involves perceived capabilities to manage and master academic expectations (Bandura et al., 1999). It follows then that Social-Efficacy should be a stronger predictor of prosocial behaviour than Academic-Efficacy because Social-Efficacy specifically involves prosocial awareness.

Both Social-Efficacy and Academic-Efficacy were important predictors of prosocial behaviour in the classroom, contributing unique variance to the model. Most importantly, Social-Efficacy was the stronger predictor of the two and accounted for the most explained variance in prosocial behaviour.

5.4.2. Altruism

Altruism (including its subscales) was theorised as the strongest predictor of prosocial behaviour in both contexts. The results confirm that Altruism is a significant predictor of prosocial behaviour in each context, and that it explains a large proportion of the variance in Prosocial Classroom, and a smaller, but significant proportion of the variance in Prosocial P.E. This finding is in accordance with previous research showing that prosocial behaviour and altruism are highly correlated, and at times hard to delineate (Batson & Powell, 2003).

Altruism was entered into the first hierarchical regression model of prosocial behaviour. Altruism accounted for 60% of the variance in Prosocial Classroom and was able to predict Prosocial Classroom scores. Interestingly, Altruism accounted for a much lesser proportion of the variance in Prosocial P.E (26%). This may have been due to Altruism being measured only in the classroom and as such was 'classroom altruism'. Further research could look at Altruism as measured in a physical education environment.

Altruism when specified in its subscales (Helping, Sharing, Cooperating, and Comforting) had various predictor effects with aggression. Cooperation was shown to be the strongest predictor of Aggression Classroom and Aggression P.E, showing how important the variable is in explaining aggression scores. Helping was also noted as a smaller significant predictor of Aggression P.E. Furthermore, the overall finding was the relationship between Altruism and Prosocial Classroom.

Interestingly, Altruism has been defined as a component of prosocial behaviour (Batson & Powell, 2003). Consequently, many psychometric measures are ambiguous in regards to strict definitions required to delineate the two constructs. As a result, some measures conglomerate altruism and prosocial behaviour, measuring the two as one construct (Batson & Coke, 2003). However, in the present study, altruism and prosocial behaviour were measured as separate constructs, in order to compare the two directly by analysis. Even though constructs were measured separately, the relationship between the two ($r = .77$) is likely to account for some of the variance in prosocial behaviour explained by altruism.

Altruism was also used as a predictor in examining aggression. Altruism was not recognised as a significant predictor in Aggression Classroom or Aggression P.E. However, the Altruism subscales Helping and Cooperation were shown to predict aggression (negative correlation). Helping and Cooperating may contribute to aggression through combating aggressive behaviours. This is an interesting finding as it was consistent across both contexts and has implications for schools. If altruistic behaviours predict aggression, then placing importance on the displays of helpful and cooperative behaviours could decrease aggression in schools.

5.4.3. Empathy

In keeping with the literature, Empathy accounted for variance in neither Prosocial Classroom nor Prosocial P.E. in any of the regression analyses. Empathy has been hypothesised to mediate the relationship between aggression and prosocial behaviour (Feshbach & Feshbach, 1972), so was an important predictor in the present research. Empathy, along with Altruism

and Self-Efficacy, is viewed in accordance with prosocial behaviour, but implied in contrast to aggression.

Empathy is not specifically relevant to the social cognitive theory of moral behaviour, and this may be why Empathy did not feature in the regression models of prosocial behaviour and aggression.

Overall, regression analysis suffers from the problem of model complexity when there is a greater probability of sampling error due to the addition of many variables into the model. Adding predictors into the model, thereby changing the degrees of freedom lowers the F value and statistical power of the analysis. For this reason, subscale predictors were run separately from scale predictors where plausible and hierarchical entry was used with prosocial behaviour models in order to lower the complexity of each assessed model. The outcome is clean results without the problem of sampling error, showing that Altruism and Social-Efficacy are important predictors of prosocial behaviour.

5.5. Gender Differences

The results of the present research show that gender does influence social behaviour. The majority of the literature suggests that females display slightly higher levels of prosocial behaviour (Fabes et al., 1999), and males display higher levels of aggression (Cairns et al., 1989), though some literature has not found any gender differences (Twenge et al., 2007). The results from the present study are aligned with the majority of previous studies.

Initial correlation analysis showed small differences in gender. Further analysis determined the extent of these differences. It was determined that gender did have an influence on prosocial behaviour across environmental contexts. Accordingly, a significant difference in prosocial behaviour was found between males in the classroom and males in a physical education setting. On the contrary, there were no significant differences between female classroom behaviour and female physical education behaviour.

Males were shown to score higher on prosocial behaviour during physical education, and lower in prosocial behaviour in a classroom setting. Such results imply that perceived prosocial behaviour is somewhat affected by gender. Females were seen to be significantly higher than males in Altruism and Empathy, though no differences were seen in Self-Efficacy. Males were

significantly higher than females on Aggression P.E, though no differences were found in Aggression Classroom.

In explanation, social cognitive theory suggests that males and females are treated differently in relation to their social behaviours because of societal views regarding gender differences in behaviour (Bussey & Bandura, 1999). It would be assumed that these gender stereotypes play a part in the development and displays of prosocial behaviour. Females are expected to be kind, caring, and nurturing (highly prosocial characteristics), and males are expected to be strong, tough, and unemotional (less prosocial characteristics). From an early age girls are encouraged to display more caring and helping behaviours, whereas boys are encouraged to be physically strong and vigorous (Basow, 1992).

Social cognitive theory of gender difference and differentiation stipulates that gender differences may be of biological origin but generally behavioural differences arise from cultural design (Bussey & Bandura, 1999). Gender roles explain typical behaviour, emphasising appropriate behaviour in certain situations. These stereotypes are embedded in the expectations of others, as well as internalised as part of an individual's identity (Bussey & Bandura, 1999). As culturally shared beliefs, they provide a framework from which to explain and describe the differences in male and female behaviour. However, as is generally understood, stereotypes are seen as superficial labels without evidence behind their direction.

Gender difference in social behaviour is a topic of contention and not as simple as the involvement of gender as a predictor. It is clear from the literature that gender has a much deeper effect on social behaviour and is influenced by other variables (Beutel & Johnson, 2004). The effects of gender are unable to be isolated from the individual. Though care was taken to control for many variables in the present study, the scope of the research did not allow complete control of the environmental factors, as with any research involving naturalistic environments. As a result, it is likely that there were extraneous variables that could have had an unseen effect on gender.

The form of measurement (self-report) is one such factor they may have affected the results on gender. It has been shown that males and females have different perceptions of measurement questions, and respond differently to different forms of measurement (). This issue deserves more exploration as it is highly contended in the literature. A study devoted to the moderating effects of gender on prosocial behaviour may provide a more detailed explanation.

It is possible that results discussed here were appropriated not due to gender stereotypes, but the theory behind the research pointed to the effects of stereotypes on behaviour (Bussey & Bandura, 1999). It is interesting to note the differences between contexts for males do not exist for females. And in the present study, females are shown to be more consistent in their reported prosocial behaviour and aggression than males, by showing no difference in behaviour between contexts. The findings potentially suggest that the gender differences are linked to behavioural consistency, where females are more consistent with behaviour than males. Another explanation is that females are more consistent in their answering of questionnaires.

A noteworthy element of the gender research was the number of t-tests undertaken. Increased use of t-tests results in a higher chance of making a type I error. In order to account for this increased risk, the significance level was reduced during hypothesis testing; the p value was reduced to .01 from .05. However, the consequence of adjusting for type I error was an inflated chance of type II error. In order to reduce both types of error the sample size should be increased, as discussed later on. This issue is significant for future research in this area.

5.6. Limitations

There are some limitations of the present research that must be acknowledged when considering the findings.

Generalisability

In regards to the convenient sample, the study was a cross sectional investigation on a dataset with limited diversity. Though this controlled for many potential confounding factors, it allowed results to only be generalised to the small population, targeted for the purpose of the research. The aforementioned findings are only to be generalised to intermediate school students existing in a high socio-economic climate. Future studies in this area would benefit from a wider range of participants, employing a number of schools across a range of geographical and socio-economic areas.

Participant Effects

Students were unable to be tested in both school contexts on the same day, due to a lack of time and the similarity of measures used. Therefore, data collections were undertaken a week apart. Allowing the further benefit of split data collections where any effect of participant memory is offset. However, split data collections also permit participants time to discuss initial answers with classmates.

Reliability Recommendations

Reliability coefficients for three scales (Sharing, Cooperating, and Social-Efficacy) fell slightly below the recommended threshold of $\alpha=0.70$ (Nunnally & Bernstein, 1994; Santos, 1999). This may be attributed to the low item numbers on subscales, which often produces lower reliability coefficients due to the increasing numbers of items automatically reducing the error of measurement in a scale (Cortina, 1993; Schmitt, 1996).

In addition, the sample size is adequate, but more reliable results will transpire from a larger sample size (Hoyle & Kenny, 1999). A sample size of 175 has a small margin of error, though to have ultimate assurance in the results a sample size of 500 is recommended (Hoyle & Kenny, 1999). Furthermore, the present study opted for a convenience sample, in which readily available participants were asked to participate. Random sampling is the most effective method, allowing all members of the population (school) a chance of being chosen to participate, and produce greater reliability in the results.

Construction of New Measures

The Classroom Behaviour Scale and Sports Behaviour Scale were designed specifically for the present research and therefore have not been administered or tested prior. However, both scales are modified versions of well-used, reliable questionnaires used in multiple research studies. Consequently, they both had high internal consistencies and the models fitted the data sufficiently. In the future it would be beneficial to test both scales rigorously on larger and more divergent samples to really grasp their adequacy as measurement devices.

5.7. Applied Implications and Future Direction

The present research has implications for future research on prosocial behaviour.

5.7.1 Implications of Research Findings

Prosocial Behaviour in Schools

- The overall scores on prosocial behaviour measures indicated that self-reported prosocial behaviour remained high in both school contexts.

This implies that the majority of adolescents at intermediate school perceive themselves as prosocial beings. The implication for a prosocial perception is that one's social self-efficacy is improved and the belief in one's ability to demonstrate appropriate behaviour will result in improved social behaviour (Bandura et al., 1999).

In the present research, prosocial behaviour was shown to be consistent across the greater schooling environment, demonstrating the stability of the environment in promoting positive behaviour. The stability of prosocial behaviour across contexts implies that teachers, students, and school rules are consistent throughout the school.

In addition, it is important to understand whether prosocial behaviour is consistent from a measurement perspective. This information allows accurate development and administration of measures. Meta-analysis has shown that results vary when employing prosocial behaviour measures that are designed to be administered in different settings (Carlo & Randall, 2002). Hence, in the present research, prosocial behaviour measurement items were modified for the context they were assessing.

Aggression in Schools

- Self-reported aggression levels were found to change between the classroom and the physical education setting.

The implication for higher aggression in a physical education setting is that sporting environments, within schools, allow, or even encourage aggressive behaviour. Therefore, in regards to negative social behaviour, the school may not be as consistent with protocol as it is with promoting positive behaviour, regarding the emphasis on rules by teachers.

The finding aligns with prior research, in which sporting environments have been shown to support aggressive behaviour (Endresen, & Olweus, 2005). Though aggression is a negative

aspect of sporting environments, it is often outweighed by the benefits and therefore, future school sporting modules should incorporate this knowledge. This will assist so aggression in schools is not endorsed through physical education, but also ensure that where aggression is a factor, positive behaviours are being educated and endorsed as well.

Importance of Altruism

- Altruism was a significant predictor of prosocial behaviour between the classroom and physical education.

This finding confirmed previous research findings that altruism and prosocial behaviour are related constructs and may be used to accurately predict one another (Batson & Coke, 2003). The most essential proposition of Altruism predicting Aggression being that the encouragement or teaching of altruistic behaviour in a school environment may help to decrease aggression levels within that environment. Further testing is required, but it may follow that the benefits of tutoring and encouraging altruistic behaviour may extend outside the school environment and may filter in to home life as well.

Importance of Social-Efficacy

- In the present research Social-Efficacy was a stronger predictor of prosocial behaviour than Academic-Efficacy.

The finding implies that a belief in social ability has a stronger influence on prosocial behaviour than a belief in academic ability. This suggests that individual beliefs on being socially skilled, worthy, and academically successful dictates their perception of the amount of prosocial behaviour they display.

The implication follows that developing a strong sense of self-efficacy, particularly social-efficacy, will influence one's prosocial behaviour. According to Bandura et al. (1999) models, as social self-efficacy and academic self-efficacy increase, school achievement increases, problem behaviour decreases, and depression decreases.

The ability of the present study to replicate those results of self-efficacy as a predictor of prosocial behaviour lends credit to social cognitive theory creating further awareness around the importance of self-efficacy.

Gender Differences

- Gender differences recorded in prosocial behaviour may be due to gender roles and stereotypes that have been shown to influence young adolescents (Basow, 1992).

This proposition is powerful as the effects of culture and stereotyping on the differentiation of gender is a controversial topic (Basow, 1992). Reasonably, a social cognitive perspective on gender differentiation suggests that gender stereotypes form and are formed by the way we behave, distinguished as males and females (Bussey & Bandura, 1999). Such gender roles have been shown to be hugely influential in our development of behaviour, with stereotypes dictating how males and females are treated and expected to behave.

The results from the present study imply a need for a tighter focus on the gender stereotypes associated with prosocial behaviour. According to the theory, differences seen are most likely due to stereotypical differences, however, the theory fails to specify why these stereotypes are effective.

5.7.2. General Implications

Importance of Time at School

- Generally high levels of prosocial behaviour and relatively low levels of aggression were reported in the present study.

The reports show that the young, adolescent sample displays harmonious social behaviour in the school environment. The school context is an influential environment in which children spend around 30 hours a week, and though behaviour cannot be entirely credited to the schooling environment, it is an important source of influence for all attending students and should be maximised as an environment for encouraging prosocial behaviour and reducing aggression. Time at school should be valued highly in respect to social development.

Comparison of School and Outside Environments

- It is possible that the greater school context has a different effect on adolescent behaviour than environments outside of school.

The school environment consists of rules and related discipline that initiates socially appropriate behaviour, which may not be present in other areas of an adolescent's life. For instance, adolescents may report different behaviour at home, or extracurricular activities,

compared to school, where rules are often more rigid, and rule breaking is consistently punishable.

Accordingly, future research may benefit from a comparison of prosocial behaviour in a school setting compared to a setting outside of school. Sports games, home life, or youth groups, may allow social rules to differ between contexts. Results yielded may show greater disparity in perceived prosocial behaviour, as determined by the perceived allowable behaviour in each context. Thereby, explaining social behaviour as dictated by social environment and context.

Conclusion

In conclusion, the present research determined that all measures, including the measures designed specifically for the project, exhibited adequate internal consistency, as well as establishing fit of data to the models. The development of two reliable measures added a significant element to the study. Furthermore, the important predictors of prosocial behaviour and aggression in both the classroom and physical education environment were acknowledged and discussed. These predictor variables demonstrated significant contributions, in alignment with the scarce existing literature.

Importantly, gender was seen to produce differences among participants, specifically, males perceived higher levels of prosocial behaviour during physical education than in the classroom. Males also perceived higher levels of aggression during physical behaviour compared to in the classroom. In comparison, females were noted to remain relatively consistent in their behaviour, not producing any significant differences between environments.

In addition, conflicting many previous studies, male and females demonstrated very similar levels of prosocial behaviour with the main differences existed within genders and not between genders. In accordance with the literature, males were significantly higher in perceived aggression than females across both environments.

7. References

- Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioural and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin*, *101*(2), 213.
- Aiken, L. S., West, S. G., & Pitts, S. C. (2003). Multiple linear regression. *Handbook of psychology*. New York: Wiley.
- Alexander, K. L., Entwisle, D. R., & Dauber, S. L. (1993). First-grade classroom behaviour: It's short and long-term consequences for school performance. *Child Development*, *64*(3) 801-814.
- Allport, G. W. (1927). Concepts of trait and personality. *Psychological Bulletin*, *24*(5), 284-293.
- Anderson, J. E. (1939). The development of social behaviour. *American Journal of Sociology*, 839-857.
- Anderson, J. E. (1956). Child development: An historical perspective. *Child Development*, 181-196.
- Anderson, C. A., & Bushman, B. J. (2002). The effects of media violence on society. *Science*, *295*(5564), 2377-2379.
- Anderson, R. E., Carter, I. E., & Lowe, G. (1999). *Human behaviour in the social environment: A social systems approach*. London: Aldine.
- Anderson, S.A., Sabatelli, R.M., & Kosutic, I. (2007). Families, urban neighbourhood youth centres, and peers as contexts for development. *Family Relations*, *56*, 346–357.
- Andreoni, J., & Vesterlund, L. (2001). Which is the fair sex? Gender differences in altruism. *Quarterly Journal of Economics*, *116*(1), 293–312.
- Aronfreed, J. (1970). The socialization of altruistic and sympathetic behaviour: Some theoretical and experimental analyses. In J. Macaulay & L. Berkowitz (Eds.), *Altruism and helping behaviour*. New York: Academic Press.
- Atkinson, R., Atkinson, R. C., Smith, E. E., & Bem, D. J. (1993). *Introduction to psychology* (11th ed.). San Diego: Harcourt Brace Jovanovich.

- Austin, S. & Joseph, S. (1996). Assessment of bully/victim problems in 8 to 11 year-olds. *British Journal of Educational Psychology*, 66, 447-456.
- Bachman, R., & Alvarez, A. (2007). *Violence: The Enduring Problem*. New York: Sage Publications.
- Bailey, R. (2006). Physical education and sport in schools: A review of benefits and outcomes. *Journal of School Health*, 76(8), 397-401.
- Bandura, A. (1969). Social learning of moral judgements. *Journal of Personality and Social Psychology*, 11(3), 275-279.
- Bandura, A. (1985). Model of causality in social learning theory. *Cognition and Psychotherapy*, 81-99.
- Bandura, A. (1986). *Social foundation of thought and action. A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44(9), 1175-1183.
- Bandura, A. (1991a). Social cognitive theory of moral thought and action. *Handbook of Moral Behaviour and Development*, 1, 45-103.
- Bandura, A. (1991b). Social cognitive theory of self-regulation. *Organisational Behaviour and Human Decision Processes*, 50, 248-287.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28, 117-148.
- Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Personality and Social Psychology Review*, 3, 193-209.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *The Annual Review of Psychology*, 52, 1-26.
- Bandura, A., Ross, D., & Ross, S. (1961). Transmission of aggression through imitation of aggressive models. *Journal of Abnormal and Social Psychology*, 63, 575-582.
- Bandura, A., BarbaranZelli, C, Caprara, G. V., & Pastorelli, C. (1996a). Mechanisms of moral disengagement in the exercise of moral agency. *Journal of Personality and Social Psychology*, 71, 364-374.

- Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996b). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Development, 67*, 1206-1222.
- Bandura, A., & McDonald, J. (1963). Influence of social reinforcement and the behaviour of models in shaping children's moral judgements. *Journal of Abnormal and Social Psychology, 67*(3), 274-281.
- Bandura, A., Pastorelli, C., Barbaranelli, C., & Capara, G. V. (1999). Self-efficacy pathways to childhood depression. *Journal of Personality and Social Psychology, 76*(2), 258-269.
- Barnett, M. A., Thompson, M. A., & Pfeifer, J. R. (1985). Perceived competence to help and the arousal of empathy. *The Journal of social psychology, 125*(5), 679-680.
- Baron, R. A., & Richardson, D. R. (2004). *Human aggression*. New York: Springer.
- Barry, C. M., & Wentzel, K. R. (2006). Friend influence on prosocial behaviour: The role of motivational factors and friendship characteristics. *Developmental Psychology, 42*(1), 153.
- Bar-Tal, D. (1982). Sequential development of helping behaviour: A cognitive- learning approach. *Developmental Review, 2*, 101-24.
- Bartko, W. T., & Eccles, J. S. (2003). Adolescent participation in structured and unstructured activities: A person-oriented analysis. *Journal of Youth and Adolescence, 32*(4), 233-241.
- Basow, S. A. (1992). *Gender: Stereotypes and roles*. California: Thomson Brooks/Cole Publishing Co.
- Batali, D., Zaxariadis, P., Adramerinos, N., & George, G. (2005). Study of aggressiveness in secondary school physical education: relation to goal orientations and sportpersonship orientations. *Hellenic Journal of Physical Education & Sport Science, 56*, 20-33.
- Batson, C. D. (2012). A history of prosocial behaviour research. *Handbook of the History of Social Psychology, 243*.
- Batson, C. D., & Coke, J. S. (1981). Empathy: A source of altruistic motivation for helping. *Altruism and helping behaviour: Social, personality, and developmental perspectives, 167-187*.
- Batson, C. D., Darley, J. M., & Coke, J. S. (1978). Altruism and human kindness: Internal and external determinants of helping behaviour. *Perspectives in Interactional Psychology, 40*, 290-302.

- Batson, C. D., & Powell, A. A. (2003). Altruism and prosocial behaviour. *Handbook of psychology*, 463–484.
- Baumrind, D., Larzelere, R. E., & Owens, E. B. (2010). Effects of preschool parents' power assertive patterns and practices on adolescent development. *Parenting: Science and Practice*, 10(3), 157-201.
- Beller, J., & Stoll, S. (1995). Moral reasoning of high school student athletes and general students: An empirical study versus personal testimony. *Paediatric Exercise Science*, 7, 352-363.
- Bentler, P. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238-246.
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88, 588-606.
- Beutel, A. M., & Johnson, M. K. (2004). Gender and prosocial values during adolescence: A research note. *The Sociological Quarterly*, 45, 379–393.
- Blakemore, S. J., & Choudhury, S. (2006). Development of the adolescent brain: Implications for executive function and social cognition. *Journal of Child Psychology and Psychiatry*, 47(3-4), 296-312.
- Boardley, I. D., & Kavussanu, M. (2010). Effects of goal orientation and perceived value of toughness on antisocial behaviour in soccer: the mediating role of moral disengagement. *Journal of Sport and Exercise Psychology*, 32(2), 176-192.
- Bortree, D. (2010). Exploring adolescent–organization relationships: A study of effective relationship strategies with adolescent volunteers. *Journal of Public Relations Research*, 22(1) 1-25.
- Bowlby, J. (1973). *Attachment and loss: Volume II: Separation, anxiety and anger*. London: The Hogarth and the institute of psychoanalysis.
- Bredemeier, B. (1975). The assessment of reactive and instrumental aggression. In I. Landers (Eds.), *Psychology of Sport and Motor Behaviour II*. (pp. 71-84). PA: Penn State HPER Series.
- Bredemeier, B. J., & Shields, D. L. (1984). The utility of moral stage analysis in the investigation of athletic aggression. *Sociology of Sport Journal*, 1(2), 138-149.

- Bryant, B. (1982). An index of empathy for children and adolescents. *Child Development, 53*, 413.
- Burford, H.C., Foley, L.A., Rollins, P.G., & Rosario, K.S. (1996). Gender differences in preschoolers' sharing behaviours. *Journal of Social Behaviour and Personality, 11*(5), 17-25.
- Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development and differentiation. *Psychological Review, 106*(4), 676.
- Cairns, R. B., Cairns, B. D., Neckerman, H. J., Ferguson, L. L., & Gariépy, J. L. (1989). Growth and aggression: I. Childhood to early adolescence. *Developmental Psychology, 25*(2), 320.
- Carlo, G., Eisenberg, N., Troyer, D., Switzer, G., & Speer, A. L. (1991). The altruistic personality: In what contexts is it apparent? *Journal of Personality and Social Psychology, 61*(3), 450.
- Carlo, G., Fabes, R. A., Laible, D., & Kupanoff, K. (1999). Early adolescence and prosocial/moral behaviour II: The role of social and contextual influences. *Journal of Early Adolescence, 19*, 133-147.
- Carlo, G., & Randall, B. A. (2002). The development of a measure of prosocial behaviours for late adolescents. *Journal of Youth and Adolescence, 31*(1), 31-44.
- Carlo, G., Roesch, S., & Melby, J. (1998). The multiplicative relations of parenting and temperament to prosocial and antisocial behaviours in adolescence. *The Journal of Early Adolescence, 18*, 266-290.
- Chan, D., Ramey, S., Ramey, C., & Schmitt, N. (2000). Modelling intraindividual changes in children's social skills at home and at school: A multivariate latent growth approach to understanding between-settings differences in children's social skill development. *Multivariate Behavioural Research, 35*, 365-396.
- Chantal, Y., Robin, P., Vernat, J. P., & Bernache-Assollant, I. (2005). Motivation, sportspersonship, and athletic aggression: A mediational analysis. *Psychology of Sport and Exercise, 6*, 233-249.
- Choshen-Hillel, S., & Yaniv, I. (2011). Agency and the construction of social preference: Between inequality aversion and prosocial behaviour. *Journal of Personality and Social Psychology, 101*(6), 1253.

- Cohen, D., & Strayer, J. (1996). Empathy in conduct-disordered and comparison youth. *Developmental Psychology, 32*, 988–998.
- Coie, J. D., Dodge, K. A., & Kupersmidt, J. B. (1990). Peer group behaviour and social status. In S. R. Asher & J. D. Coie (Eds.), *Peer Rejection in Childhood* (pp. 17-59). New York: Cambridge University Press.
- Connellan, J., Baron-Cohen, S., Wheelwright, S., Batki, A., & Ahluwalia, J. (2000). Sex differences in human neonatal social perception. *Infant Behavior and Development, 23*(1), 113-118.
- Conroy, D. E., Silva, J. M., Newcomer, R. R., Walker, B. W., & Johnson, M. S. (2001). Personal and participatory socializers of the perceived legitimacy of aggressive behaviour in sport. *Aggressive Behaviour, 27*(6), 405-418.
- Crockett, L., Losoff, M., & Petersen, A.C. (1984). Perceptions of the peer group and friendship in early adolescence. *Journal of Early Adolescence, 4*, 155-181.
- Cronbach, L. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*(3), 297.
- Danielson, C. K., & Phelps, C. R. (2003). The assessment of children's social skills through self-report: A potential instrument for classroom use. *Measurement & Evaluation in Counselling & Development, 35*, 218-229.
- Davis, M.H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44*, 113–126.
- DeHart, G.B., Sroufe, L.A., & Cooper, R.G. (2004). *Child development: Its nature and course*. New York: McGraw-Hill.
- del Barrio, V., Aluja, A., & Garcia, L. (2004). Bryant's empathy index for children and adolescents: Psychometric properties in the Spanish language. *Psychological Reports, 95*, 257-262.
- Denham, S. A., McKinley, M., Couchoud, E. A., & Holt, R. (1990). Emotional and behavioural predictors of preschool peer ratings. *Child development, 61*(4), 1145-1152.
- Department for Education and Employment. (2000). *Physical Education: The national curriculum for England and Wales*. London: Department for education and employment.

- Deutsch, F. M., & Madle, R. A. (1975). Empathy: Historic and current conceptualisations, measurement, and a cognitive theoretical perspective. *Human Development, 18*, 267-287.
- de Wied, M., Maas, C., van Goozen, S., Vermande, M., Engels, R., Meeus, W., Matthys, W., & Goudena, P. (2007). Bryant's Empathy Index: A closer examination of its internal structure. *European Journal of Psychological Assessment, 23*(2), 99-108.
- Di Giunta, L., Eisenberg, N., Kupfer, A., Steca, P., Tramontano, C., & Caprara, G. V. (2010). Assessing perceived empathic and social self-efficacy across countries. *European Journal of Psychological Assessment, 26*(2), 77-86.
- Dixon, J., & Durrheim, K. (2000). Displacing place identity: A discursive approach to locating self and other. *British Journal of Social Psychology, 39*, 27-44.
- Donnellan, M. B., Trzesniewski, K. H., Robins, R. W., Moffitt, T. E., & Caspi, A. (2005). Low self-esteem is related to aggression, antisocial behaviour, and delinquency. *Psychological Science, 16*(4), 328-335.
- Donnelly, P., & Coakley, J. (2007). The use of sport to foster child and youth development and education. *Literature Reviews on Sport for Development and Peace, 7*-18.
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child development, 82*(1), 405-432.
- Eagly, A. H. (2009). The his and hers of prosocial behaviour: An examination of the social psychology of gender. *American Psychologist, 64*(8), 644-654.
- Eagly, A. H., & Crowley, M. (1986). Gender and helping behaviour: A meta-analytic review of the social psychological literature. *Psychological Bulletin, 100*(3), 283-290.
- Eckel, C. C., & Grossman, P. J. (1998). Are women less selfish than men? Evidence from dictator experiments. *Economic Journal, 108*(448), 726-735.
- Eisenberg, N. (1982). The development of reasoning about prosocial behaviour. In N. Eisenberg (Eds.), *The development of prosocial behaviour* (pp. 219-249). New York: Academic Press.

- Eisenberg, N., Carlo, G., Murphy, B., & Van Court, P. (1995). Prosocial development in late adolescence: A longitudinal study. *Child Development, 66*(4), 1179-1197.
- Eisenberg, N., & Fabes, R.A. (1998). Prosocial Development. In W. Damon & N. Eisenberg (Eds.), In *Handbook of Child Psychology* (pp. 701–78). New York: John Wiley & Sons.
- Eisenberg, N., Fabes, R. A., & Spinrad, T. L. (2007). *Prosocial development*. New York: John Wiley & Sons, Inc.
- Eisenberg, N., & Miller, P. A. (1987). The relation of empathy to prosocial and related behaviours. *Psychological Bulletin, 101*(1), 91-99.
- Eisenberg, N., & Mussen, P.H. (1989). *The roots of prosocial behaviour in children*. New York: Cambridge University Press.
- Eisenberg, N., Spinrad, T.L., & Sadovsky, A. (2006). Empathy-related responding in children. In M. Killen & J.G. Smetana (Eds.), *Handbook of moral development* (pp. 517–550). Mahwah: Lawrence Erlbaum Associates.
- Eisenberg, N., Guthrie, I. K., Cumberland, A., Murphy, B. C., Shepard, S. A., Zhou, Q., & Carlo, G. (2002). Prosocial development in early adulthood: a longitudinal study. *Journal of Personality and Social Psychology, 82*(6), 993.
- Eisenberg, N., Miller, P. A., Shell, R., McNalley, S., & Shea, C. (1991). Prosocial development in adolescence: A longitudinal study. *Developmental Psychology, 27*(5), 849.
- Elicker, J., Englund, M. & Sroufe, L. A. (1992). Predicting peer competence and peer relationships in Childhood from early parent–child relationships. In R. Parke, & G. Ladd (Eds.), *Family Peer Relationships: Modes of Linkage*, (pp. 77–106). New Jersey: Erlbau.
- Elliott, J. G., Stemler, S. E., Sternberg, R. J., Grigorenko, E. L., & Hoffman, N. (2011). The socially skilled teacher and the development of tacit knowledge. *British Educational Research Journal, 37*(1), 83-103.
- Endresen, I. M., & Olweus, D. (2005). Participation in power sports and antisocial involvement in preadolescent and adolescent boys. *Journal of Child Psychology and Psychiatry, 46*(5), 468-478.

- Fabes, R. A., Carlo, G., Kupanoff, K., & Laible, D. (1999). Early adolescence and prosocial/moral behaviour I: The role of individual processes. *Journal of Early Adolescence, 19*, 5-16.
- Fagan, J., & Fantuzzo, J.W. (1999). Multirater congruence on the social skills rating system: Mother, father, and teacher assessments of urban head start children's social competencies. *Early Childhood Research Quarterly, 14*, (2), 229-242.
- Fan, X., & Sivo, S. A. (2005). Sensitivity of fit indexes to misspecified structural or measurement model components: Rationale of two-index strategy revisited. *Structural Equation Modelling, 12*(3), 343-367.
- Feshbach, N. & Feshbach, S. (1972). The relationship between empathy and aggression in two age groups. *Developmental Psychology, 7*(2), 104-106.
- Feshbach, N. D., & Roe, K. (1968). Empathy in six-and seven-year-olds. *Child Development, 1*, 133-145.
- Fogle, L., Huebner, E. S. & Laughlin, J. E. (2002). The relationship between temperament and life satisfaction in early adolescence: Cognitive and behavioural mediation models. *Journal of Happiness Studies, 3*, 373-392.
- Foster, S. L., & Ritchey, W. L. (1979). Issues in the assessment of social competence in children. *Journal of Applied Behaviour Analysis, 12*, 625-638.
- Freud, S. (1948). *Inhibitions, symptoms and anxiety*. London: Hogarth Press & Institute of Psycho-analysis.
- Freud, S. (1933). The anatomy of the mental personality, Lecture XXXI. *W JH Sprott (Trans.), New introductory lectures on psycho-analysis, 82-112*.
- Frey, B. S., & Meier, S. (2004). Prosocial behaviour in a natural setting. *Journal of Economic Behaviour and Organization, 54*(1), 65-88.
- Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development, 63*, 103-115.
- Gaik, L.P., Abdullah, M.C., Elias, H., & Uli, J. (2010). Development of Antisocial Behaviour. *Procedia Social and Behavioural Sciences, 7*, 383-388.

- Garnefski, N., & Diekstra, R. F. (1996). Perceived social support from family, school, and peers: Relationship with emotional and behavioural problems among adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, 35(12), 1657-1664.
- Giulianotti, R. (2004). *Sport: A Critical Sociology*. Oxford: Polity Press.
- Gresham, F. M. (2000). Assessment of social skills in students with emotional and behavioural disorders. *Assessment for Effective Intervention*, 26, 51-58.
- Grusec, J. E. (1992). Social learning theory and developmental psychology: The legacies of Robert Sears and Albert Bandura. *Merrill-Palmer Quarterly*, 34, 223-238.
- Guilford, J. P. (1965) *Fundamental Statistics in Psychology and Education*. New York: McGraw-Hill.
- Haidt, J. (2008). Morality. *Perspectives on Psychological Science*, 3(1) 65-72.
- Hamburg, D. A., & Takanishi, R. (1989). Preparing for life: The critical transition of adolescence. *American Psychologist*, 44(5), 825.
- Hartshorne, H., May, M. A., & Shuttleworth, F. K. (1930). *Studies in the nature of character*. New York: MacMillan.
- Hays, D. F. (1994). Prosocial development. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 35, 29-71.
- Hay, D. F., & Rheingold, H. L. (1983). The early appearance of some valued social behaviours. In D. L. Bridgeman (Eds.), *The nature of prosocial development*. New York: Academic.
- Hoffman, M. L. (1963). Personality, family structure, and social class as antecedents of parental power assertion. *Child Development*, 34, 869-884.
- Hoffman, M. L. (1983). Affective and cognitive processes in moral internalization. *Social Cognition and Social Development: A Sociocultural Perspective*, 236-274.
- Hoffman, M. L. (2001). Toward a comprehensive empathy- based theory of prosocial moral development. In A. C. Bohart & D. J. Stipek (Eds.), *Constructive and destructive behaviour*. (pp. 61-86). Washington, DC: American Psychological Association.
- Hoffman, M. L. (2008). Empathy and prosocial behaviour. *Handbook of emotions*, 3, 440-455.

- Hoffman, M.L., & Saltzstein, H.D. (1967). Parent discipline and the child's moral development. *Journal of Personality and Social Psychology*, 5, 45-57.
- Hogan, R. (1969). Development of an empathy scale. *Journal of Consulting and Clinical Psychology*, 33, 307-316.
- Hogan, R., Johnson, J. A., & Emler, N. P. (1978). A socioanalytic theory of moral development. *New Directions for Child and Adolescent Development*, 2, 1-18.
- Holmgren, R. A., Eisenberg, N., & Fabes, R. A. (1998). The relations of children's situational empathy-related emotions to dispositional prosocial behaviour. *International Journal of Behavioural Development*, 22, 169-193.
- Hooper, D., Coughlan, J., & Mullen, R. (2008). Structural equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*, 6(1), 53-60.
- Horrocks, R. N. (1979) *Relationship of selected prosocial play behaviours in children to moral reasoning, youth sports participation, and perception of sportsmanship*. Unpublished doctoral dissertation, University of North Carolina at Greensboro.
- Horne, A. M., Glaser, B., & Sayger, T. V. (1994). Bullies. *Counselling and Human Development*, 27, 1-12.
- Hoyle, R. H., & Kenny, D. A. (1999). Sample size, reliability, and tests of statistical mediation. *Statistical strategies for small sample research*, 1, 195-222.
- Howes, C. (2000). Social-emotional classroom climate in child care, child-teacher relationships and children's second. grade peer relations *Social Development*, 9(2), 191-204.
- Hu, L., & Bentler, P.M. (1999). Cut-off criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modelling*, 6, 1-55.
- Huston, T. L., & Korte, C. (1976). The responsive bystander: Why he helps. In T. Lickona (Eds.), *Moral development and behaviour: Theory, research, and social issues* (pp. 269–283). New York: Holt, Rinehart, & Winston.
- IBM Corp (2010). IBM SPSS Statistics for Windows, Version 19.0. Armonk, NY: IBM Corp.

- Isberg, L. (2000). Anger, aggressive behaviour, and athletic performance. In Y. L. Hanin (Eds.), *Emotions in sport* (113–133). Champaign: Human Kinetics.
- Jackson, M., & Tisak, M. (2001). Is prosocial behaviour a good thing? Developmental changes in children's evaluations of helping, sharing, cooperating, and comforting. *British Journal of Developmental Psychology, 19*, (3) 349-367.
- Jarvis, P. (2012). *Adult learning in the social context* (Vol. 78). New York: Routledge.
- Kakavoulis, A. K. (1998). Early childhood altruism: How parents see prosocial behaviour in their young children. *Early Child Development and Care, 140*, 115-126.
- Kavussanu, M., & Boardley, I. (2009). The prosocial and antisocial behaviour in sport scale. *Journal of Sport & Exercise Psychology, 31*(1) 97-117.
- Kavussanu, M., & Roberts, G. C. (2001). Moral functioning in sport: An achievement goal perspective. *Journal of Sport and Exercise Psychology, 23*, 37–54.
- Kavussanu, M., Seal, A., & Phillips, D. (2006). Observed prosocial and antisocial behaviours in male soccer teams: Age differences across adolescence and the role of motivational variables. *Journal of Applied Sport Psychology, 18*, 326–344.
- Kazdin, A. E. (1987). Treatment of antisocial behaviour in children: Current status and future directions. *Psychological Bulletin, 102*(2), 187.
- Keeler, L. A. (2007). The differences in sport aggression, life aggression, and life assertion among adult male and female collision, contact, and non-contact sport athletes. *Journal of Sport Behaviour, 30*, 57-76.
- Kestenbaum, R., Farber, E. A., & Sroufe, L. A. (1989). Individual differences in empathy among preschoolers: Relation to attachment history. *New Directions for Child and Adolescent Development, 44*, 51-64.
- Khan, K. H., & Cangemi, J. P. (1979). Social learning theory: The role of imitation and modelling in learning socially desirable behaviour. *Education, 100*(1), 41-46.
- Kleiber, D., & Roberts, C. (1981). The effects of sport experience in the development of social character: An exploratory investigation. *Journal of Sport Psychology, 3*, 114-122.

- Kline, P. (1994). *An Easy Guide to Factor Analysis*. London: Routledge.
- Kohlberg, L. (1964). Development of moral character and moral ideology. *Review of Child Development Research*, 1, 381-431. Kohlberg, L. (1968). Early education: A cognitive developmental view. *Child Development*, 39, 1013-1062.
- Kohlberg, L., & Turiel, E. (1973). *Recent research in moral development*. New York: Holt, Rinehart and Winston.
- Kohn, A. (1992). *No contest: The case against competition*. Boston: Mariner Books.
- Kupersmidt, J. B., & Coie, J. D. (1990). Preadolescent peer status, aggression, and school adjustment as predictors of externalizing problems in adolescence. *Child Development*, 61(5), 1350-1362.
- La Fontana, K. M., & Cillessen, A. H. (2002). Children's perceptions of popular and unpopular peers: A multimethod assessment. *Developmental psychology*, 38(5), 635.
- Larson, R., & Wilson, S. (2004). Adolescence across place and time: Globalization and the changing pathways to adulthood. In R. Lerner and L. Steinberg (Eds.), *Handbook of adolescent psychology*. New York: Wiley.
- Latane, B., & Darley, J. M. (1970). *The unresponsive bystander: Why doesn't he help?* New York: Appleton-Century Crofts.
- Leontopoulou, S. (2010). An exploratory study of altruism in Greek children: Relations with empathy, resilience and classroom climate. *Psychology* 1(5), 377-385.
- Levine, M., & Levine, A. (1992). *Helping children: A social history*. Oxford University Press.
- Levine, R. V., Martinez, T. S., Brase, G., & Sorenson, K. (1994). Helping in 36 U.S. cities. *Journal of Personality and Social Psychology*, 67, 69-82.
- Lister, K. M. (2007). Aggression and Prosocial Behaviour in Adolescents' Internet and Face-To-Face Interactions. Doctoral dissertation, Bowling Green State University.
- Loeber, R., & Schmalting, K.B. (1985). Empirical evidence for overt and covert patterns of antisocial conduct problems: A meta-analysis. *Journal of Abnormal Child Psychology*, 13, 337-352.

- Loeber, R., Stouthamer-Loeber, M., Van Kammen, W. B., & Farrington, D. P. (1989). Development of a new measure of self-reported antisocial behaviour for young children: Prevalence and reliability. In M. Klein (Eds.), *Cross-national research in self-reported crime and delinquency* (pp. 203-225). Boston: Kluwer-Nijhoff.
- Loughhead, T. M., & Leith, L. M. (2001). Hockey coaches' and players' perceptions of aggression and the aggressive behaviour of players. *Journal of Sport Behaviour*, 24(4), 394-407.
- Lovett, B. J., & Sheffield, R. A. (2007). Affective empathy deficits in aggressive children and adolescents: A critical review. *Clinical Psychology Review*, 27(1), 1-13.
- Malecki, C. K., & Demaray, M. K. (2007). Social behaviour assessment and response to intervention. *Handbook of Response to Intervention*, 161-171.
- Malti, T., Gummerum, M., Keller, M., & Buchmann, M. (2009). Children's moral motivation, sympathy, and prosocial behaviour. *Child Development*, 80(2), 442-460.
- Maxwell, J. P. (2004). Anger rumination: an antecedent of athlete aggression? *Psychology of Sport and Exercise*, 5(3), 279-289.
- Mead, G. (1934). *Mind, self, and society*. Chicago: University of Chicago press.
- Mehrabian, A., & Epstein, N. (1972). A measure of emotional empathy. *Journal of Personality*, 40(4), 525-543.
- Merrell, K.W. (2001). Assessment of children's social skills: Recent developments, best practices, and new directions. *Exceptionality*, 9(1-2), 3-18.
- Miller, P. A., & Eisenberg, N. (1988). The relation of empathy to aggressive and externalizing antisocial behaviour. *Psychological Bulletin*, 103, 324-344.
- Miller, B., Roberts, G.C., & Ommundsen, Y. (2005). Effect of perceived motivational climate on moral functioning, team moral atmosphere perceptions, and the legitimacy of intentionally injurious acts among competitive youth football players. *Psychology of Sport and Exercise*, 6, 461-477.
- Miller, N. E., & Dollard, J. (1941). *Social learning and imitation*. New Haven: Yale University Press.

- Mitchell, S., & Shepherd, M. (1966). A comparative study of children's behaviour at home and at school. *British Journal of Educational Psychology*, 36(3), 248-254.
- Mintah, J.K., Huddleston, S., & Doody, S.G. (1999). Justifications of aggressive behaviour in contact and semicontact sports. *Journal of Applied Social Psychology*, 29(3), 597-605.
- Moore, B. S., & Eisenberg, N. (1984). The development of altruism. In G.Whitehurst (Ed.), *Annals of child development* (pp. 107-174). Greenwich: JAI Press.
- Moore, B. S., Underwood, B., & Rosenhan, D. L. (1973). Affect and altruism. *Developmental Psychology*, 8(1), 99.
- Morris, L., Sallybanks, J., Willis, K., & Makkai, T. (2003). *Sport, physical activity and antisocial behaviour in youth*. Canberra: Australian Institute of Criminology.
- Mugno, D.A., & Feltz, D.L. (1985). The social learning of aggression in youth football in the United States. *Canadian Journal of Applied Sport Sciences*, 10, 26-35.
- Muris, P. (2001). A brief questionnaire for measuring self-efficacy in youths. *Journal of Psychopathology and Behavioural Assessment*, 23, 145-149.
- Muris, P. (2002). Relationships between self-efficacy and symptoms of anxiety disorders and depression in a normal adolescent sample. *Personality and Individual Differences*, 32, 337-348.
- Newcomb, A. F., Bukowski, W. M., & Pattee, L. (1993). Children's peer relations: A metaanalytic review of popular, rejected, neglected, controversial, and average sociometric status. *Psychological Bulletin*, 113, 99-128.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- Ogilvy, C. M. (2000). Social skills training with children and adolescence: A review of the evidence on effectiveness. Smith, P. K. & Pellegrini, A. D. (Eds.). *Psychology of Education: Major Themes*. (pp. 242-256). New York: Taylor & Francis.
- Oliner, S. P., & Oliner, P. M. (1988). *The altruistic personality: Rescuers of Jews in Nazi Europe*. New York: Free.

- Olson, S. L. (1992). Development of conduct problems and peer rejection in preschool children: A social systems analysis. *Journal of Abnormal Child Psychology*, 20(3), 327-350. Olweus, D. (1993). *Bullying at school: What we know and what we can do*. Cambridge: Blackwell Publishers.
- Omoto, A. M., & Snyder, M. (1995). Sustained helping without obligation: Motivation, longevity of service, and perceived attitude change among AIDS volunteers. *Journal of Personality and Social Psychology*, 68, 671-686.
- Ones, D. S., Viswesvaran, C., & Reiss, A. D. (1996). Role of social desirability in personality testing for personnel selection: The red herring. *Journal of Applied Psychology*, 81(6), 660.
- Ostrov, J. M., Gentile, D. A., & Crick, N. R. (2006). Media exposure, aggression and prosocial behaviour during early childhood: A longitudinal study. *Social Development*, 15(4), 612-627.
- Oswalt, G. L., & Meier, G. W. (2004). Olfactory, thermal, and tactual influences on infantile ultrasonic vocalization in rats. *Developmental Psychobiology*, 8(2), 129-135.
- Pastorelli, C., Barbaranelli, C., Cermak, I., Rozsa, S., & Caprara, G. V. (1997). Measuring emotional instability, prosocial behaviour and aggression in pre-adolescents: a cross-national study. *Personality and Individual Differences*, 23(4), 691-703.
- Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). *Antisocial boys: A social international approach*. Eugene: Castalia.
- Paulhus, D.L. (1991). Measurement and control of response biases. In J.P. Robinson et al. (Eds.), *Measures of personality and social psychological attitudes*. San Diego: Academic Press
- Payne, V. G., & Isaacs, L., D. (1999). *Human motor development a life-span approach* (4th ed.). California: Mayfield.
- Pellegrini, A. D., & Davis, P. D. (1993). Relations between children's playground and classroom behaviour. *British Journal of Educational Psychology*, 63(1), 88-95.
- Piaget, J. (1948). *The moral judgment of the child*. Glencoe: Free Press.
- Piliavin, J. A., Dovidio, J. F., Gaertner, S. L., & Clark, R. D. (1981). *Emergency intervention*. New York: Academic Press.

- Preston, S. D., & De Waal, F. (2002). Empathy: Its ultimate and proximate bases. *Behavioural and Brain Sciences*, 25(1), 1-20.
- Radke-Yarrow, M., Zahn-Waxler, C., & Chapman, M. (1983). Children's prosocial dispositions and behaviour. In P. Mussen (Eds.), *Handbook of child psychology: Socialization, personality, and social development* (pp. 469–545). New York: Wiley.
- Radke-Yarrow, M., & Zahn-Vlarler, C. (1984). Roots, motives, and patterns in children's prosocial behaviour. In E. Staub, D. Bar-Tal, J. Kitylowski, & J. Reykowski (Eds.), *Development and maintenance of prosocial behaviour*. New York: Plenum Press.
- Reddiford, G. (1981). Morality and the games player. *Physical Education Review*, 4, 8-16.
- Rees, C., Howell, F. M., & Miracle, A. W. (1990). Do high school sports build character? A quasi-experiment on a national sample. *The Social Science Journal*, 27(3), 303-315.
- Rest, J. R. (1979). *Development in judging moral issues*. Minnesota: University of Minnesota Press.
- Rheingold, H. L. (1982). Little children's participation in the work of adults, a nascent prosocial behaviour. *Child Development*, 53(1), 114-125.
- Roeser, R. W., Eccles, J. S., & Sameroff, A. J. (2000). School as a context of early adolescents' academic and social-emotional development: A summary of research findings. *The Elementary School Journal*, 100(5), 443-471.
- Rogers, C. (1978). The formative tendency. *Journal of Humanistic Psychology*, 18 (1), 23-36.
- Romance, T. J. (1984). A program to promote moral development through elementary school physical education. Doctoral dissertation, University of Oregon.
- Romer, D., Gruder, C. L., & Lizzardo, T. (1986). A person-situation approach to altruistic behaviour. *Journal of Personality and Social Psychology*, 51, 1001–1012.
- Rose, A. J., Swenson, L. P., & Waller, E. M. (2004). Overt and relational aggression and perceived popularity: Developmental differences in concurrent and prospective relations. *Developmental Psychology*, 40(3), 378.
- Rosenholz, S. J., & Rosenholz, S. H. (1981). Classroom organization and the perception of ability. *Sociology of Education*, 54, 132-140.

- Rushton, J. P. (1980). *Altruism, socialization and society*. Englewood Cliffs: Prentice-Hall.
- Rushton, J. P. (1984). The altruistic personality: Evidence from laboratory, naturalistic, and self-report perspectives. In E. Staub, D. Bar-Tal, J. Karylowski, & J. Reykowski (Eds.), *The development and maintenance of prosocial behaviour: International perspectives on positive development* (pp. 271–290). New York: Plenum Press.
- Rushton, J. P., Chrisjohn, R. D., & Fekken, G. C. (1981). The altruistic personality and the self-report altruism scale. *Personality and Individual Differences*, *2*, 1-11.
- Rutten, E. A., Deković, M., Stams, G. J. J., Schuengel, C., Hoeksma, J. B., & Biesta, G. J. (2008). On- and off-field antisocial and prosocial behaviour in adolescent soccer players: A multilevel study. *Journal of Adolescence*, *31*(3), 371-387.
- Ryan, A. M., & Patrick, H. (2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal*, *38*(2), 437-460.
- Roper, T., & Thompson, A. (2006). Estimating the costs of crime in New Zealand in 2003/04. New Zealand treasury working paper.
- Sage, L., & Kavussanu, M. (2007). Multiple goal orientations as predictors of moral behaviour in youth soccer. *The Sport Psychologist*, *21*, 417–437.
- Sallis, J., Owen, N. (1999). *Physical Activity and Behavioural Medicine*. California: Sage.
- Santos, J. R. A. (1999). Cronbach's alpha: A tool for assessing the reliability of scales. *Journal of Extension*, *37*(2), 1-5.
- Scourfield, J., John, B., Martin, N., & McGuffin, P. (2004). The development of prosocial behaviour in children and adolescents: A twin study. *Journal of Child Psychology and Psychiatry*, *45*(5), 927-935.
- Sears, R. R. (1951). A theoretical framework for personality and social behaviour. *American Psychologist*, *6*(9), 476. Shaffer, D. (2009). *Social and personality development* (6th Ed). Wadsworth: California.

- Shields, D., & Bredemeier, B. (2001). Moral development and behaviour in sport. In R. Singer, H. Hausenblas, & C. Janelle (Eds.), *Handbook of sport psychology* (pp. 585-603). New York: John Wiley.
- Shields, D., Bredemeier, B., Gardner, D., & Bostrom, A. (1995). Leadership, cohesion, and team norms regarding cheating and aggression. *Sociology of Sport Journal*, 12(3), 324-336.
- Skogan, W. (1990). *Disorder and Decline: Crime and the Spiral of Decay in American Cities*. Berkeley: University of California Press.
- Skinner, B. F. (1938). *The behaviour of organisms: An experimental analysis*. Oxford: Appleton-Century.
- Smith, H. M., & Betz, N. E. (2000). Development and validation of a scale of perceived social self-efficacy. *Journal of Career Assessment*, 8(3), 283-301.
- Sprinthall, A., & Collins, W. A. (1995). *Adolescent psychology: A developmental view*. New York: McGraw-Hill
- Spicer, J. (2005). *Making Sense of Multivariate Data Analysis*. California: Sage Publications.
- Sroufe, L. A. (2005). Attachment and development: A prospective, longitudinal study from birth to adulthood. *Attachment & Human Development*, 7(4), 349-367.
- Stark, R. E., Bernstein, L. E., & Demorest, M. E. (1993). Vocal communication in the first 18 months of life. *Journal of Speech, Language and Hearing Research*, 36(3), 548.
- Staub, E. (1974). Helping a distressed person: Social, personality, and stimulus determinants. In L. Berkowitz (Eds.), *Advances in experimental social psychology* (Vol. 7, pp. 293–341). New York: Academic.
- Staub, E. (1978). *Positive social behaviour and morality: Personal and social influences*. Oxford: Academic Press.
- Strack, F., & Deutsch, R. (2004). Reflective and impulsive determinants of social behaviour. *Personality and social psychology review*, 8(3), 220-247.
- Stephens, D.E. (2000). Predictors of likelihood to aggress in youth soccer: An examination of coed and all-girls teams. *Journal of Sport Behaviour*, 23, 311-325.

7. Appendices

7.1. Prosocial Behaviour in Adolescents: Classroom and Sport Specific Environments

Parent/Caregiver Information Sheet

To Parents and Caregivers,

My name is Olivia Baudinet and I am a Masters student at Massey University. I will be coming to Murrays Bay Intermediate to conduct research on the social behaviours of adolescents in years 7 and 8 with support from the school and my supervisor, Dr. Richard Fletcher. The school has identified your child as a potential participant through the mini school to which they belong.

The study will take place inside school hours, during class time (approx one hour during 1 period of class and P.E), students will be asked to complete six questionnaires, some of these in the classroom and others during P.E class. The questions will be centred on the students own reports of their social behaviour. Students will be asked a small number of questions of a personal nature. Students who are not taking part in the study will complete class work supervised by a teacher from the school. This study will enable greater understanding on the differences between class time and P.E lessons.

A small number of the students will also be observed at the school. This observation will involve a short non-intrusive period of the student being observed by me during their normal school routine. Observation helps to validate the other findings from the study.

The study takes place during the normal school program so no additional risk or potential harm exists due to participation in the research. I will consult with the schools principle and staff, as well as with Massey University support services in order to deal with unexpected problems.

You and your child may ask questions about the study at any time. It is important to note that both parents and students may withdraw from the study at any time without penalty and students may decline to answer any particular question. Your child will remain anonymous and their personal data will only be seen by me.

Once I have gathered all the data, I will analyse it in order to generate findings on self-reports of social behaviour in school children. Student data will remain confidential and your child's identifying data will remain private. I will be the only person to have access to the identifying data. Other students, parents, or teachers will not have access to the data.

An end of year school newsletter will outline the findings of the study, which will also be available via the school. For publication purposes the school will identify as 'an intermediate school on the North Shore of Auckland'.

*Murrays Bay Intermediate has decided on an 'OPT-OUT' policy for the parents and caregivers. This means your child will be approached to participate in the research unless you send back the signed form **on the next page**. If the Parent/Caregiver Opt-Out Form is returned, your child will not be approached to participate in the research. Students that are approached to participate will receive their own information sheet and consent form that they will sign if they are willing to participate.*

Committee Approval Statement

This project has been reviewed and approved by the Massey University Human Ethics Committee: Northern, Application 12/004. If you have any concerns about the conduct of this research, please contact Dr Ralph Bathurst, Chair, Massey University Human Ethics Committee: Northern, telephone 09 414 0800 x 9570, email humanethicsnorth@massey.ac.nz.

Please contact me, or my supervisor if you have any questions about the project.

Researcher

Olivia Baudinet

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09 414-0800, Ext 41213

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7.2. Prosocial Behaviour in Adolescents: Classroom and Sport Specific Environments

Parent/Caregiver Opt-Out Form

The school is using an 'opt-out' clause in which your child will be approached be included in the *Prosocial Behaviour in Adolescents* study unless you send back this signed form by Friday **15/06/12**.

This form is to be signed by the caregiver:

- If the caregiver has read the Parent/Caregiver Information Sheet
- If the caregiver does not want their child involved in the study
- If the student does not want to be involved in the study

I **DO NOT AGREE** for my child to participate in this study

Full Name (Caregiver)
and relationship to child

Full Name (student) **Class**

Caregiver Signature

Please only send this form back if you **DO NOT** wish for your child to be involved in the study

Please Note – Students approached for this study will be asked to sign their own consent form prior to any involvement in the study.

7.3. Prosocial Behaviour in Adolescents: Classroom and Sport Specific Environments

Student Information Sheet Years 7 and 8 Students

To Students,

My name is Olivia and I am here at your school to study how you get along with your friends. Today you might like to answer some questions about yourself and how you act with your classmates.

Mum or dad might have talked to you about this study at home, so today I am here to answer any questions you may have about the study, and to explain it to you in a bit more detail.

If you decide you want to be a part of the study:

- You will be answering some questions about yourself during class time, and then during a P.E lesson.
- This will take about an hour of your time.
- A small number of you will also be observed during school time. This means I will select a few students and watch them.
- Your information will be kept private and I am the only one who will be looking at it.
- None of your teachers, parents, or anyone else will see your information or your name.
- You do not have to answer any or all of the questions, you may leave them blank.
- If there is a question that is a bit confusing I can come and help you with it.
- You can ask me any questions about the study at any time.
- You are able to withdraw from the study at any time without giving a reason. (This means if you do not want to be in the study you can tell me and I will take you out of the study).

Please contact me, or my supervisor if you have any questions about the project.

Researcher

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Supervisor

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7.4. Prosocial Behaviour in Adolescents: Classroom and Sport Specific Environments

Student Opt-In Form

This form is for you to sign and hand back to me (Olivia) if you would like to take part in the study that is happening at school.

- I have read the information sheet and understand the study.
- I have had all of my questions answered.
- I agree to take part in the study.
- I have been told that some students will be observed (watched) as part of the research.
- I agree to being observed (watched) at school if I am chosen.
- I have been told that I will be asked to fill out some questionnaires in class and in P.E time.
- I understand that I do not have to answer any questions that I do not want to answer.
- I understand that I am free to leave the study at any time.
- I understand that no one apart from the researcher (Olivia) will know my name or details.
- I understand that all my information will be kept confidential (private) and I will not be identified (not have my name or details) in the research.

If you have any questions about the study please come up and see me before you sign this form.

I **AGREE** to take part in this study

Full Name (student) **Class**

Student Signature

7.5. Classroom Behaviour Scale

1. *I encourage (support) my classmates*
2. *I congratulate classmates for good work*
3. *I give positive feedback to classmates when they do well*
4. *I tell my classmates what they could change on their work*
5. *I help to look after sick classmates*
6. *I protect my classmates*
7. *I help opponents off the floor*
8. *I verbally abuse (bully) my classmates*
9. *I swear at my classmates*
10. *I argue with my classmates*
11. *I criticize (put down) my classmates*
12. *I get frustrated if a classmate doesn't do their work*
13. *I injure classmates on purpose*
14. *I try to wind up or annoy classmates*
15. *I break the rules on purpose*
16. *I intimidate (threaten) my classmates*
17. *I enjoy it when other classmates get mad*
18. *I feel like I could hurt a classmate*
19. *I get angry at the teacher*
20. *When the teacher doesn't treat me right I feel angry*
21. *When I get bad marks I take it out on the other classmates*
22. *Doing good work is more important than getting the highest grade*
23. *I get upset easily*
24. *I like it when classmates get lower marks than I do*
25. *I make other classmates mad*
26. *I get mad enough to throw something while in class*

*Anchor Items in Italics

7.6. Sport Behaviour Scale

1. *I encourage (support) my teammates*
2. *I congratulate teammates for good play*
3. *I give positive feedback to teammates*
4. *I tell my teammates what they could change on their work*
5. *I help injured opponents*
6. I ask to stop play when an opponent is injured
7. *I help opponents off the floor*
8. *I verbally abuse my teammates*
9. *I swear at my teammates*
10. *I argue with my teammates*
11. *I criticize (put down) my teammates*
12. *I get frustrated with a teammates bad play*
13. *I try to injure opponents*
14. *I try to wind up opponents*
15. I deliberately foul the opponents
16. I intentionally distract the opponents
17. I retaliate after a bad foul
18. I intentionally break the rules
19. *I intimidate (threaten) opponents*
20. *I enjoy it when other players are mad*
21. *I feel like I could hurt another player*
22. *I get angry at the ref (referee/coach)*
23. The other team needs to suffer if you want to win
24. I get frustrated with a teammates bad play
25. *When the coach doesn't treat me right I feel angry*
26. *When things go wrong I take it out on the other players*
27. It is easier to play against someone I don't know
28. *Playing well is more important than winning*
29. *I get upset easily*
30. I enjoy it when the other team gives up
31. *I make other players mad*
32. *If we are losing I get mad enough to throw something*

*Anchor Items in Italics