



Title Adolescent Materialism, Parental and Peer  
Materialism, Parental and Peer Support and  
Adolescent Well-being

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**ADOLESCENT MATERIALISM, PARENTAL AND PEER MATERIALISM,  
PARENTAL AND PEER SUPPORT AND ADOLESCENT WELL-BEING**

**by**

Cordelia Sutton

A thesis submitted to the University of Bedfordshire, in partial fulfilment of the requirements  
for the degree of MSc by Research

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ADOLESCENT MATERIALISM, PARENTAL AND PEER MATERIALISM,  
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ABSTRACT

Recent research highlights how the current materialistic culture of the UK has a detrimental effect on young people's lives. The present study aimed to investigate how parent and peer relationships impacts on adolescent materialism and well-being. A correlational design was employed, utilising standardised questionnaires, previously validated as appropriate tools for the topics and age of participants. Participants ( $N=166$ ) aged 13-15 were recruited from two secondary schools in South England. Adolescents completed measures of materialism, peer support, parental support, perceived peer group pressure, contingent self-worth and well-being. Parents ( $N=47$ ) of participants completed measures of materialism and parental support. Parents' and perceived peers' materialism significantly predicted adolescent materialism, accounting for 51% of the variance in adolescent materialism. Several new findings to existing research on adolescent materialism are presented. Peer support moderated the effect of perceived peers' materialism on adolescents' own materialism. Pro-social behaviour predicted lower materialism, and additionally was a partial mediator of the relationship between perceived peer group pressure and adolescent materialism. Adolescent materialism predicted poorer well-being. Perceived parental support predicted higher well-being. Whilst higher materialism of parents and peers are associated with increases in adolescent materialism, social support may help reduce the negative consequences of adolescent materialism.

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## DECLARATION

I declare that this thesis is my own unaided work. It is being submitted for the degree of MSc by Research at the University of Bedfordshire.

It has not been submitted before for any degree or examination in any other University.

Name of candidate: Cordelia Sutton      Signature:

Date: 17<sup>th</sup> December 2013



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## 1. Introduction

### 1.1 What is materialism?

“The point is, ladies and gentleman, that greed, for lack of a better word, is good. Greed is right, greed works.” Gordon Gekko, played by Michael Douglas, ‘Wall Street’, (Stone, 1987).

The character of Gordon Gekko in ‘Wall Street’ (Stone, 1987) epitomises all of the traits which Belk associated with materialism: possessiveness, non-generosity and envy (Belk, 1984). For Gekko, a corporate stock speculator, there seems no downside to his ruthless business philosophy. He is a man who hates to lose out to his rivals, he fears treading on no-one, and revels in showing off the munificence of his wealth and possessions. Such hedonistic material acquisitiveness is alluring to his protégé, a young stock broker named Bud Fox. Fox tries to convince himself that engaging in illegal trading in order to win favour with Gekko, and material wealth and success for him-self, will hurt no-one. Fox wants to believe that people like Gekko are the future, and all the greed that Gekko purports to be good comes with no strings attached. Of course, this is not the case, and the downfall of Fox, and the misery he brings upon himself and his family is testament to Belk’s (1984) findings that materialistic pursuits are equated with unhappiness in life.

In subsequent years, research on materialism has been popularly dominated by conceptualising materialism as an individual’s value orientation (Achenreiner, 1997; Richins & Dawson, 1992; Chia, 2010. According to Richins & Dawson (1992), a materialistic person values material possessions as a barometer of how *successful* they are in life; acquiring and possessing material items are *central* to their existence, and maintains a belief that possessions are necessary for them to be *happy*. Personal goals, aspirations and values centred on materialism have continued to be associated with negative outcomes (see 1.7 below).

Recent research has begun to look at the development of materialism in children, the factors associated with children's materialism, and how to measure materialism with young people. Although young children may clamour for particular toys and clothes, such desire is understood to be for the acquisition of particular objects as an end in itself (Chaplin & John, 2007). When children reach the age of eight years old, they can begin to appreciate the symbolic value of possessions, and are developing the capacity for abstract thought. Accompanying this stage of children's cognitive and social development is an awareness of brand names, coupled with understanding that goods possess a psychological value that can be transmitted, understood and judged by others (Achenreiner, 1997; Chaplin & John, 2007). Researchers have disagreed as to whether materialistic attitudes and values remain a stable trait throughout later childhood and adolescence, or whether materialism varies with age. Achenreiner (1997) found that materialism (measured as an attitude) did not vary significantly with age; although there was a non-significant trend for children age 12 to be more materialistic than children aged 8. Achenreiner (1997) concludes that materialism is therefore a stable trait in children and young people. However, Chaplin & John (2007) found significant age differences in materialism, and that self-esteem was a partial mediator of this relationship. Children aged 8 had the lowest materialism, at aged 12-13 the highest materialism, and that materialism had declined again by late adolescence (ages 16-18).

Differences in measuring materialism in children and young people affect how materialism is conceptualised. Materialism studies with children and adolescents are predominantly measured with correlational studies using materialism questionnaires (e.g. Goldberg's Youth Materialism Scale (2003), or a brief version of Richin's (1987) Materialism Scale (see Flouri, 2004; Achenreiner, 1997). Chaplin & John (2007) used a collage methodology to measure adolescent materialism, based on the number and percentage of material items placed on a collage in response to a collage task based on the question "what makes you happy?" Chaplin & John (2007) found that participants were engaged in, and enjoyed the collage task. However, recent research by Oprea, Buijzen, van Reijmersdal & Valkenburg (2011) developed a Materialism Values Scale for

Children (MVS-c) which mirrors the Materialism Values Scale (Richins & Dawson, 1992). Like Richins & Dawson (1992), Oprea *et al.* (2011) found that children's materialism was a second order construct, with three primary dimensions: centrality, happiness and success (the MVS-c is discussed further in the Method section below). As materialism is now conceptualised as a *value* orientation across materialism studies with adults and children, the present study adopts this current methodology instead of the Chaplin & John (2007) collage methodology, which elicits only one dimension (happiness) of materialism in adolescents.

Our understanding of materialism is increasing in subtlety. However, the discrepancy between acknowledging that pursuing materialistic goals and values will lead to a poorer quality of life, and understanding and tackling the causes of materialism is still in its infancy, particularly with regard to our children's future.

## 1.2 A brief psychosocial understanding of adolescence

In order to place in context how goals and values may influence child and adolescent development, it is useful to return to a framework of child development. According to the psychosocial stages of development proposed by Erikson (1950), throughout our individual lifespan, we must resolve crises of "attitudes" in order to grow. These attitudes are concerned with the development of the self and pervade both our conscious and unconscious. Attitudes are three dimensional, enveloping our experiences, our behaviour, and our unconscious inner states. Erikson determined that once attitude crises are resolved; we are psychologically and physically ready to move onto the next stage. During primary school years, Erikson described the child's developing awareness that others will judge how successful he is by what he can achieve. This awareness of other's scrutiny is extended once the child reaches adolescence, the stage which Erikson called "Identity vs. Role Confusion" (Erikson, 1950). Physiological changes which accompany adolescence are combined with knowledge of approaching adulthood. The adolescent is concerned with how others see him, in



comparison with how he sees himself. He has a tendency to over-identify with popular idols of culture and to be subsumed into a crowd ideology: Erikson argues that this is a defence mechanism against identity confusion. There is a danger of adolescents excluding those who are different (for example, those with dissimilar clothes, and tastes), with those excluded becoming outcasts. In the search for their own identity, the adolescent seeks a sense of sameness with others. The adolescent mind is in moratorium, midway between childhood and adulthood. An adolescent has the moral values inculcated as a child, now they need to extend this to incorporate adult ethical values. Experimentation with various fits of identity is a rite of passage in adolescence. At this moratorium stage, they are particularly vulnerable to all of society's ideology and messages. Whilst the adolescent seeks acceptance from his peers, he nonetheless needs assurance that those who are in charge (directing social values) have that position because they are the best people for that role. It is therefore suggested that during adolescence, young people are particularly vulnerable to materialistic values espoused by society and culture, friends and family.

Erikson's writings from the mid-twentieth century still resonate today. Recent literature on adolescence builds and extends on Erikson's paradigm, particularly with regard to identity development in adolescence (Kroger, 2007) and recognises the crucial influences that the adolescent's social world has upon his development.

### 1.3 The importance of attachment in child and adolescent development

Attachment theory as described by Bowlby (1979) grew from a recognition that humans, and indeed other young animals, do not only need to satisfy hunger and sex drives, as proposed by Freudian ideas of development. Young children need love and security; they need to know that their primary carer (usually the mother) is empathetic, will not abandon them, will comfort them, protect them, and will care for them, and that all of these actions and responses are reliable. Humans, Bowlby argues, need a *secure attachment* bond to another person (Bowlby, 1979). Attachment theory bears similarity to Erikson's earliest stage of development

*Trust vs Mistrust* (1950), where the young infant develops an awareness of how his mother responds to his physical and emotional needs, and if he is able to trust his mother's responses, he is equipped to deal with the next challenge of his development. The young infant who is securely attached to his mother has the confidence to explore the world around him. Insecure attachment occurs when the infant feels ambivalence or uncertainty of his mother's affection, or is abandoned with no guarantee when or if she will return. In such cases, the infant has a cognitive representation or schemata of the most important relationship in his young life that is filled with anxiety and uncertainty. Bowlby maintains that insecure attachments in all their forms have potential to give rise to mental pathology in later life.

Whilst it is recognised that the earliest attachment bonds of life are of the greatest importance, Bowlby is clear that attachment theory of development does not end at childhood. Attachment specificity to a few individuals endures throughout a person's lifetime, and is an inherent part of an attachment bond (even after the attachment figure has died). However, Bowlby recognises that adolescence is a period in one's life where new attachments may form, often temporarily and sometimes permanently subsuming earlier attachments, yet still childhood attachments persist, even if not recognised in the same way during adolescence. Attachments do not need to be perfect; they withstand abuse and maltreatment. The nature, extent and duration of any punishment simultaneously perpetrated by an attachment figure will detrimentally affect the child's cognitive representation of themselves and of important others for their future relationships and undermine their sense of self.

Attachment behaviours such as seeking comfort are activated at times of fear, anxiety and uncertainty. If an individual is secure in themselves, and in their relationship with their attachment figure, they learn to be able to extend themselves and manage themselves and their environment, even when the attachment figure is not physically present. Insecure attachments at any point in one's life, but particularly emanating from one's earliest attachment bonds, have

been associated with anxiety, depression, neuroticism, over-dependency and phobias (Bowlby, 1979).

#### 1.4 Why research on materialism in adolescence is important

In 2007, a UNICEF Report found that the UK's children were bottom of a league of 21 countries in child well-being (IPSOS Mori Social Research Institute, 2011). Further investigation into potential reasons for low well-being in the UK revealed that materialistic values were a key differentiating factor between the UK, Spain and Sweden (IPSOS Mori Social Research Institute, 2011). Across the three countries chosen for the comparative study, children aged 8-14 valued quality times with family, good friendships and stimulating activities as the most important contributors to their happiness. Material goods, particularly those relating to technology, such as computer games and iPhones were appreciated and wanted by children from all three countries for functional, symbolic and social reasons. However, parents in the UK seemed bowed under by consumer pressure to continually buy things for their children. UK parents were guilt ridden for not having time (and where they had time, there was a lack of emotional and physical energy) to spend with their children. Trapped in a continuous cycle of buying the latest gadget, branded clothes and expensive toys, UK parents used material possessions in an attempt to protect their children from any perceived potential bullying, and to lessen any negative social comparisons that might exist for their child who may not have what his friends have. Children and parents alike recognised that possessions did not equate with happiness, but in the UK, conspicuous over-consumption dominated family life; this was absent in Sweden and Spain.

Good family relationships, health, a happy home, and good friendships have been found to be the most important factors contributing to childrens' (age 8-15) happiness and subjective well-being (The Children's Society, 2012). Material items and possessions appeared 6<sup>th</sup> out of 10 categories, in terms of their contribution to children's happiness. Using a child-centred index of material well-

being (consisting of 10 items such as owning a branded pair of trainers, or having cable or satellite TV at home), a direct relationship between lacking more items, and increasing low well-being was found (The Children's Society, 2012). Additionally, having a lot less spending money than their friends was correlated with increased low well-being, although having much more spending money did not always equate with higher well-being.

Kasser (2002) argues that society provides mixed messages about materialism: despite concerns about becoming solely a consumer culture, money is at the centre of social and economic policy decisions. Once we are above poverty levels, money does not bring us happiness: the richest people in the world are not happier than those who have average wealth. It is clear from recent reports, such as those of IPSOS Mori (2011) and The Children's Society (2012) that the current materialistic culture of the UK is damaging to young people's lives.

### 1.5 Parent Factors and Materialism in Adolescence

#### a) How parenting factors influence materialism in their children

Inferring causality between parenting factors and materialism in their children is inherently difficult without longitudinal data. However, research in this area has discerned many associations between parenting factors and materialism of their offspring. Parents' materialism, dissemination of values, family socialization practices and parental warmth and support have all been found to influence their children's' materialism.

Parents who are more materialistic have been found to have children who were more materialistic than parents who were amongst the least materialistic (Goldberg, Gorn, Peracchio, & Bamossy, 2003). In an Australian parent-child study with both generations assessed at adult age (18+), parents' materialism predicted materialism in their children (Marks, 1997). Chaplin & John (2010) and Chia (2010) similarly found a significant relationship between parents' materialism and their children's materialism.

There may be a parenting gender difference between close relationships with their child and their child's materialism: Marks (1997) found that close relationships with mothers was associated with the child being less materialistic, whereas close relationships with the father was associated with higher materialism in the child (albeit measured when the child was aged over 18). In a UK study, Flouri (2007) found no significant relationship between a mother's parental assessment of their parenting involvement with their child and the mother's materialism; however fathers' parenting involvement and fathers' materialism were significantly related. Marks (1997) posit that these gender differences may be accounted for by a tendency for men rather than women to discuss economic issues with their children. Whether this is a valid explanation cannot be determined, although Flouri (2007) found that fathers were more materialistic than mothers.

In a study of older teenagers, those who valued materialism and financial success had mothers who were less nurturant than teenagers who placed higher values self-acceptance, more positive relationships with others and contributing to the community (Kasser, Ryan, Zax, & Sameroff, 1995). The effect of growing up in a stricter household was associated with the child being more materialistic (Marks, 1997); however, this could also be a result of a general parenting emphasis on orderliness and progression, as Marks (1997) further found a positive relationship between family conversations regarding school and the children's future. Increased frequency of discussions centred on consumption matters and TV viewing led to adolescents' increased perception of materialism in their parents and friends (Chia, 2010).

Adolescent materialism has been correlated with inter-parental conflict, and where young people rate their parents to be less involved in parenting. When controlling for confounding variables, less parental involvement from mothers predicted increased materialism (Flouri, 2004). Flouri's (2004) study used questionnaires administered to adolescents, so there was no measure to compare parent's assessment of their parenting involvement. Having supportive parents and peers is associated both directly, (and indirectly via self-esteem mediation) with lower levels of materialism (Chaplin & John, 2010).

Kasser (2002) summarises parenting influences on materialism in their children as a transmission of values. If children see that their parents value goods, possessions, financial success as a priority, they too will inculcate these values. Parents are children's first role models, and although children learn much that is explicitly taught, they also learn from what implicit from their parents' language and behaviour.

b) Family environment and Social Economic Status in the development of materialism

Research findings on the relationship between family socio-economic status and materialism have been inconsistent. Inglehart (1990) approaches the acquisition of materialistic values from a scarcity hypothesis: because poorer people do not have money, they value the acquisition of wealth. Inglehart proposes that one inherits economic socialisation values which were inherent during the transition into adulthood. In a study of over 2200 UK adolescents aged between 11 and 19, those in receipt of free school meals were more materialistic than those from families who paid for school meals (Flouri, 2004). Additionally, parents with lower incomes have been found to have more materialistic children than parents with higher incomes (Goldberg, Gorn, Peracchio, & Bamossy, 2003). However, when assessing parents' materialism, as opposed to their children's materialism, mothers whose children were receiving free school meals were less likely to score highly on materialism (Flouri, 2007). Alternatively, Cohen & Cohen (1996) argue that maternal educational aspirations for their child are more important in determining children's goals and values than standard measures of family economic circumstance.

c) Existing research on associations for the child who has more materialistic parents.

According to Benmoyal-Bouzaglo & Moschis (2010) there are two separate schools of thought as to how materialistic values develop in young people. Firstly, through socialization agents (parents, peers and the mass media), whose influence will be stronger in cultures where the acquisition of possessions is seen as alluring

and forms part of one's life goals. Alternatively, the strength of children's materialistic values depends on psychological developmental processes, positively or negatively determined by emotional support from the family environment (Benmoyal-Bouzaglo & Moschis, 2010). Three studies across different cultures and nations (Thailand, France and Australia) utilising life course studies on family structure, socialization and the development of materialism failed to find significant relationships between families with socio-oriented communication styles and higher levels of materialism in their children- measured retrospectively when the 'child' was a young adult (Nguyen, Moschis, Shannon, 2009; Benmoyal-Bouzaglo & Moschis, 2010; Weaver, Moschis & Davis, 2011). Socio-oriented communication styles are typified by placing importance on conforming to social norms and appraising others by their use of possessions and consumption (Nguyen, Moschis, & Shannon, 2009).

From a psychological perspective, it seems that materialistic parents may have an impact on their child's wellbeing. Chaplin & John (2010) found that parents' materialism was strongly correlated with adolescent materialism; with more materialistic adolescents having parents who were also more materialistic. Importantly, self-esteem was a partial mediator of the relationship between parent's and adolescent materialism, indicating a negative effect of parent's materialism on their child's self-esteem (Chaplin & John, 2010). Parents may not be aware of how materialism affects their child's happiness. Goldberg, Gorn, Peracchio & Bamossy (2003) found that parent's estimation of their child's happiness was not differentiated between children (aged 9-14) scoring in the highest and lowest quartiles of materialism.

If children inherit their parents' values, they also inherit a way of understanding themselves. Mothers who value financial success over self-acceptance are more likely to have adolescents who do the same (Kasser, Ryan, Zax, & Sameroff, 1995). Crucially, less nurturant mothers had adolescents who valued financial success over self-acceptance, affiliation and a desire to contribute to the development of their community.

Kasser (2002) argues that people have psychological needs, in the same way as physical needs. These psychological needs encompass safety, security and sustenance; competence, efficacy and self-esteem; connectedness (intimacy and closeness- family and friends, work colleagues, community/church); autonomy and authenticity (giving us motivation to express ourselves and follow our own interests). If we have not had our psychological needs met in the past, for instance, growing up in a non-nurturant environment, where extrinsic values are given a higher priority than personal growth and development, we are more likely to think that wealth and possessions will bring us happiness and a good life. The sting in the tale is that our unmet psychological needs cause us unhappiness and the internalisation of materialistic values (Kasser, 2002)

## 1.6 Peer Factors and Adolescent Materialism

### a) Peer Influence

According to Achenreiner (1997), materialism as a value is relatively stable in children, and does not change as a function of age. In a US cross-sectional study of over 300 children at ages 8, 12, and 16, no significant differences were found in mean materialism scores (Achenreiner, 1997). Achenreiner (1997) argues therefore that materialism is not related to the significant cognitive, developmental and social changes of adolescence. In the same study however, a positive significant correlation ( $r=.44$ ) was found between materialism and susceptibility to peer influence. This held across and within all age groups, with no significant age  $\times$  susceptibility to influence interaction.

Peer influence may manifest itself in different ways. It may be an integral part of peer group pressure, defined by peer culture and behaviour (Banerjee & Dittmar, 2007). Children aged 8-11 who perceived greater peer pressure thought that there would be more negative consequences for them if they did not conform to a friend's endorsement of a product. Peer rejection predicted perceived peer culture pressure to engage in social motives for materialism (Banerjee & Dittmar, 2007). In a peer environment, social motives appear to be ones of wanting to conform to



the social norms of the peer group in order to gain favour and reduce potential negative consequence (Roberts, Manolis, & Tanner, 2008). This normative aspect of Consumer Susceptibility to Peer Group Influence (CSSI) (Bearden, Netemeyer, & Teel, 1989) increased levels of materialism in American adolescents as well as compulsive buying. Roberts, Manolis & Tanner (2008) demonstrated that having materialistic values may also predict susceptibility to normative peer influence, as in a reverse causation model, materialism and compulsive buying in adolescence was a significant positive predictor of peer influence. Similarly, CSSI was significantly found to be related to adolescent materialism in a study of UK adolescents (Flouri, 1999), along with communicating with peers regarding consumption issues. High levels of consumption related communication with peers in adolescence has also been found to be related to material values held as a young adult (Nguyen, Moschis, & Shannon, 2009), although this association was made using a retrospective life course study, which examines perceptions of past influences on attitudes and behaviours.

It is important to point out, however, that no causation between conversations that centre on what one would like to buy and one's level of materialism as a teenager can be inferred. Whilst it may be true that young people who are more materialistic talk about such topics more frequently, it is not the talking about them that causes their materialism. Materialistic adolescents may talk about possessions, and be susceptible to peer pressure and influence, but this may be because they fear rejection, and this may in part be because of their previous experiences of parental warmth and nurturance in the family environment.

#### b) Peer support

When comparing different sources of social support upon adolescents' well-being, perceived parental support have been found to negatively relate to anxiety and depression, and positively related with self-esteem and academic achievement; these relationships were concurrent and longitudinal (Rueger, Malecki, & Demaray, 2010). Peer support, whether from close friends or from classmates is also important, although the nature of the peer friendship and perceived social support is different for boys than for girls. Girls perceived highest support of all

from close friends, then teachers, parents, classmates and school personnel; boys perceived highest support from teachers, and parents, then friends, school personnel, and the least support from classmates.

Affiliation with others, and interconnectedness, are intrinsic motivations, which positively affect our well-being, according to self-determination theory (Deci & Ryan, 1985). In a qualitative study examining how today modern materialistic and consumption-focussed culture is damaging our health and well-being, positive human relationships were proposed to be a resistance buffer against the ill-effects of a materialistic culture (Hanlon & Carlisle, 2009). Hanlon & Carlisle (2009) report that young people were perceived to be particularly vulnerable to judging others on the basis of possessions that they owned. However, Gifford-Smith & Brownell (2003) report that pro-social behaviours are the predominant reason that children are popular in their friendship groups.

Addressing the question of how peer support can affect adolescent self-esteem and materialism, Chaplin & John (2010) found that adolescents who perceived higher levels of peer support (friends being understanding and helpful) were less materialistic, and that self-esteem mediated this relationship. Similar results were found when assessing perceived parental support. The strongest negative correlation was between perceived peer support and adolescent materialism. Chaplin & John (2010) argue peer and parental support can directly and indirectly reduce materialism, by enhancing adolescents' self-esteem. Fostering self-acceptance through supportive behaviours reduces the need to turn to material goods as a means of coping with feelings of low self-worth.

### c) Peer's materialism

Both Chia (2010) and Chaplin & John (2010) have found that adolescent's materialism is correlated with perceptions of their friends' materialism. Chia looked at materialism through interpersonal communication about consumption matters amongst adolescents, and Chaplin & John (2010) found that higher levels of peer materialism were associated with elevated levels of adolescent materialism; this was both a direct relationship, and one which was mediated through

adolescent self-esteem. No study was found which examined whether the perception of their friend's materialism was actually correct, and little has been written about why perceptions of others' materialistic values are important.

One UK study looking at materialism and person perception from an adolescent viewpoint is that of Dittmar & Pepper (1994). Adolescents were provided with written vignettes on either a male female aged 29 in either affluent, or less affluent circumstances (descriptions of material possessions in the vignette as an indication of their material wealth) and evaluated the person's income and personal qualities. Regardless of the social background of the adolescent participants (working-class or middle-class), the character in less affluent circumstances was thought to be earning a lower income than the character living in more affluent circumstances. Both middle-class and working class adolescents believed the affluent character to be more intelligent, successful and worked harder than the less affluent vignette character, but they were also perceived to possess fewer personal qualities which would make them a good friend. The affluent character was also prescribed to be envious of others' possessions, despite being thought to have more possessions than they deserved (Dittmar & Pepper, 1994). These characteristics are reminiscent of personality traits identified with materialism (Belk, 1984).

Dittmar & Pepper (1994) sought to determine if the adolescent's own materialism influenced their perception of the characters in the vignettes. The relationship was just short of significance; however when adolescents in the highest quartile of materialism scores were compared with adolescents with the lowest quartile scores, the most materialistic adolescents believed that the character owning the expensive possessions was more hardworking, intelligent and successful, and did not see these attributes afforded to the poorer character. The least materialistic adolescents did not make this distinction.

Such judgements about another's identity based on material possessions, and own level of materialism have been similarly found in studies of adult materialistic values (Richins & Dawson, 1992). However, Dittmar & Pepper's (1994) study involved adolescents reviewing character vignettes of a 29 year old, not a person

of comparable age to themselves. The character, whether rich or poor, nonetheless had a full time job, looked younger than their age and lived on their own, had a car, friends and a social life. This character had therefore resolved any potential identity crisis in terms of who they were, and how they might operate in an adult world. From Erikson's (1950) perspective, the young people reading these vignettes would be wrestling with their own identity and direction in life, and therefore their views on the vignettes will not be equable with their own lives. It is clear that further research into adolescents' materialism and materialistic values of their friends is warranted.

### 1.7 Materialism and Well-being

#### a) Self-determination theory and intrinsic motivation

Self Determination Theory (SDT); (Deci & Ryan, 1985) holds as its central tenet an organismic approach to human motivation: a self-determined process where one feels one has choice and autonomy. Humans are bound to operate on their internal and external environments in order to satisfy three basic psychological needs. The need for perceived *competence* at an activity which challenges an individual at an optimal level; the need for *autonomy* of choice and of not being controlled, and the need for *relatedness*- affiliation and attachment to others. Intrinsic motivation is our optimal positive energy. It comes from within as opposed to extrinsic motivation, where motivation to act is based on perceived rewards or expectations from others, external pressures or controls. When we are intrinsically motivated, we enjoy activities for the pleasure of the activities themselves, the feeling of vitality that is engendered, and the psychological need to be competent and self-determined in life is fulfilled.

The three basic psychological needs of competence, autonomy and relatedness are "innate, essential and universal" (Ryan & Deci, 2000, p. 74): if conditions are sufficient, humans will be healthy and well; if needs not met, pathology results in poor mental health (Ryan & Deci, 2000) . As Erikson (1950) suggests, development at any stage of the lifespan does not occur in a vacuum, but within a

socio-cultural context. Ryan & Deci (2000) argue that if one's cultural and social environment advocates values and behaviours where individuals are able to express their competence, relatedness and autonomy, they will develop optimally. Conversely, socio-cultural contexts which endorse values that hinder the attainment of these psychological needs inevitably mean that people's well-being will be negatively affected.

Kasser (2002) summarises a series of studies outlining reasons that people have given for pursuing materialistic goals, including feelings of pressure and anxiety, avoidance of punishment and the obtainment of rewards. Kasser (2002) maintains that such pursuits work directly against the satisfaction of basic psychological needs.

Research in this area with young people includes a study by Kasser & Ryan (1993). Using their Aspiration Index, which measured the value of financial success relative to other values such as self-acceptance, affiliation and community feeling, American university students who valued financial success over the other values had lower levels of self-actualization and higher levels of depression and anxiety. Ryan & Deci (2000) postulate that if people internalise and integrate values which are extrinsic motivations (through social pressures and norms, e.g. materialistic pursuits), these extrinsic motivations have the potential to be harmful to mental health and well-being. Pursuing life goals and values that satisfy our basic needs is theorised to lead to enhanced well-being (Ryan & Deci, 2000).

#### b) Contingent self-worth

Deci & Ryan (2000) maintain that self-determination operates on a continuum defined by types of motivation (from amotivation, through extrinsic motivation to intrinsic motivation), regulatory styles (non-regulation-intrinsic regulation), perceived locus of causality (impersonal-internal) and relevant regulatory processes. One of the key regulatory processes affecting extrinsic motivation is introjected regulation. Introjection is utilised by an individual through behaviours designed to enhance positive feelings about the self, and to avoid negative

feelings. Deci & Ryan (2000) describe introjection as a regulatory process based on contingent self-esteem.

Contingent self-esteem is where one's feelings about oneself are dependent on the feeling that one is worthy and that others also recognise our worth (Ryan & Brown, 2003). People who have contingent self-esteem validate their self-worth through striving to appear a certain way, attain particular goals and standards. It represents an internal motivation dependent on external reference points (Ryan & Brown, 2003). In today's society, contingent self-esteem is evident in materialistic pursuits: the relentless acquisition of possessions which are bought to bolster feelings of self-worth and for others to admire, and the never-ending pursuit to present a perfect body image as depicted and lauded in Western media.

Kasser (2002) and Ryan & Brown (2003) argue that contingent self-esteem results from basic psychological need deprivation. If we have had our psychological needs for competence, autonomy and relatedness met, we do not question our self-worth, as we inherently feel within ourselves that we are worthy of love from ourselves and others without external validation.

It has been discussed above how self-esteem has been found to be a mediator of the relationship between parent and peer influence and adolescent materialism (Chaplin & John, 2010). Additional research on self-esteem and materialism sought to understand different types of self-esteem and its relationship with materialism (Park & John, 2009). Implicit self-esteem, as described by Park & John, shares much in common with non-contingent self-esteem: there are no conscious evaluations of the self; we accept our self-worth and value ourselves without thinking of it. Explicit self-esteem however, is a conscious self-evaluation (Park & John, 2009). Amongst those most vulnerable to materialism are those who experience discrepant self-esteem: high explicit self-esteem coupled with low implicit self-esteem. Although people with may rate themselves highly on global measures of self-esteem (such as the Rosenberg's self-esteem scale, Rosenberg 1965), they could also be deeply insecure and will use strategies to enhance feelings of self-worth. Park & John (2009) report on several studies investigating implicit self-esteem and materialism. Firstly, participants with discrepant self-

esteem were found to be more materialistic than those with congruent self-esteem (high explicit and high implicit self-esteem). Secondly, priming for implicit self-esteem reduced levels of materialism as presented in a controlled study vs. those who were not primed for implicit self-esteem. Thirdly, that discrepant high self-esteem may cause materialism because people feel vulnerable to threats to their self-image, and therefore engage in defensive materialistic behaviours. Park & John (2009) maintain that this third finding offers an explanation of why people who score highly on global measures of self-esteem can also be materialistic.

Adolescents with contingent self-esteem and low implicit self-esteem have been found to be particularly vulnerable to mental health pathology (Bos, Huijding, Muris, R, & Biesheuvel, 2010). Adolescents who demonstrated greater use of self-worth contingencies as a means of evaluating themselves were found to be concurrently and longitudinally exhibiting increased symptoms of depression (Burwell & Shirk, 2006). Burwell & Shirk (2006) argue that the significant increase in depressive symptoms over time demonstrate that self-worth contingencies are a predictor for depression. Of particular interest are two of the Self-Worth Contingency Questionnaire (SWCQ; Burwell & Shirk, 2003): girls scored higher than boys at both time 1 and time 2 on social contingencies (feelings of self-worth dependent on other's evaluations); girls also scored higher than boys at both time points on physical contingencies (feelings of self-worth dependent on physical appearance). It may be that adolescent girls are particularly vulnerable to the need for external validation to bolster feelings of low self-worth.

Throughout this section, an argument has been developed for the need for greater understanding of how contingent self-esteem and self-worth is related to materialism and psychological well-being in adolescence. It is understood that global measures of self-esteem will not tap into underlying psychological need deficits and self-enhancement strategies, and that further research is needed in this area.

- c) Mental health and behavioural problems associated with materialism in adolescence

Anxiety and depression amongst adolescents are increasing dramatically (Balmer & Bullock, 2013). Balmer & Bullock argue that traditional theoretical models of anxiety and depression (such as psychodynamic and learning theories) alone cannot explain the increase in these mental health disorders, and that cultural factors have also contributed to the rise in mental health pathology. Amongst these cultural factors are media-induced stress, and a transformation in motivation from intrinsic to extrinsic goals (Balmer & Bullock, 2013). Adolescents are sacrificing the development of a healthy self-identity for materialistic and financial goals and pursuits. Media encourages young people to subscribe to a philosophy that happiness can be obtained through buying the right products, and maintaining the right personal image and appearance. Balmer & Bullock (2013) are clear that focussing on extrinsic goals (wealth and admiration) are contributing to the increase in anxiety and depression in young people.

Other researchers support and extend findings on mental health and behavioural problems associated with materialism in adolescents. A North American study of adolescents and their mothers assessed how much adolescents cared about a list of 21 life priorities, including the priority "to be rich" (Cohen & Cohen, 1996). The adolescents and their mothers were assessed with DSM-III for mental disorders by psychological interviews. Odds ratios were used to assess whether people who admired materialistic pursuits and who put a high priority on being rich were associated with mental disorders. Materialism was found to be significantly related to increased odds of being diagnosed with the following mental and behavioural problems: conduct disorder; attention deficit disorder (ADD); separation anxiety; paranoia; histrionic; borderline (pattern of unstable relationships, mood swings, feelings of emptiness, and self-destructive behaviour); narcissistic; passive-aggressive and being overly dependent. Furthermore, those adolescents and their mothers who placed a high priority on being rich as one of their life values had significantly increased odds of having conduct disorder, oppositional defiance disorder (ODD); ADD ; alcohol abuse; marijuana abuse; separation anxiety; major depression; and additional personality disorders (Cohen & Cohen, 1996).



It has been discussed above how materialistic pursuits may be symptomatic of psychological need deprivation, and related to the pursuit of extrinsic goals and values. In a study of 700 12-20 year olds from upstate NY, materialistic values were associated with admiring characteristics of having expensive possessions, wearing expensive clothes, being pretty or handsome (Cohen & Cohen, 1996). Kasser & Ryan used their Aspiration Index (Kasser & Ryan, 1993) which measures the value of financial success relative to other values: self-acceptance; affiliation and community feeling with 140 18 year olds from a variety of SES backgrounds. Participants additionally had a clinical interview and were rated on a 100 point scale assessing psychiatric impairment & life adaptation. Those who valued financial success compared with non-materialistic values had poorer school and work functioning & were prone to behaviour disorders such as vandalism, truancy & carrying weapons. Williams, Cox, Hedberg & Deci (2000) found in study of 15-18 year olds that those espousing materialistic values rather than self-acceptance, affiliation and community feeling values were more likely to engage in smoking, chewing tobacco, alcohol marijuana and sexual intercourse.

Whilst it is not possible to say that materialism causes mental health illnesses and behavioural problems in adolescence, it is clear that research underlying associations between them is growing, and that we must seek to address potential causes and consequences if children and young people are to be mentally healthy and competent in our society.

## 1.8 Hypotheses

The present study proposes the following hypotheses and research questions, developed from research outlined in each of the above areas of parent and peer factors affecting materialism, and well-being.

### Parental Factors and Adolescent Materialism

H<sub>1</sub>: Adolescent materialism will be positively correlated with parents' materialism

H<sub>2</sub>: Higher adolescent rating of parental support will be correlated with lower adolescent materialism

H<sub>3</sub>: Higher parental rating of parental support will be correlated with lower adolescent materialism

#### Peer Factors and Adolescent Materialism

H<sub>4</sub>: Adolescent Materialism will be positively correlated with perceived friend's materialism

H<sub>5</sub>: Adolescent Materialism will be positively correlated with actual friend's materialism

H<sub>6</sub>: Perceiving greater peer group pressure will be positively correlated with adolescent materialism

Research question 1: Are greater pro-social behaviours associated with peer group pressure and materialism?

#### Materialism and Wellbeing

H<sub>7</sub>: Contingent self-worth will be positively correlated with adolescent materialism

H<sub>8</sub>: Contingent self-worth will be correlated with lower well-being

H<sub>9</sub>: Adolescent Materialism will predict lower well-being

Research question 2: Does parents' and peers' materialism independently predict adolescent materialism? Which is the strongest predictor?

Research question 3: Does parents' and peer support independently predict adolescent materialism? Which is the strongest predictor?

Research question 4: Does parental or peer support moderate the relationship between adolescent materialism and lower well-being?

Research question 5: Are parents' educational aspirations for their child associated with adolescent materialism?

## **2. Methodology**

### **2.1 Design**

The study used a correlational design with the following variables: physical self-worth contingencies, social self-worth contingencies, peer group pressure, peer support, child's perception of parental support, children's materialism, well-being, perceived friend's materialism, actual friend's materialism, parent's materialism, parent's perception of parental support and parent's educational aspirations for their child.

### **2.2 Participants**

Three sets of data were collected. The first set was a convenient sample of students (N=63), all but one aged 13-15, with one 12 year old (mean age 14.05 years, SD.847), comprising 21 boys and 42 girls. Fifty-four of the participants were recruited from a secondary school in Buckinghamshire. Secondly, 9 students were recruited via word-of-mouth. The sample was of mixed ethnicity, 36 (57%) White British and the remaining 27 (47%) from nine further ethnicities including African 8 (13%), Caribbean and Indian at 2 (3%) each of the sample. Signed parental consent for each participant was obtained prior to commencing the study. Participant verbal assent was also obtained prior to the study. Additionally, with the first set of data collected, 38 parents returned individual questionnaires, with the nine parents of children recruited via word-of-mouth also returning questionnaires. The third set of data collection was a convenient sample of students (N=104) aged 14-15, from a Year 10 cohort at a secondary school in Bedfordshire. Only 82 of the sample stated their exact age. The sample comprised 53 boys, 49 girls, and two further participants who did not state their gender. The second sample set was of mixed ethnicity, including 38 (37%) White British, 25 (24%) Pakistani, 16 (16%) Bangladeshi and 8 further stated ethnicities, with 3 (3%) of participants not declaring ethnicity. Parents from the second data set were invited to return questionnaires but none were returned. Parents were given opt-

out permission slips if they did not want their child to participate, and verbal assent was obtained from the participants prior to commencing the study.

### 2.3 Procedure and Measures

The research project adhered to the ethical guidelines of the Research Graduate School (2012), as directed by the Institute of Applied Social Research at the University of Bedfordshire. Additionally, the research met the requirements of the British Psychological Society (BPS) Code of Conduct (Society, 2009). Adherence to these ethical requirements was evidenced by the obtaining of parental consent for each participant, obtaining verbal assent from each participant, including no self-report measures that would engender psychological harm or anxiety to participants, debriefing after participation, ensuring that all data collected was analysed anonymously so that no individual participant could be identified, assurance of every participant's right to withdraw at any stage of the study and providing information as to how they may do this, storing all hard copy data and analysed data confidentially in a locked cupboard.

Ethical approval was gained from each school prior to commencing the study, and all study materials were made available for the schools to approve in advance. A brief summary of the literature and rationale for the study was also emailed to the point of contact at each school. As part of the agreements with the schools, 'A' level students were given the opportunity to participate in the data collection process. Immediately before each data collection session, the researcher described the study to the 'A' level students, explained the measures involved, so that the 'A' level students could answer any questions that participants may have during completion.

In the first school, parental consent forms and questionnaires had been distributed to the students a week prior to data collection. Participants who had obtained written permission from their parents handed their consent forms to the researcher, alongside any returned parental questionnaires. Participants completed the questionnaires in classroom, introduced by their teacher and the researcher. Participants were advised that questionnaires should be completed individually,

and that no conferring should take place during completion. These data collection sessions took place over several lessons in a two-month period. Word-of-mouth participants completed their questionnaires by post, with separate stamped envelopes included so that parents and their children could return their questionnaires confidentially. Parents were also asked to provide written consent for their child to participate.

In the second school, participants were given parental opt-out consent forms (on the advice of the school) and parental questionnaires a week prior to data collection. Participants were therefore not required to have written parental consent to participate. The time allotted for the data collection was a single session of daily tutor time. As the researcher could not be present in up to 10 'tutor-time' sessions, a briefing was held with 20 'A' level psychology students, who would administer the questionnaires in pairs during the tutor time. Tutors oversaw the data collection, and ensured that ethical considerations were addressed, for example, the advice to participants that the data would be anonymous, and of their right to withdraw. All 'A' level students involved in the data collection returned the questionnaires to the researcher immediately post data collection.

For schools, participants and 'A' level students assisting with data collection were thanked for their participation in the study.

Measures:

The questionnaires contained no subheadings, with each scale following on from one another. These were presented in order of contingent self-worth, perceived peer group pressure, peer support, parental support, SDQ, MVS-c (self), MVS-c (perceived friend).

### Materialism

Participants' materialism was measured by the Material Values Scale for children (MVS-c) (Oprea, Buijzen, van Reijmersdal, & Valkenburg, 2011), (Cronbach's alpha.93; additionally construct validity of  $r = .75$ ) with Buijzen & Valkenburg

(2003) Materialism Scale. This scale was developed to ascertain whether children's materialism was a second order construct with three underlying factors (material centrality, material happiness, and material success) as had been previously identified in an established measure of adult's materialism, the Material Values Scale (MVS) (Richins & Dawson, A Consumer Values Orientation for Materialism and Its Measurement: Scale Development and Validation, 1992). Oprea et al (2011) confirmed a presumed second-order structure of the MVS-c. The scale was developed with children aged 8-11, and accordingly the wording for some of the items was amended for the age group of the present study (12-15), replacing the word 'children' with the word 'teenager' where applicable. All response items were on a four point scale: (1) "No, not at all"; (2) "No, not really"; (3) "Yes, a little"; (4) "Yes, very much". Example items from each of the subscales are as follows: (Material centrality) "Do you think it's important to own expensive brands?" (Material happiness) "Do you feel unhappy if you don't get the things you really want to have?" (Material success) "Do you like teenagers who have expensive clothes more than you like other teenagers?" (see Appendix I for the scale in full.) Responses were summed for a total score for each subscale, and for an overall Materialism measure. All young people completing the questionnaires were asked to complete the MVS-c for themselves, and also to complete a separate MVS-c according to how they thought a (named) friend would complete it, with the instructions "So you are giving responses *according to what you think your friend would say and what you think is important to them*". This was to enable a comparison of participants' materialism with perceived friend's materialism, and where possible, to compare perceived friends' materialism with actual friends' materialism.

Parents were asked to complete the Material Values Scale (MVS) (Richins & Dawson, A Consumer Values Orientation for Materialism and Its Measurement: Scale Development and Validation, 1992). This established materialism scale comprises three components: materialism centrality,  $\alpha = .71-.75$ , example item "I enjoy spending money on things that aren't practical"; material happiness,  $\alpha = .73-.83$ , example item "I'd be happier if I could afford to buy more things"; material

success,  $\alpha = .74-.78$ , example item “I admire people who own expensive homes, cars and clothes”. The combined scale reports alphas between .80-.88, with test-retest reliability of .87. All items were responded to on a 5 point Likert format: (1) No, not at all; (2) No, not really; (3) Unsure; (4) Yes, a little; (5) Yes, very much. (See Appendix II for the scale in full). Responses were summed for a total score for each subscale, and for an overall Materialism measure.

### Parental Support

The Supportive Parenting Scale (Simons, Lorenz, Conger, & Wu, 1992) is a self-report measure, designed to be used by both parent and child. It was developed with parents and children in the Seventh grade (age 12-13) and measures key aspects of supportive parenting such as love and acceptance, communication, and parental help and support when problems arise. Alpha co-efficients reported by Simons et al (1992) are between .78-.81 for parental report of their support of their child, and between .83-.87 of the child’s report of the parent’s support. The scale was additionally validated in a review of measures of parental nurturance as being suitable for use with early adolescents-adolescents (Locke & Prinz, 2002). The scale consists of nine items, re-worded for the present study for UK children. An example item (parent version) is “When you and your child have a problem, how often can the two of you figure out how to deal with it?” The same item for the child version is worded “When you and your parent have a problem, how often can you figure out how to deal with it?” Likert type responses were recorded: (1) Never; (2) Almost never; (3) About half the time; (4) Almost always; (5) Always. Responses were summed for a total parental support score, one for parents and one for the child. See Appendix III for the scale in full.

### Peer Support

A self-report measure of peer support, adapted from Chaplin & John (2010) was used to measure the extent to which peers were perceived as being understanding, helpful and supportive. Chaplin & John (2010) report a good level of reliability,  $\alpha = .83$ . In the present study, the scale was adapted slightly between the two schools: the first set of data collection consisted of 8 items, including “My friends

like me for who I am”, scored (1) Never; (2) Sometimes; (3) Most of the time; (4) All of the time. The item that changed was “My friends don’t judge me” in the first set (coded as above) to “My friends judge me” (reverse scored); the reason for the change to avoid any potential ambiguity in responding to the word *don’t* in the initial item wording. Responses were summed to for a total peer support score (see Appendix IV for the scale in full).

### Peer Pressure

Aspects of peer group culture pressure associated with increased materialism in children include feeling under pressure to behave in certain ways, dress in particular clothes and shoes and forge certain acquaintances over others (Banerjee & Dittmar, 2007). The Perceived Peer Group Pressure Scale (Banerjee & Dittmar, 2007) is a 22 item self-report scale, initially developed and validated with children aged 7-11 ( $\alpha=.82$ ). Items start with a stem question “Do other children make you feel you should...?” followed by (examples) “Spend less time with family”; “Dress in certain clothes”. Likert type responses range from (1) Never; (2) Sometimes; (3) Often; (4) Always and responses are summed for a total measure of perceived peer culture pressure. For the first school, the wording was kept the same. Some comments on the questionnaires from participants indicated their dislike of being referred to as a child, and so for the second school, the stem question was re-phrased as “Do other young people your age make you feel that you should...?” (see Appendix V for the scale in full).

### Contingent Self-Worth

As one of the aims of the study was to look at potential correlations between feelings of self-worth being dependent on external validation and (1) materialism and (2) psychological well-being, two subscales from the Self-Worth Contingency Questionnaire (SWCQ) (Burwell & Shirk, 2006), developed for use with adolescents were used. In line with previous research (Kasser, 2002) teenagers who had value orientations centred on (amongst others) physical attractiveness and achieving popularity were more materialistic and had lower well-being than those who valued personal growth and intimacy. As discussed above, contingent



self-worth is also a risk factor for anxiety and depression. Accordingly, the present study used the Physical Self-Worth Contingency subscale ( $\alpha = .86$ ), consisting of eight items, example item “The way I feel about myself as a person depends a lot on my physical appearance”. Additionally, the Social Self-Worth Contingency subscale ( $\alpha = .85$ ) was used, also consisting of eight items, example item “Other people’s feedback makes or breaks how I feel about myself”. Responses were coded (1) Not at all true for me; (2) A little true for me; (3) Very true for me; (4) Extremely true for me. Totals were summed for each subscale, and additionally a combined total for the two subscales was recorded. See Appendix VI for the scale in full.

### *Psychological Well-being*

Described as a behavioural screening questionnaire, the Self-Report version of the 25 item Strengths and Difficulties Questionnaire (SDQ) (Goodman, The Strengths and Difficulties Questionnaire: A Research Note, 1997) was designed for use by researchers, clinicians and those working in education professions. Assessing strengths in the form of the Pro-social behaviours subscale (5 items), and four further subscales, each with 5 items (hyperactivity, conduct problems, emotional problems and peer problems) the SDQ provides subscale total scores, as well as an overall difficulties score with the latter 4 subscale total scores combined. The self-report version is designed for completion by young people between the ages of 11 and 16. Goodman (1997) reports the following alphas as a measure of internal reliability:  $\alpha = .82$  for total difficulties,  $\alpha = .69$  for hyperactivity (example item “I am easily distracted, I find it difficult to concentrate”);  $\alpha = .72$  for conduct problems (example item “I fight a lot. I can make other people do what I want”);  $\alpha = .75$  for emotional problems (example item “I am often unhappy, depressed or tearful”);  $\alpha = .61$  for peer problems (example item “Other people my age generally like me”);  $\alpha = .65$  for pro-social behaviour (example item “I try to be nice to other people. I care about their feelings). Goodman (1998) found that the self-report version of the SDQ was able to discriminate between a community sample of young people, and a sample attending a mental health clinic. Additional validation of its use in non-clinical samples of children (aged 8-13) was provided in a study

by Muris, Meesters, Eijkelenboom & Vincken (2004), who confirmed reliability of the scale at  $\alpha=.76$ . Likert type responses for each item (except reverse scored items) were scored (0) Not true; (1) Somewhat true; (2) Certainly true. Subscale scores were summed as described above. See Appendix VII for the scale in full.

*Parent's Educational Aspirations for their Child*

Parents were asked to indicate their educational aspirations for their child by ticking the appropriate box alongside each qualification level: (1) No academic/vocational qualifications (2) GCSE/NVQ Level 1-2 (3) A Level/NVQ Level 3 (4) Bachelor's Degree (4) Postgraduate degree, e.g. Masters or PhD.

### 3. Results

The data was analysed using IMP SPSS version 19 and are presented first by descriptive statistics and reliability analysis, and then by hypotheses testing / research question within each area of investigation.

Reliability analyses for internal consistency were conducted separately for each rating scale (see Table 1 below). Any participants with more than one missing item per scale were omitted from analysis for that scale. Participants with one item missing per scale had their mean score for that scale entered at the missing data point. Cronbach's alphas of 0.7 and above are regarded as the benchmark within social sciences research (Hinton, Brownlow, McMurray, & Cozens, 2004). However, psychological scales requiring more-in depth analysis of one's thoughts and perspective, as opposed to skills in an area, are prone to lower reliability, with values of over 0.6 sometimes considered acceptable (Langridge & Hagger-Johnson, 2009). Table 1 therefore indicates high levels of reliability for all scales used. The number of participants for each subscale; means score, standard deviation, participants' minimum and maximum scores, and scale Cronbach alphas are illustrated in Table 2 below.

A Shapiro-Wilk test of normal distribution for each variable revealed that most scales (except SDQ difficulties, parent's rating of parental support and participant's friend's actual materialism) were significantly not normally distributed. Accordingly, correlations were made with non-parametric correlations (Spearman's Rho).

### 3.1 Descriptive Statistics

Table 1

*Descriptive Statistics and Reliability Analysis by Scale*

<b>Name of Scale</b>	<b>N</b>	<b>Mean Score &amp; SD</b>	<b>Range</b>	<b>alpha</b>
MVS-c(participant)	165	38.84 (SD=11.1)	18-72	$\alpha=.94$
MVS-c (perceived friend's materialism)	151	38.84 (SD= 12.7)	18-72	$\alpha=.96$
MVS-c (actual friend's materialism)	46	35.78 (SD= 9.62)	18-60	$\alpha=.90$
MVS (adult materialism)	47 <sup>c</sup>	46 (SD=8.8)	31-63	$\alpha=.68^c$
Supportive Parenting Scale <sup>a</sup>	165	30.65 (SD=7.7)	9-45	$\alpha=.90$
Supportive Parenting Scale <sup>b</sup>	47 <sup>c</sup>	39.0 (SD=3.7)	29-45	$\alpha=.74$
Peer Support Scale	164	25.5 (SD=4.2)	13-32	$\alpha=.78$
Perceived Peer Group Pressure Scale	164	36.84 (SD=10.7)	22-70	$\alpha=.91$
Contingent Self-Worth Scale	166	39.42 (SD=7.2)	16-63	$\alpha=.80$
SDQ (Pro-social behaviour)	166	6.42 (SD=2.14)	0-10	$\alpha=.65$
SDQ (Difficulties Scale)	165	13.63 (SD=5.7)	0-29	$\alpha=.77$

*Notes*

<sup>a</sup> adolescent rating of parental support; <sup>b</sup> parent rating of parental support;

<sup>c</sup> parents from school 1 only

As shown in Table 1, there were different numbers of participants across the scales. School 1 only had parents completing measure of materialism, and

parents' assessment of the support they gave to their teenager. The number of 'actual' friends providing data of materialism was less than 'perceived friends' as 'actual' friends materialism could only be ascertained if the participants recorded that the name of their friend was one of the other participants, and therefore the data could be compared. The means of adolescent materialism, and perceived friends materialism were very similar, with both higher than actual friends' materialism. An independent samples Kruskal-Wallis test revealed that there were no significant differences in the distribution of materialism scores between participants', perceived friends' and actual friends' materialism. Parents (*Mean rank* = 161.59) reported significantly higher levels of parental support than adolescents rating of parental support (*Mean rank* = 90.81),  $U = 6466.5$ ,  $z = 6.99$ ,  $p < .001$ ,  $r = .48$ , where  $r$  indicates the effect size.

In order to test the hypotheses, bi-variate Spearman's Rho correlations across all variables were conducted and are shown in Table 2 below. All correlations are one-tailed. Participant numbers ( $N$ ) for each correlation is shown as the numbers of participants varied across the measures. In order to run regression analysis, several model assumptions need to be met (Field, 2013). There should be no collinearity within the data; the residuals in the model need to be independent; there should be normal distribution of the residuals of the outcome variables demonstrating homoscedasticity of the variance with each level of the predictor(s) and linear relationships. Accordingly, for each regression model, VIF statistics were checked to be less than 10, and all tolerance values to be greater than 0.1 in order to ascertain that there was no collinearity. The Durbin-Watson check was used to ascertain that the residuals in the model were independent (no values less than 1 or greater than 3); potential outliers influencing the data were checked via Cook's Distance that all were lower values than 1; and histogram and normal probability plots of the residuals confirmed homoscedasticity and normal linear relationships.

### 3.2 Parental Factors and Adolescent Materialism

From School 1 only, there was data for adolescent and parents' materialism, which were found to be significantly correlated. Adolescents who were more materialistic had more materialistic parents.  $H_1$  is therefore supported.

Adolescents' materialism was significantly negatively correlated with the perception of the support they had from their parents. Although the strength of the correlation is low-moderate, there was an association between perceiving a lack of parental support, and increased materialism in adolescents in this study.  $H_2$  is therefore supported.

However, no significant correlation was found between parents' ratings of the support they gave their child and their child's materialism.  $H_3$  is consequently unsupported. A further correlation was carried out to investigate whether adolescent's perception of parental support was correlated with parent's ratings of the support they provided, and there was a significant correlation. Results from parental measurement of support were only obtained from School 1.

### 3.3 Peer Factors and Adolescent Materialism

Adolescent materialism was strongly correlated with how materialistic they perceived their friends to be. Adolescents who were more materialistic had friends who were perceived to be more materialistic. Therefore,  $H_4$  is supported.

However, there was no significant correlation between adolescent materialism and the actual reported materialism of their friends.  $H_5$  is consequently unsupported. It should be recognised that the number of actual friends with comparative data was lower than data for perceived friends. There was a moderate correlation between how materialistic adolescents perceived their friends to be and the reported materialism of their friends.

Perceiving more peer group pressure was positively correlated with adolescent materialism. Therefore  $H_6$  is supported.

Table 2

*Spearman's Rho Correlations between all Variables*

Scale	MVS-c Participant	MVS-c Perceived Friend	MVS-c Actual Friend	MVS Parent Materialism	Supportive Parenting Adolescent Rating (AR)	Supportive Parenting Parent Rating (PR)	Peer Support	PPGP	Con S-W	SDQ Pro-Social
<b>MVS-c (Perceived Friend)</b>	.57* (N=151)									
<b>MVS-c (Actual Friend)</b>	.05 (N=46)	.42* (N=46)								
<b>MVS (Parent Materialism)</b>	.48* (N=47)	.37** (N=46)	-.140 (N=23)							
<b>Supportive Parenting (AR)</b>	-.31* (N=164)	-.20* (N=150)	-.04 (N=46)	-.17 (N=47)						
<b>Supportive Parenting (PR)</b>	-.02 (N=47)	-.12 (N=47)	-.13 (N=23)	-.14 (N=47)	.51* (N=47)					
<b>Peer Support</b>	-.23* (N=163)	-.25* (N=149)	-.28** (N=46)	-.32** (N=47)	.26* (N=163)	.11 (N=47)				
<b>PPGP</b>	.37* (N=162)	.24* (N=148)	.00 (N=46)	.09 (N=47)	-.22* (N=162)	-.25** (N=47)	-.20* (N=162)			
<b>Contingent Self-worth</b>	.05 (N=164)	.00 (N=150)	.27** (N=45)	-.03 (N=47)	-.01 (N=164)	-.04 (N=47)	-.12 (N=163)	.22** (N=163)		
<b>SDQ Pro-Social</b>	-.38* (N=165)	-.22* (N=151)	.02 (N=46)	.01 (N=47)	.57* (N=164)	.25** (N=47)	.35* (N=163)	-.22* (N=163)	.08 (N=165)	
<b>SDQ Difficulties</b>	.39* (N=164)	.29* (N=150)	-.11 (N=46)	.27** (N=47)	-.33* (N=163)	-.12 (N=47)	-.20* (N=162)	.30* (N=162)	.18** (N=164)	-.29* (N=165)

All correlations are one-tailed. \*significant at  $p < 0.01$  level\*\*significant at  $p < 0.05$  level

Non-asterisked correlations are non-significant

Research Question 1:

Pro-social behaviour was negatively correlated with adolescent materialism. Pro-social behaviour was also negatively correlated with perception of peer group pressure. In order to examine how positive human relationships (measured in this study by pro-social behaviours) may affect peer group pressure, and adolescent materialism, linear regressions were conducted to establish if pro-social behaviours predicted lower materialism; and secondly if lower perception of peer group pressure was predicted by pro-social behaviours. These regressions are illustrated in Tables 3 and 4 respectively.

Table 3

*Linear model of pro-social behaviour as a predictor of adolescent materialism*

Predictors	<i>b</i>	SE B	$\beta$	<i>P</i>	$R^2$
Pro-social behaviour	-2.12	.37	-.41	<i>p</i> = .000	$R^2 = .17$

Dependent variable: adolescent materialism

The regression model was significant at  $F(1,163) = 32.271; p < .001$ . The negative *b* value indicates a negative relationship between pro-social behaviours and adolescent materialism. As pro-social behaviour increases by one unit, adolescent materialism decreases by 2.12 units. Pro-social behaviour accounts for 17% of the variance in adolescent materialism.

Table 4

*Linear model of pro-social behaviour as a predictor of perceived peer group pressure*

Predictors	<i>b</i>	SE B	$\beta$	<i>P</i>	$R^2$
Pro-social behaviour	-1.04	.38	-.21	<i>p</i> = .007	$R^2 = .04$

Dependent variable: perceived peer group pressure



The regression model was significant at  $F(1,161) = 7.396, p < .01$ . Table 4 illustrates that as pro-social behaviour increases by one unit, perceived peer group pressure decreases by 1.04 units. Pro-social behaviour accounts for 4% of the variance in perceived peer group pressure.

The next step to understanding the roles that pro-social behaviours and peer group pressure play in predicting adolescent materialism was to see if a) pro-social behaviours was a mediator of the relationship between perceived peer group pressure and materialism, b) perceived peer group pressure was a mediator of the relationship between pro-social behaviour and materialism. According to Baron & Kenny (1986), a mediator is a generative mechanism (a means by which something happens) through which the independent variable (in this case either perception of peer group pressure or pro-social behaviour influences the dependent variable under investigation (in this case adolescent materialism).

The test of mediation follows Baron & Kenny (1986). Three separate regressions are specified: (1) the effect of the independent variable (IV) (Table 5 illustrates perceived peer group pressure as the IV; Table 5 illustrated pro-social behaviours as the IV) on the dependent variable (adolescent materialism); (2) the effect of the IV on the presumed mediator (Table 5 illustrates pro-social behaviours as the mediator; Table 6 illustrates perceived peer group pressure as the mediator); (3) the effect of perceived peer group pressure and pro-social behaviours on adolescent materialism. Significant mediation is indicated if the coefficients for the IV in the first two regressions are significant, and the coefficient for the mediators in the third regression is significant, with the effect of the IV on the DV weaker in the third regression than in the first regression. Perfect mediation would occur if the IV had no effect on the DV with the mediator included in the model. The results of the mediation regressions are shown in Table 5 and Table 6 below.

Table 5

*Mediating effect of pro-social behaviour on the relationship between perceived peer group pressure and adolescent materialism*

<b>Dependent Variable</b>	<b>Independent Variable</b>	<b>Coefficient (<math>\beta</math>)</b>	<b><i>p</i></b>	<b><i>F</i></b>	<b><math>R^2</math></b>
Regression 1: Adolescent Materialism	Perceived Peer Group Pressure	.35	.000	22.126	.12
Regression 2: Pro-Social Behaviours	Perceived Peer Group Pressure	-.21	.007	7.396	.04
Regression 3: Adolescent Materialism	Perceived Peer Group Pressure Pro-Social Behaviours	.27  -.36	.000  .000	25.427	.24

As illustrated in Table 5, in the first two regressions, there is a significant effect of perceived peer group pressure on adolescent materialism, and a significant negative effect of perceived peer group pressure on pro-social behaviours. The third regression indicates that pro-social behaviours is a partial mediator of the relationship between perceived peer group pressure and adolescent materialism, as the co-efficient of perceived peer group pressure drops from the first regression to the third. Sobel's test of mediation (Preacher, 2013) was significant,  $z = 2.33$   $p = 0.02$ . As indicated, there is both a direct and an indirect negative relationship (via partial mediation of pro-social behaviours) between perceived peer group pressure and adolescent materialism. This partial mediation is illustrated in Figure 1.

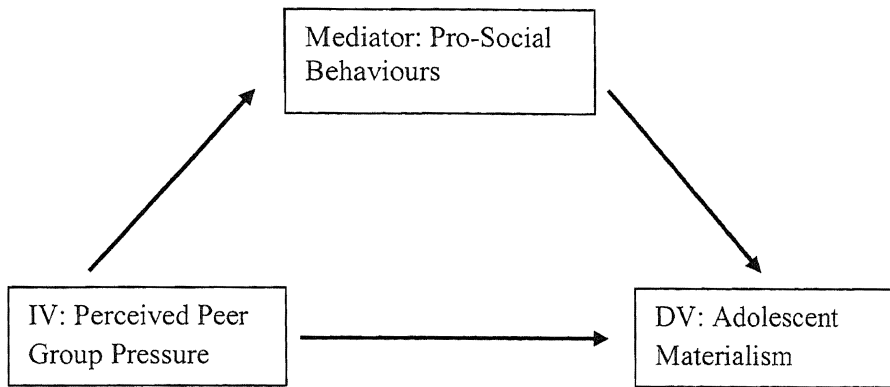


Figure 1. Pro-social behaviour as a partial mediator of the relationship between perceived peer group pressure and adolescent materialism

Table 6

*Mediating effect of perceived peer group pressure on the relationship between pro-social behaviours and adolescent materialism*

<b>Dependent Variable</b>	<b>Independent Variable</b>	<b>Coefficient (<math>\beta</math>)</b>	<b><i>p</i></b>	<b><i>F</i></b>	<b><math>R^2</math></b>
Regression 1: Adolescent Materialism	Pro-Social Behaviours	-.41	.000	32.271	.17
Regression2: Perceived Peer Group Pressure	Pro-Social Peer Behaviours	-.21	.007	7.396	.04
Regression 3: Adolescent Materialism	Pro-Social Behaviours	-.36	.000	25.427	.24
	Perceived Peer Group Pressure	.27	.000		

As illustrated in Table 6, in the first two regressions, there is a significant negative effect of pro-social behaviours on adolescent materialism, and a significant negative effect of pro-social behaviours on perceived peer group pressure. The third regression indicates that perceived peer group pressure is a partial mediator of the relationship between pro-social behaviours and adolescent materialism, as the co-efficient of pro-social behaviours drops from the first regression to the third. Sobel's test of mediation (Preacher, 2013) was significant,  $z = 2.39$   $p = 0.02$ . As indicated, there is both a direct and an indirect negative relationship (via partial mediation of perceived peer group pressure) between and pro-social behaviours adolescent materialism. This partial mediation is illustrated in Figure 2.

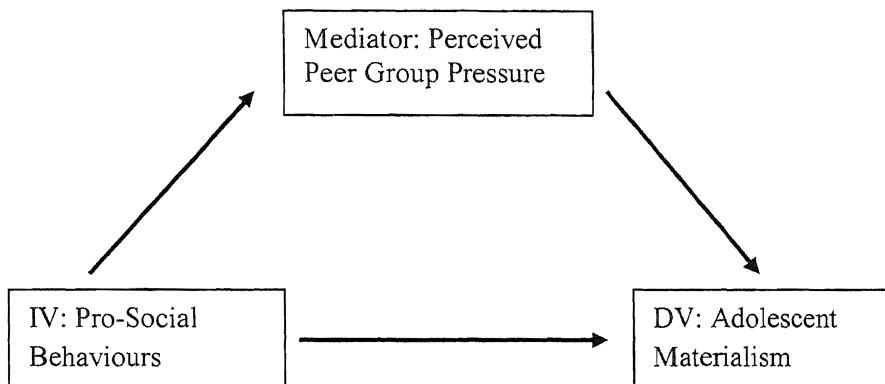


Figure 2. Perceived peer group pressure as a partial mediator of the relationship between pro-social behaviours and adolescent materialism

These two mediation models are explored in the discussion.

### 3.4 Materialism and Well-being

There was no significant relationship between contingent self-worth and materialism. Therefore  $H_7$  is not supported.

However, a low significant correlation was found between contingent self-worth and SDQ difficulties. For adolescents in this study, more psychological and behavioural difficulties were associated with an increased tendency to turn to

sources of external validation of their self-worth.  $H_8$  is consequently supported (See Table 2).

Linear regression showed that adolescent materialism predicted higher scores on the SDQ difficulties scale (see Table 7).

Table 7

Linear model of adolescent materialism as a predictor of SDQ difficulties

<b>Predictors</b>	<b><i>b</i></b>	<b>SE B</b>	<b><math>\beta</math></b>	<b><i>P</i></b>	<b><math>R^2</math></b>
Adolescent Materialism	.22	.04	.42	.000	.18

Dependent variable: SDQ difficulties

The regression model was significant  $F(1,162) = 34.356, p < .001$ . Adolescent materialism accounted for 18% of the variance in SDQ difficulties. Therefore,  $H_9$  is supported.

### Research Question 2

Previous research has indicated that parents' materialism and peers' materialism (as socialisation agents) predicts adolescent materialism. In order to test the strength of these predictors within the current study, firstly linear regressions were conducted to establish that parents and peers were independent predictors of adolescent materialism (Table 8 & Table 9 respectively). Bi-variate correlations had demonstrated that actual friend's measure of materialism was not correlated with adolescent materialism, and therefore actual friend's materialism was not tested as a predictor.

Table 8

*Linear model of parent's materialism as a predictor of adolescent materialism*

Predictors	<i>b</i>	SE B	$\beta$	<i>p</i>	R <sup>2</sup>
Parent's Materialism	.51	.14	.47	.000	.22

Dependent variable: Adolescent Materialism    The model is significant  $F(1,45) = 12.730, p < .01$

Table 9

*Linear model of perceived peer's materialism as a predictor of adolescent materialism*

Predictors	<i>b</i>	SE B	$\beta$	<i>p</i>	R <sup>2</sup>
Perceived Peer's Materialism	.47	.06	.55	.000	.31

Dependent variable: Adolescent Materialism    The model is significant  $F(1,149) = 65.846, p < .001$

As shown in Tables 8 & 9, both parents' and peers' materialism are significant independent predictors of adolescent materialism. Parent's materialism predicts 22% of the variance in adolescent materialism, and peer's materialism predicts 31% of the variance.

As existing literature does not conclude which variable (parents' materialism or peers' materialism) is a stronger predictor of adolescent materialism, two separate models were produced. Hierarchical regression is regarded as the best regression model to use, when there is theoretical evidence for one predictor being stronger than another predictor, as evidence for the greater influence of one predictor has been found in previous research, and should therefore carry greater weight (Field,

2013). Two separate models were produced using hierarchical regression, firstly with peers' materialism as the presumed strongest predictor of adolescent materialism, followed by parents' materialism at the second step. Gender was also entered into the model as a potential confounding variable at the first step; however gender was excluded from the model as non-significant, and therefore the two-step model generated is shown below in Table 10.

Table 10

*Linear model of predictors of adolescent materialism (materialism of socialisation agents)*

<b>Predictors</b>	<b>B</b>	<b>SE B</b>	<b>β</b>	<b>p</b>	<b>R<sup>2</sup>/ΔR<sup>2</sup></b>
<b>Step 1</b>					
Perceived Peer's Materialism	.51	.09	.65	.000	R <sup>2</sup> = .42
<b>Step 2</b>					
Perceived Peer's Materialism	.44	.09	.56	.001	
MVS	.33	.12	.30	.011	
					R <sup>2</sup> = .51 ΔR <sup>2</sup> = .08

Both regression model steps were significant as follows:

Step 1:  $F(1,45) = 32.510; p < .001$

Step 2:  $F(2,44) = 22.044; p < .001$

The second model examined adolescent's materialism with parents' materialism as the presumed strongest predictor, with peers' materialism entered at the second step (Table 11). Friends' materialism became the strongest predictor once it was

entered into the model, and therefore the first hierarchical regression (two-step) model (Table 10) provided a better fit, accounting overall for 51% of the variance in adolescent materialism.

Table 11

*Alternative linear model of predictors of adolescent materialism (materialism of socialisation agents)*

Predictors	B	SE B	$\beta$	<i>p</i>	$R^2/\Delta R^2$
Step 1					
MVS	.51	.14	.47	.001	$R^2 = .22$
Step 2					
MVS	.36	.12	.30	.011	
Perceived Peer's Materialism	.44	.90	.56	.001	$R^2 = .51$ $\Delta R^2 = .28$

Both regression model steps were significant as follows:

Step 1:  $F(1,45) = 12.730; p < .001$

Step 2 :  $F(2,44) = 22.044; p < .000$

### Research Question 3

Linear regression models were run in order to establish whether adolescent's perception of parental support, and perception of peer support independently predicted lower materialism. Parent's perception of parental support was not tested as a predictor of adolescent materialism because it was not significantly correlated with adolescent materialism. Tables 12 and 13 indicate the individual predictors.



Table 12

*Linear model of parental support as a predictor of adolescent materialism*

Predictors	<i>b</i>	SE B	$\beta$	<i>p</i>	R <sup>2</sup>
Parental support	-.45	.11	-.31	.000	.10

Dependent variable: Adolescent Materialism The model is significant  $F(1,162) = 17.624, p < .001$

Table 13

*Linear model of peer support as a predictor of adolescent materialism*

Predictors	<i>b</i>	SE B	$\beta$	<i>p</i>	R <sup>2</sup>
Peer support	-.68	.20	-.26	.001	.07

Dependent variable: Adolescent Materialism The model is significant  $F(1,161) = 11.717, p < .001$

As shown in Tables 12 & 13, both parental and peer support are significant independent predictors of adolescent materialism. Table 12 shows a negative *b* value, indicating a negative relationship between parental support and adolescent materialism. As parental support increase by one unit, adolescent materialism decreases by .45 units. Table 13 shows a negative *b* value, indicating a negative relationship between peer support and adolescent materialism. As peer support increases by one unit, adolescent materialism decreases by .68 units. In order to test the relative strength of the predictors, two separate hierarchical regression models were run, firstly with peer support entered at the first step and parental support at the second step (Table 14), and then with parental support entered at the first step and peer support at the second step (Table 15).

Table 14

*Linear model of predictors of adolescent materialism (social support agents)*

Predictors	b	SE B	$\beta$	p	R <sup>2</sup> / $\Delta$ R <sup>2</sup>
Step 1					
Peer Support	-.68	.20	-.26	.001	R <sup>2</sup> =.07
Step 2					
Peer Support	-.53	.20	-.21	.008	
Parental support	-.37	.11	-.26	.001	
					R <sup>2</sup> = .13
					$\Delta$ R <sup>2</sup> = .06

Both regression model steps were significant as follows:

Step 1:  $F(1,160) = 11.631; p < .01$

Step 2 :  $F(2,159) = 11.832; p < .001$

Table 15

*Alternative linear model of predictors of adolescent materialism (social support agents)*

Predictors	b	SE B	$\beta$	p	R <sup>2</sup> / $\Delta$ R <sup>2</sup>
Step 1					
Parental Support	-.44	.11	-.30	.001	R <sup>2</sup> =.09
Step 2					
Parental Support	-.37	.11	-.26	.001	
Peer Support	-.53	.20	-.20	.008	
					R <sup>2</sup> = .13
					$\Delta$ R <sup>2</sup> = .04

Both regression model steps were significant in Table 15 as follows:

Step 1:  $F(1,160) = 15.942; p < .001$

Step 2 :  $F(2,159) = 11.832; p < .001$

Peer support remains the strongest social support predictor of adolescent materialism, as shown in Table 15, which has parental support entered at the first step, and when peer support is entered at the second step, peer support becomes the strongest predictor.

Peer support as a moderator of the effect of perceived friend's materialism on adolescent materialism.

In order to test whether support moderated the effect of perceived friend's materialism and parental materialism on adolescent materialism, individual tests of moderation were conducted with peer support and parental support. Parental support did not significantly moderate these relationships. However, peer support was a significant moderator. A test of moderation explores whether there is a relationship between variables, moderating for a third variable. Firstly, an interaction term was created between the predicted moderator (parental/peer support) and the IV (perceived peer materialism). Next a regression model was run with the IV entered at the first step, the moderator at the second step, and the interaction at the third step. Adolescent materialism is the DV or outcome variable. The results of this moderation are shown in Table 16 below.

Table 16

*Test of moderation significance: peer support moderates the effect of perceived friend's materialism on adolescent materialism.*

<b>Model</b>	<b><i>b</i></b>	<b><math>\Delta F</math></b>	<b>Adjusted <math>R^2</math></b>	<b>Significant <math>\Delta F</math></b>
Step 1 (perceived peer materialism)	-.28	73.561	.33	.000
Step 2 (peer support)	-1.57	5.015	.35	.027
Step 3 (interaction: perceived peer materialism x peer support)	.029	5.826	.37	.017

Moderation is found if the 3<sup>rd</sup> step of the model results in a significant *F* change. The model itself was significant at  $F(3,145) = 29.691, p < .001$ .

Once significant moderation is found, further analysis is required to understand the underlying moderation effects. This was conducted using PROCESS Procedure for SPSS Release 2.11 (Hayes, 2013).

Table 17 shows that peer support moderated the effect of perceived peer's materialism on adolescent materialism at mean levels of peer support, one standard deviation above the mean and one standard deviation below the mean

Table 17

*Peer Support Moderation of the Effect of Perceived Peer's Materialism on Adolescent Materialism*

<b>Peer Support Values</b>	<b>Effect</b>	<b>SE</b>	<b><i>t</i></b>	<b><i>p</i></b>
21.12 (mean- 1 SD)	.34	.07	4.56	.000
25.41 (mean)	.46	.56	7.98	.000
29.70 (mean + 1 SD)	.59	.08	7.19	.000

Additionally, the Johnson-Neyman statistic indicates exact moderation significance values. This measures the value along the continuum of the moderator (in this case peer support) at which the effect of *X* (perceived peer's materialism) on *Y* (adolescent materialism) changes between statistically significant and not significant, and indicates the 'regions of significance' (Hayes, 2012) along the continuum of the moderator. The value range for peer support was 13-32. Johnson-Neyman significance is shown at 17.0974 (rounded up to 17.10) at with 96% above significance, and 4% not reaching significance. Moderation peer support values showing the effect of perceived friend's materialism on adolescent materialism are shown in Table 18 below. Levels of confidence intervals are at .95 for all values.

Table 18

*Conditional Effect of Perceived Peer's Materialism on Adolescent's Materialism at Values of the Moderator (Peer Support)*

<b>Peer Support Value</b>	<b>Effect</b>	<b>SE</b>	<b><i>t</i></b>	<b><i>p</i></b>
13.00	.10	.16	.64	.5236
13.95	.13	.15	.89	.3814
14.90	.16	.14	1.15	.2507
15.85	.18	.13	1.47	.1430
16.80	.21	.12	1.85	.0668
17.10	.22	.11	1.98	.0500
17.75	.24	.11	2.29	.0237
18.70	.27	.10	2.81	.0057
19.65	.30	.09	3.42	.0008
20.60	.32	.08	4.13	.0001
21.55	.35	.07	4.95	.0000
22.50	.38	.07	5.84	.0000
23.45	.41	.06	6.72	.0000
24.40	.44	.06	7.47	.0000
25.35	.46	.06	7.96	.0000
26.30	.49	.06	8.14	.0000
27.25	.52	.06	8.05	.0000
28.20	.55	.07	7.77	.0000
29.15	.57	.08	7.42	.0000
30.10	.60	.09	7.04	.0000
31.05	.63	.09	6.68	.0000
32.00	.66	.10	6.34	.0000

According to Hayes (2013), the Johnson-Neyman statistic and associated regions of significance (as shown in Table 18) are preferable to methods of moderation analysis that use artificially created groups to analyse for differences in moderation levels, e.g. ‘low’, ‘medium’ and ‘high’, because Johnson-Neyman statistically defines at which point along the moderator continuum the interaction becomes significant, and calculates the effect size and associated *t* values..

Research Question 4:

Adolescent materialism as a significant predictor of psychological and behavioural difficulties was supported in H<sub>9</sub> above. In order to test whether perceived support (as an indicator of meeting psychological needs) moderated the effect of materialism on well-being, two separate moderation models were conducted. Firstly, as detailed in Table 19, an interaction term was created between materialism and peer support, which was entered at the third step of the model.

Table 19

*Test of moderation significance: peer support moderates the effect of adolescent materialism on well-being.*

<b>Model</b>	<b>b</b>	<b>ΔF</b>	<b>Adjusted R<sup>2</sup></b>	<b>Significant ΔF</b>
Step 1 (materialism)	.22	33.205	.17	.000
Step 2 (peer support)	-.22	4.889	.19	.028
Step 3 (interaction: materialism x peer support)	.00	.011	.18	.915

Table 19 shows that when the interaction between materialism and peer support was entered into the model, the change to the model was not significant. Therefore no significant moderating effect was of peer support was found on the relationship between materialism and well-being.

Secondly, a test of moderation was conducted to establish if perceived parental support moderated the effect of materialism on well-being. The moderation table is shown in Table 20 below.

Table 20

*Test of moderation significance: parental support moderates the effect of adolescent materialism on well-being.*

<b>Model</b>	<b>b</b>	<b>ΔF</b>	<b>Adjusted R<sup>2</sup></b>	<b>Significant ΔF</b>
Step 1 (materialism)	.21	35.007	.17	.000
Step 2 (parental support)	-.16	8.458	.21	.004
Step 3 (interaction: materialism x parental support)	.00	.320	.21	.572

Table 20 shows that parental support did not moderate the relationship between materialism and well-being, as the interaction did not result in a significant change to the model (there was no significant *F* value change).

However, these moderation models did indicate that perceived parental and support were significant predictors of lower well-being. To test this, a linear regression model was conducted using the enter method, as no variable (adolescent materialism, parental support and peer support) was presumed to have



a stronger predictive influence than another on well-being. Contingent self-worth was included in the model as this had been found to be significantly correlated with SDQ difficulties. The regression model is shown in Table 21 below:

Table 21

*Linear model of predictors of low well-being (SDQ difficulties)*

<b>Predictors</b>	<b>b</b>	<b>SE B</b>	<b><math>\beta</math></b>	<b><i>p</i></b>	<b>R<sup>2</sup></b>
Adolescent materialism	.16	.04	.31	.000	
Peer Support	-.15	.10	-.12	.114	
Parental Support	-.16	.05	-.22	.003	
Contingent Self-Worth	.14	.05	.19	.01	
					.28

The regression model was significant at  $F(4,155) = 14.940; p < .001$ .

Table 21 shows that perceived peer support was not a significant predictor of well-being, although the model as a whole was significant. Adolescent materialism was a significant predictor; the *b* value indicates that as adolescent materialism increased by one unit, SDQ difficulties increase by .15 units. Contingent self-worth was a significant predictor of SDQ difficulties. Perceived parental support was also a significant predictor of SDQ difficulties; the *b* value indicates that as parental support increased by one unit, SDQ difficulties decreased (therefore improving well-being) by .16 units. The overall model explained 28% of the variance in low well-being.

Research Question 5:

As many parents ticked a range of educational aspirations for their child, it was not possible to ascertain of parent's educational aspirations for their child was associated with their child's materialism.

Discussion of the results in relation to hypotheses and research question follows.

## 5. Discussion

This study was undertaken to further our understanding of how positive and negative aspects of parent and peer relationships impact on materialism in adolescence. It also aimed to understand how materialism and parent and peer relationships impacts on young peoples' well-being. This discussion will follow the research areas outlined in the introduction, and will visit each hypotheses and research question in turn.

### Parental Factors and Materialism in Adolescence

Previous research (e.g. Goldberg *et al*, 2003; Marks, 1997; Chaplin & John) had found a significant relationship between parents' materialism and the materialism of their child/teenager. The present study that hypothesised a similar relationship would be found.

*H<sub>1</sub>: Adolescent materialism will be positively correlated with parents' materialism.*

H<sub>1</sub> was supported, with a moderate positive correlation between parents' materialism and adolescent materialism. Parents act as core socialisation agents for their child (Benmoyal-Bouzaglo & Moschis, 2010), as well as transmitting their own values to their child (Kasser, Ryan, Zax, & Sameroff, 1995). Parents can therefore influence their child's materialism in a variety of ways.

Parental warmth and nurturance has been found to impact on adolescents' materialism, with teenagers of less nurturant mothers more likely to value materialistic life goals (Kasser, Ryan, Zax, & Sameroff, 1995). Flouri (2004) further identified that adolescents who rated lower parental involvement from their mothers were more materialistic. In the present study, adolescents and parents completed measures of parental support, in order to test similar hypotheses (H<sub>2</sub> and H<sub>3</sub>) on the relationship between higher parental support and lower materialism.

*H<sub>2</sub>: Higher adolescent rating of parental support will be correlated with lower adolescent materialism.*

*H<sub>3</sub>: Higher parental rating of parental support will be correlated with lower adolescent materialism*

H<sub>2</sub> was supported, with a moderate negative correlation between adolescent's rating of parental support and adolescent materialism. However, H<sub>3</sub> was not supported. Although adolescents' rating of parental support and parents' rating of parental support were significantly correlated, parents' rating of parental support was significantly higher than adolescents' rating of parental support. This represents similar findings to Gecas & Schwalbe (1986), who report substantially different perceptions of parental support and participation between mothers (higher perceptions) than their teenagers (lower perceptions). In the present study the measure of parental support (Simons, Lorenz, Conger, & Wu, 1992) assessed parental involvement, concern, help and communication- validated as providing both emotional and instrumental support (Locke & Prinz, 2002). The difference in the findings in the present study between parents' and adolescents' ratings of parental support and adolescent materialism highlight the importance of exploring measures of support from the child's own perspective. The implications of lower parental support and adolescent materialism and well-being will be discussed further below.

### Peer Factors and Materialism in Adolescence

Research on materialism and peer relationships in adolescence (e.g. Chaplin & John, 2010; Chia, 2010) has primarily used perceptions of friends' materialism as a measure of peers' materialism. Such studies have found strong significant positive correlations ( $r=.51$  and  $r=.52$  respectively) between perceptions of peers' materialism and adolescents own materialism. Accordingly, for the present study, a similar hypothesis was proposed:

*H<sub>4</sub>: Adolescent materialism will be positively correlated with perceived peer's materialism*

H<sub>4</sub> was supported with a strong association between perceptions of peers' materialism with adolescent materialism. However, no existing literature had been found that examined associations between the actual reported materialism of peers with adolescent materialism. In the present study, participants were asked to enter the name of their friend and to complete the same measure of materialism as they had completed for themselves but answering as they thought their friend would complete it. It was therefore possible to match up friends by names, and compare materialism scores. The number of actual friends who could be compared was 46. Sometimes participants did not give their friends' names, and sometimes friends would nominate other people, and so their data could not be matched. A similar hypothesis to H<sub>4</sub> was proposed but with actual peers' materialism:

*H<sub>5</sub>: Adolescent materialism will be positively correlated with actual friends' materialism*

H<sub>5</sub> was unsupported as there was no significant correlation between adolescent materialism and the actual reported materialism of their friends. The descriptive statistics between adolescent materialism, perceived peers' materialism and actual friends' materialism reveal that the mean scores for all three measures were similar, and there were no significant differences between the scores- however the mean scores for perceived peers' materialism were higher than actual friends' materialism, indicating a non-significant tendency for adolescents to rate friends' materialism higher than friends' rated their own materialism, although a significant moderate correlation between these two variables was observed. According to Ryan (2000), perceived *versus* actual reports of adolescent friends characteristics and behaviours have strengths and weaknesses. Using *perceptions* as a measure may not be as accurate as *actual* behaviours/beliefs because of the propensity to project one's own values onto another, and secondly that adolescents believe that they are more similar to their friends than they actually are. However, subjective *perceptions* of friends' behaviours potentially underpin peer influence in adolescence, and therefore adolescent behaviour is determined to

a greater extent by the *perceptions* of their friends than the *actual* behaviour of their friends. For adolescents in the present study, the presumed materialism of their friends had a greater association with their own materialism than the actual reported materialism of their friends. These findings have added to the literature on the influence of friend's materialism on adolescent materialism by including both perceived friend's materialism and the actual measure of their friend's materialism. This has not been done in previous studies and emphasises the importance of including both measures, and the respective significance of associations between the two measures of friend's materialism on adolescent's own materialism is very different.

Previous research, but with younger children, in a UK (aged 8-11) has found that perceiving peer group pressure was associated with materialism (Banerjee & Dittmar, 2007). Research with older children and adolescents has documented significant relationships with susceptibility to peer influence and materialism (Bearden, Netemeyer & Teel, 1989; Achenreiner, 1987. Accordingly, H<sub>6</sub> hypothesised a similar relationship for adolescents in the present study:

*H<sub>6</sub>: Perceiving greater peer group pressure will be positively correlated with adolescent materialism.*

H<sub>6</sub> was supported, as there was a significant positive relationship between perceiving peer group pressure and adolescent materialism. Research has discussed reasons why peer influence and peer pressure may contribute to young people's materialism. Banerjee & Dittmar (2007) found that perceiving peer group pressure predicted social motives for materialism. According to Banerjee & Dittmar (2007), by the time children leave primary school (age 11), they appreciate a peer culture, in which values associated with materialism such as dressing in the right clothes, is clearly differentiated from values endorsed by their parents, such as academic achievement and positive behaviours. Further investigation by Banerjee & Dittmar (2007) revealed that children who were vulnerable to perceiving peer group pressure believed that there would be more negative consequences for them amongst their peer group if they did not endorse materialistic behaviours. As children move into adolescence, their consumer

socialization becomes more complex and sophisticated (John, 1999). John (1999) argues that between the ages of 11 and 16, young people reach the 'reflective' stage of consumer socialization, and as such have a comprehensive awareness of social meanings attached to consumption motives and values. For adolescents in this study, an overall tendency to feel under pressure to engage in peer-endorsed values and behaviours was associated with increased materialism.

Having found a difference in perceiving a culture associated with materialistic values, from that associated with pro-social behaviours (Banerjee & Dittmar, 2007), a question arises whether pro-social behaviours are negatively related to perception of peer group pressure and materialism. Deci & Ryan (1985) argue that connectedness and affiliation with others are intrinsic motivations which enhance our well-being. Positive behaviours such as helping others and demonstrating concern for others over ourselves may reduce vulnerability to peer pressure in adolescence, which may in turn reduce materialism. The second research question set out to answer this question:

*Research Question 1: Are greater pro-social behaviours associated with peer group pressure and materialism?*

This question was addressed with regression models with pro-social behaviours as predictors of (firstly) materialism, and (secondly) perceived peer group pressure. Pro-social behaviour was a significant predictor of lower materialism, accounting for 17% of the variance in adolescent materialism. Pro-social behaviour was also a significant predictor of perceiving less group pressure from peers, accounting for 4% of the variance in peer group pressure. This research suggests that pro-social behaviours may be associated with a reduction in materialism. However this may be in part because of the association between perceived peer group pressure and pro-social behaviours. To test how these relationships may operate, two tests of mediation were run: the first with pro-social behaviour as a mediator of the relationship between perceived peer group pressure and materialism, and the second with perceived peer group pressure as a mediator of the relationship between pro-social behaviours and materialism. Frazier, Tix & Barron (2004) outline that a mediator explains the relation between the predictor and the

outcome variable; it is the generative process by which the relationship occurs. In the present study, perceived peer group pressure was found to be a partial mediator of the relationship between pro-social behaviours and adolescent materialism. Additionally, pro-social behaviours were found to be a partial mediator of the relationship between perceived peer group pressure and adolescent materialism. In both of these mediation scenarios, the mediator provides a *partial* explanation of why the relationship exists. As they are only partial mediators, other processes (not identified in this study) will also account for aspects of these relationships. Therefore, perceived peer group pressure may predict higher adolescent materialism partly because peer group pressure reduces pro-social behaviours. Secondly, pro-social behaviours may predict lower adolescent materialism partly because engaging in more pro-social behaviours predicts lower susceptibility to peer group pressure. The relationships between materialism, peer group pressure and pro-social behaviours appear to be complex, with bi-directional influences. Research on peer group status and its relationship to pro-social and anti-social behaviours in young adolescents has found that young people who belonged to more central peer groups were more likely to engage in pro-social and anti-social behaviours than young people who belonged to peripheral or low status groups (Ellis & Zarbatany, 2007). Generally well-liked young adolescents were members of central peer groups, but membership was also dependent on peer pressure from other group members, and motivation to conform to group norms. In order to maintain their visibility, central peer groups were likely to endorse particular fashions and technological gadgets and to have attractive girls within the group (Ellis & Zarbatany, 2007). This suggests that belonging to central peer groups is allied with an appreciation of materialistic goods and values being used to transmit a person's status. Central peer groups may therefore promote pro-social behaviours, as well as exert peer pressure to follow materialistic pursuits. Owing to the correlational design of the present study, it is not possible to definitively state causal relationships. Further research using longitudinal data would enable the relative strength of the predictors and mediators to be compared over time.



However, research from the present study of the relationship between pro-social behaviours and lower adolescent materialism is new. Previous research on gratitude and materialism in adolescence (Froh, Emmons, Card, Bono, & Wilson, 2011) determined that gratitude, controlling for materialism (previously associated in the literature with supportive parent and peer relationships and assisting others) had stronger and more unique predictors of adjustment (positive social relationships, better mental health and academic achievement) than materialism. In earlier research, adolescents who demonstrated *engaged living* (socially integrated and reporting absorption in intrinsically motivated activities) were more likely to be happier, optimistic, and pro-social amongst other indicators of positive well-being (Froh, et al., 2010). The positive effect of pro-social behaviours relating to peer- pressure and materialism in adolescents clearly deserves further research.

It is apparent overall from the present findings that there are associations between parents' materialism and perceived peers' materialism, with that of adolescent materialism. However, the extent to which adolescent materialism may be predicted by the materialism of these socialization forces needed to be addressed. The literature to date had not agreed whether parents' or peers' materialism exerted a stronger influence on adolescent materialism. Regressions allow for predictions about the influence of one or more independent variables on an outcome variable to be made, and to assess the relative strength of each predictor. The third research question accordingly addressed these issues:-

*Research Question 2: Does parents' and peers' materialism independently predict adolescent materialism? Which is the strongest predictor?*

Parents' materialism and perceived peers' materialism were found to be significant independent predictors of adolescent materialism. In two contrasting hierarchical regression models, comparing parents' materialism as the strongest predictor compared with perceived peers' materialism, perceived peers' materialism was as stronger predictor than parents' materialism. These results oppose those of Chia (2010) who found that the influence of parents' materialistic values were greater than those of perceived peers' values on adolescent

materialism. However, Chaplin & John (2010) found that perceived peers' materialism was a stronger influence than parents' materialism, through individual comparative regressions. What is clear is that both parents and peers, as socialization agents, may significantly influence adolescents' materialistic values by their own materialistic values. Erikson (1963) argues that during adolescence, young people seek a sense of sameness and acceptance with their peers: young people in the present study may adopt perceived materialistic values of their friends in order to fit in to their peer group. Erikson (1963) additionally suggests that adult values are still a prominent influence for adolescents, and that those adults who are in authority (including parents) have a responsibility to ensure that their social values are transparent as being worthy of adoption by the next generation. Although the present study provides us only a snapshot of one moment in time, we can see influence of parents' and peers' values simultaneously. As young people progress through adolescence, they rely less on parental influence (Smith, 1985). However, Smith (1985) suggests that by later adolescence the shift has not been more towards the influence of peers, but instead acquiring control over their own social world. Within materialism and consumer socialization literature, higher materialism in adolescence has been associated with increased susceptibility to normative influence (Bearden, Netemeyer, & Teel, 1989): therefore it is possible that the most materialistic young people in the present study were those who were more susceptible to normative influence, and therefore more at risk from parental and peer materialistic norms.

Although parents and peers can affect adolescent materialism by influence of their own materialism, research has also documented how parents' and peers' support can reduce materialism (Chaplin & John, 2010). The fourth research question addressed the predictive extent of perceived parents' and perceived peers' support associated with adolescent materialism.

*Research Question 3: Does parents' and peers' support independently predict adolescent materialism? Which is the strongest predictor?*

Independent linear regressions established that there were significant negative relationships between parental support and adolescent materialism, and peer

support and adolescent materialism. As support increased, materialism decreased. Comparative hierarchical regression models tested both parental, and then peers' support as the strongest predictor. Higher perceived peer support was a stronger predictor of lower adolescent materialism than perceived parental support. This resonates with similar findings from Chaplin & John (2010). However, the significant effect of higher perceived parental support on adolescent materialism was also significant, and suggests similarities with findings from Kasser *et al.* (1995) that less nurturant parenting was associated with increased materialism in adolescence, and Flouri's (2004) contention that less maternal involvement predicted increased materialism in their adolescent children. Flouri (2004) also documented the nature of peer support as a moderator of the effect of parental involvement on adolescent materialism: when peer support was low, parents' involvement was significantly associated with adolescent materialism. Kasser *et al.* (1995) and Flouri (2004) document a deficit model of support on materialism (lower support predicting higher materialism), whereas the present study illustrates the potential for parental and peer support to reduce materialism, evidence to date documented only in North American studies of adolescent materialism (e.g. Chaplin & John, 2010).

In the present study, both perceived peer support, and perceived parental support were examined to see if they moderated the effect of parental and peer materialism on adolescent materialism. Perceived peer support was a significant moderator of the relationship between perceived peer's materialism on adolescent materialism. This moderation was significant for 96% of all peer support values. As adolescent's rating of how supportive they felt their friends to be increased, the effect of the moderation of peer's materialism on their materialism simultaneously increased at each increased rating of peer support.

Perceived support from parents and perceived support from classmates have been shown to predict lower depression scores and higher self-esteem scores for adolescents aged 12-14, over and above other sources of support (Rueger, Malecki, & Demaray, 2010). Chaplin & John (2010) demonstrated that self-esteem was a partial mediator of the relationships between perceived friends

support and adolescent materialism and perceived parental support and adolescent materialism. Although self-esteem was not assessed in the present study, it is apparent that peer support can alter the extent to which peers' materialism predicts adolescent materialism, and that deficits in both sources of support are associated with increased materialism. This lends support to the argument proposed by Kasser (2002) that if we have not had our psychological needs met, we are more likely to turn towards materialistic value orientations to bring us happiness. Support from parents and peers demonstrate attachment bonds and affiliation with others, and the depletion of these sources of support has rendered adolescents in this study more vulnerable to the materialistic orientations of those closest to them. Bowlby (1979) maintains that attachment bonds are important to human growth and development throughout the lifetime, and not just in early childhood. In adolescence, parental attachment bonds may appear to be less important than other attachments (friendships and romantic attachments), nonetheless they endure and can affect all aspects of young people's lives, including materialism.

#### Materialism and Well-being

One of the key aims of this study was to examine the relationships between materialism, parent and peer relationships and well-being. Research has begun to determine that established relationships between materialism and global self-esteem may not be complex enough to understand processes underpinning these relationships (Park & John, 2009). Instead, feelings of self-worth which are contingent on approval from external sources are proposed as correlates of materialism. Extrinsic goal pursuits (financial success and appearance) are associated with higher levels of materialism in young people (Kasser & Ryan, 1993). Being regarded as physically attractive and achieving social recognition through the goods and products owned and used are extrinsic goal pursuits (Van Hiel, Cornelis, & Roets, 2010). Body-perfect ideals are enmeshed within a materialistic culture, with detrimental effects on individuals' sense of identity and well-being (Dittmar H. , 2007).

Accordingly, two subscales from the Self-Worth Contingency Questionnaire (Burwell & Shirk, 2003)- *social contingencies* and *physical appearance*

contingencies were scored and summed together as a measure of contingent self-worth which accessed the presumed relevant extrinsic processes associated with materialism, and therefore the following hypothesis was proposed:

*H<sub>7</sub>: Contingent self-worth will be positively correlated with materialism.*

H<sub>7</sub> was not supported, as no significant correlation was found. For adolescents in this study, the tendency to use social and physical appearances as external sources of self-worth was not associated with materialism. This finding is surprising, and is not concurrent with contemporary literature on self-identity associations with materialism. This may be explained by the two sub-scales of the Self-Worth Contingency Questionnaire (SWCQ) (Burwell & Shirk, 2003) (social acceptance and approval and physical appearance) taken for inclusion in this study. The full scale includes two additional subscales: academic performance and activity performance, for example performance in sports, drama and music. It was decided to only use social acceptance and physical appearance subscales because these were extrinsic goals previously identified as being associated with materialistic values. However, additional research has found correlations between adopting life goals focussing on financial success with lower engagement with academic learning for older teenagers (aged 17) but not for younger teenagers (aged 14) in the UK and Hong Kong (Ku, Dittmar, & Banerjee, 2012). The same study measured materialism and exam scores longitudinally over the course of a year for the Hong Kong students, and found that materialistic values at the first time point predicted lower exam scores a year later for 14 year olds. These recent findings by Ku *et al.* (2012) suggest that the complete version of the SWCQ may be a more comprehensive and relevant measure of a range of potential external sources of self-worth validation than two sub-scales alone.

It was hypothesised that there would be a relationship between contingent self-worth and well-being, as self-worth contingencies have been associated with adolescent depression (Burwell & Shirk, 2006), as well as arguments that a shift from intrinsic to extrinsic goals may be contributing to the rise in adolescent depression and anxiety (Balmer & Bullock, 2013). *H<sub>8</sub>: Contingent self-worth will be correlated with lower well-being.*

H<sub>8</sub> was supported, with a significant positive low correlation between contingent self-worth and SDQ difficulties. For adolescents in this study, reliance on physical appearance and endorsement by others was associated with more psychological and behavioural problems.

Kasser (2002) argues that one of the reasons young people become materialistic is because they have unmet psychological needs, and that materialism causes lower well-being. This may well indicate a moderating effect of support, as an indication of meeting psychological needs, and of attachment, on the relationship between materialism and wellbeing. Accordingly, the final research question addressed this potential relationship.

*Research Question 4: Does parental or peer support moderate the effect of materialism on well-being?*

Two separate regression models were run: firstly with peer support as a presumed moderator, and secondly with parental support as a moderator. There was no significant moderation: the effect of materialism on well-being was not differentiated by those who had more or less support from either parents or peers. However, within the moderation models, potential significant predictive contributions of parental and peer support to well-being were observed. Therefore, an additional regression model was conducted. H<sub>8</sub> had already demonstrated that contingent self-worth was significantly associated with lower well-being, and was entered into the model alongside parental support, peer support and adolescent materialism. Peer support was not a significant predictor of SDQ difficulties on its own; however the overall model was significant. The effect of parental support on reducing lower well-being was illustrated, as well as the effects of adolescent materialism and contingent self-worth on increasing well-being. Parental support was not distinct enough to moderate the negative effect of materialism on well-being, but further research in this area is clearly warranted. There is nothing in these results to suggest that Kasser's (2002) assertion that unmet psychological needs (lack of affiliation and attachment with others, competence and autonomy) results in a turning to material goods to bolster their feelings of self-worth; however, the exact pathways to lower well-being are still lacking in clarity.

It was hoped that this study could investigate whether parents' educational aspirations for their child were associated with their children's materialism (*Research question 5: Are parents' educational aspirations for their child associated with their child's materialism?*). Cohen & Cohen (1996) had found that maternal educational aspirations for their child were a more significant predictor of their child's goals and values than Social Economic Status. However, parents responded to this question by indicating a range of educational levels of attainment that they wished their child to achieve, and so this question could not be answered. In future studies, this could be addressed by not providing options to choose from, and asking parents to provide one answer only.

### Conclusion

The present study has contributed several key points to the literature on materialism, parent and peer relationships and well-being in adolescence. Pro-social behaviours may reduce materialism directly, and pro-social behaviours may also reduce vulnerability to peer group pressure, and partially mediate the relationship between peer group pressure and adolescent materialism. Research on pro-social behaviours and materialism has hitherto been largely overlooked. Findings from the present study indicate the potential for interventions encouraging more pro-social behaviours to reduce adolescent materialism.

This study has also indicated that it is the perception of peers' materialism, rather than the actual reported materialism of peers' materialism which is associated with adolescent materialism. Since it is the first study to distinguish between these two measures of peers' materialism, it suggests that perceptions of peer's values and attitudes may be more important in informing adolescent's own attitudes and values than actual peer behaviour. The study also extends the literature on the potential of social support to reduce the negative effects of perceptions of materialism on adolescents. Support from peers can make a difference to how much the perception of friends' materialism predicts adolescents' own materialism.

Furthermore, reliance on external sources of self-worth, such as other's perceptions and how young people feel about themselves physically, is implicated in lower adolescent well-being. Perceiving support from parents on the other hand, is associated with enhanced well-being.

Additionally, the present study has validated the use of the MSC-v for older children, with suggested wording amendments in replacing the word 'children' with 'teenager' where applicable.

### Limitations and Future directions

The key limitation of the present study, common to all correlational design studies, is that correlations do not imply causation, and therefore interpretation of all results must be made with caution (Field, 2013). Although associations can be ascertained with correlations, it is not possible to rule out the influence of a third unmeasured variable. Regressions allow researchers to test the strength of various presumed predictor variables on an outcome variable, and to produce a model explaining the variance of the outcome model predicted by the independent variables. However, with only cross-sectional data, and without longitudinal data, it is not possible to test the strength of these predictors over time. Longitudinal studies would lend more weight to causality indicators. Such studies using the same measures over time are lacking within the area of materialism research.

There are some additional points of note for researchers in this area, which arose from data collection methodology in the present study. There was a clear difference between the two schools' approach to parental permission: one school wanted parental written permission before the participants could take part in the study. Parents who gave written permission were more likely to complete the parental measures of materialism and support. This school also allowed participants to complete the questionnaires in a class lesson time, with the researcher in the room to answer any questions if they arose, and allowed the participants up to 40 minutes to complete the questionnaires. The second school wanted opt-out permission from the parents, so that parents only completed the opt-out consent form if they did not want their child to take part. No opt-out forms



were completed by parents, but equally no parental data was provided from children at the second school. Participants in this school were allowed a maximum of 20 minutes to complete the questionnaires, as this was their designated 'tutor time'. The rate of completion of all measures by participants in the second school was much lower than in the first school.

The present study found explanations for 51% of the variance in materialism, and 28% of the variance in well-being. Almost half of the variance in materialism is unaccounted for, and nearly two-thirds of the variance in well-being. Future research could benefit from the inclusion of family structure and communication styles (Flouri, 1999); advertising viewing and beliefs about the effect of advertising (Chia, 2010), and levels of compulsive buying (Roberts, Manolis, & Tanner, 2008), all of which have been associated with materialism in adolescence. As previously mentioned, there is a need for longitudinal studies on adolescent materialism. Additionally, qualitative research in this area could uncover and identify the importance of material possessions and parent and peer relationships to well-being from adolescents' own point of view.

Recent reports (e.g. The Good Childhood Report, The Children's Society, 2012) have raised awareness of the problems for young people embracing a materialistic culture and society. Research has further documented that materialistic pursuits are associated with the low well-being of the UK's children compared with other developed countries (IPSOS Mori Social Research Institute, 2011). Although the literature has documented factors which are associated with the development of materialism in adolescents, research focus has yet to hone in on measures by which materialism may be reduced. A recent proposal for tackling materialism has been suggested which uses motivation theory (Burroughs, Chaplin, Pandelaere, Norton, Ordabayeva, Gunz & Dinauer (2013). This follows the proposal that materialism is often as a result of unmet psychological needs, as argued by Kasser (2002). Burroughs *et al.* (2013) argue that public policy must change in order to help young people in particular foster a healthy self-esteem. Consumption should move from a desire to acquire and be judged on the basis of what one has, to consumption which focuses on experiences that enrich our lives; pro-social giving

rather than self-motivated spending, and lastly investing time and interaction with children, rather than money, whilst simultaneously being brave enough to regulate children's exposure to consumer messages. The present small-scale study has identified the potential for pro-social behaviours to reduce materialism in adolescence. The message is emerging that positive actions need to be taken to reverse the negative causes and consequences of materialism in adolescence, and that we may have just begun to unravel the means of doing so.

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## Appendix I

### Materialism Values Scale for Children (MVS-c) (Opree, Buijzen, van Reijmersdal, & Valkenburg, 2011)

#### Material Centrality

- 1: Do you think it's important to own expensive things?
- 2: Do you think it's important to own a lot of money?
- 3: Do you think it's important to own expensive clothes?
- 4: Do you think it's important to own expensive brands?
- 5: Do you think it's important to be able to buy a lot of things?
- 6: Do you think it's important to get a lot of presents for your birthday?

#### Material Happiness

- 7: Does buying expensive things make you happy?
- 8: Does having a lot of money make you happy?
- 9: Would you be happier if you owned more clothes that are expensive?
- 10: Would you be happier if you could buy more brands that are expensive?
- 11: Would you be happier if you owned more things?
- 12: Do you feel unhappy if you don't get the things you really want to have?

#### Material success

- 13: Do you like children who have expensive things more than you like other children?



14: Do you like children who have a lot of money more than you like other children?

15: Do you like children who have expensive clothes more than you like other children?

16: Do you think other children like you more if you have expensive brands?

17: Do you like children who have a lot of things more than you like other children?

18: Do you think other children like you more if you have many expensive things?

Response scoring on all MVS-c items:

(1) No, not at all, (2) no, not really, (3) yes, a little, (4) Yes, very much.

Responses are summed for a total score for each subscale, and for an overall Materialism measure.

## Appendix II

### Materialism Values Scale (MVS) (Richins & Dawson, 1992)

#### Success

1. I admire people who own expensive homes, cars, and clothes
2. Some of the most important achievements in life include acquiring material possessions
3. I don't place much emphasis on the amount of material objects people own as a sign of success\*
4. The things I own say a lot about how well I'm doing in life
5. I like to own things that impress people
6. I don't pay much attention to the material objects other people own\*

#### Centrality

1. I usually buy only the things I need\*
2. I try to keep my life simple, as far as possessions are concerned\*
3. The things I own aren't all that important to me\*
4. I enjoy spending money on things that aren't practical
5. Buying things gives me a lot of pleasure
6. I like a lot of luxury in my life
7. I put less emphasis on material things than most people I know\*

#### Happiness

1. I have all the things I really need to enjoy life\*
2. My life would be better if I owned certain things I don't have
3. I wouldn't be any happier if I owned nicer things\*
4. I'd be happier if I could afford to buy more things
5. It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like

#### **Response format:**

1= No, not at all 2=No, not so much 3= Unsure 4= Yes, a little 5= Yes, very much  
\*indicates reverse scored items

### **Appendix III**

#### Supportive Parenting Scale (Simons, Lorenz, Conger & Wu, 1992) (I have re-worded for UK children) Child Version

1. How often does your parent talk with you about what is going on in your life?
2. How often do you talk to your parent about things that bother you?
3. How often does your parent ask you what you think before making decisions that affect you?
4. When you do something that your parent likes or approves of, how often does your parent let you know they are pleased about it?
5. When you and your parent have a problem, how often can the two of you figure out how to deal with it?
6. My parent really trusts me.
7. How often does your parent ask you what you think before deciding on family matters that involve you?
8. How often does your parent give reasons to you for their decisions?
9. My parent experiences strong feelings of love for me.

Response format:

1 = never 2 = almost never 3 = about half of the time 4 = almost always 5 = always

#### Supportive Parenting Scale (Simons, Lorenz, Conger & Wu, 1992) (re-worded for UK children) Parent Version

1. How often do you talk with your child about what is going on in his/her life?
2. How often does your child talk to you about things that bother him/her?
3. How often do you ask your child what he/she thinks before making decisions that affect him/her?
4. When your child does something you like or approve of, how often do you let him/her know you are pleased about it?
5. When you and your child have a problem, how often can the two of you figure out how to deal with it?

6. I really trust my child.

7. How often do you ask your child what he/she thinks before deciding on family matters that involve him/her?

8. How often do you give reasons to your child for your decisions?

9. I experience strong feelings of love for him/her.

Response format:

1 = never 2 = almost never 3 = about half of the time 4 = almost always 5 = always

## **Appendix IV**

### Peer Support (adapted from Chaplin & John, 2010)

Participants read each statement and decide whether it applies to their peers

1. My friends like me for who I am
2. My friends have time for me
3. My friends understand me
4. My friends help me if I need it
5. My friends get angry with me\*
6. My friends don't judge me
7. My friends are reliable
8. My friends support me if I am down

Response format:

1 = never 2 = sometimes 3 = most of the time 4 = all of the time

## Appendix V

### Perceived Peer Culture Pressure Scale (Banerjee & Dittmar, 2007)

To facilitate comprehension, items were phrased as direct questions about perceived pressure to have or display a certain characteristic. **The question stem was always “Do other young people your age make you feel that you should . . .”**

1. Dress in certain clothes
2. Like certain music
3. Have certain opinions
4. Change body shape
5. Ignore what parents say
6. Look or act older
7. Talk or behave in certain ways
8. Socialise with certain people
9. Do certain activities
10. Be “tough” and get into fights
11. Damage things
12. Eat certain foods
13. Go to certain parties
14. Watch certain TV
15. Spend less time with family
16. Have boyfriend/girlfriend
17. Wear certain shoes
18. Socialise with opposite sex
19. Not socialise with opposite sex
20. Not work hard
21. Break rules
22. Not do well at school work

Response format

1 = never 2 = sometimes 3 = often 4 = always

## Appendix VI

### Physical and Social Self worth Contingencies from the Self-Worth Contingency Questionnaire (SWCQ, Burwell & Shirk, 2003)

1: The way I feel about myself as a person *depends* a lot on what people in my life think of me.†

2: My feelings of self-worth *don't* change even if my physical appearance changes\*

3: Other people's feedback *makes or breaks* how I feel about myself †

4: How I look physically really *affects* how worthy I feel as a person

5: If other people's feelings about me change, my feelings of self-worth *change* as well †

6: The way I look physically *makes or breaks* how I feel about myself as a person

7: Other people's approval (or disapproval) strongly *affects* how worthy I feel †

8: The way I look physically does *not* affect how I feel about myself\*

9: Other people's approval (or disapproval) does *not* affect how worthy I feel\* †

10: The way I feel about myself as a person *depends* a lot on my physical appearance

11: Other people's feedback does *not* affect how I feel about myself\* †

12: The way I feel about myself as a person does *not* depend on my physical appearance\*

13: The way I feel about myself does *not* depend on what people in my life think of me\* †

14: My physical appearance has *no* effect on how worthy I feel as a person\*

15: My feelings of self-worth *don't* change even if other people's feelings about me change\* †

16: If my physical appearance changes, my feelings of self-worth *change* as well

\*Reverse scored items †Social Self-worth contingencies

Response format:

1 = not at all true for me 2 = a little true for me 3 = very true for me 4 = extremely true for me

Responses were summed for each subscale (physical and social, and then summed together for a measure of contingent self-worth)



## Appendix VII

**Strengths and Difficulties Questionnaire (SDQ)** (Goodman, The Strengths and Difficulties Questionnaire: A Research Note, 1997)

This details the items from each subscale- however the items were presented in the questionnaire in accordance with the SDQ format

### Hyperactivity Scale

I am restless, I cannot stay still for long

I am constantly fidgeting or squirming

I am easily distracted, I find it difficult to concentrate

I think before I do things\*

I finish the work I'm doing. My attention is good.

### Emotional Symptoms Scale

I get a lot of headaches, stomach-aches, or sickness

I worry a lot

I am often unhappy, depressed or tearful

I am nervous in new situations. I easily lose confidence

I have many fears, I am easily scared

### Conduct Problems Scale

I get very angry and often lose my temper

I usually do as I am told\*

I fight a lot. I can make other people do what I want

I am often accused of lying or cheating

I take things that are not mine from home, school or elsewhere

### Peer Problems Scale

I would rather be alone than with people of my age

I have one good friend or more\*

Other people my age generally like me

Other children or young people pick on me or bully me  
I get along better with adults than with people my own age

Pro-social Scale

I try to be nice to other people. I care about their feelings  
I usually share with others, for example CDs, games, food  
I am helpful if someone is hurt, upset or feeling ill  
I am kind to younger children  
I often volunteer to help others (parents, teachers, and children)

\*Reverse scored items

Response format: 0: Not true 1: Somewhat true 2: Certainly true