**CONTINGENT SELF-ESTEEM, MATERIALISM AND WELL-BEING: THE
MEDIATING EFFECTS OF NEED FOR AUTONOMY**

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TABLE OF CONTENTS

	Page
TABLE OF CONTENTS	ii
LIST OF TABLES	v
LIST OF FIGURES	vi
ABSTRACT	vii
CHAPTER ONE: INTRODUCTION	1
1.1 What is materialism?.....	1
1.2 Materialism and psychological well-being	5
1.3 Self Determination theory	6
1.3.1 Basic psychological needs	7
1.3.2 Contingent self-esteem.....	13
1.4 Research questions	20
1.5 Research design	21
1.6 Contribution to the literature	23
1.7 General flow of the dissertation	24
CHAPTER TWO: LITERATURE REVIEW	26
2.1 Section I: Antecedents of materialism	27
2.2 Section II: Materialism and psychological well-being	33

2.3 Summing up	40
CHAPTER THREE: STUDY 1 AND STUDY 2.....	42
3.1 STUDY 1: Materialism and well-being – Survey.....	42
3.1.1 Methodology	44
3.1.2 Results.....	46
3.1.3 Study 1 brief discussion	50
3.2 STUDY 2: Materialism and well-being – Experiment	50
3.2.1 Pilot tests	51
3.2.2 Main study	53
3.2.3 Results.....	55
3.2.4 Study 2 brief discussion	57
CHAPTER FOUR: STUDY 3, STUDY 4 AND STUDY 5	59
4.1 Overview.....	59
4.2 STUDY 3: Extrinsic contingent self-esteem and materialism – Survey.....	62
4.2.1 Method	62
4.2.2 Result	64
4.2.3 Study 3 brief discussion	69
4.3 STUDY 4: Intrinsic contingent self-esteem and materialism – Survey.....	72
4.3.1 Method	72

4.3.2 Results.....	74
4.3.3 SEM Analysis	79
4.3.4 Study 4 brief discussion	80
4.4 STUDY 5: Contingent self-esteem and materialism – Experiment.....	83
4.4.1 Pilot tests	83
4.4.2 Manipulation check.....	85
4.4.3 Main study	87
4.4.4 Results.....	89
4.4.5 Study 5 brief discussion	90
CHAPTER FIVE: GENERAL DISCUSSION.....	92
5.1 Psychological mechanism in the materialism well-being link.....	93
5.2 Extrinsic/Intrinsic contingent self-esteem and materialism.....	98
5.3 Contribution to the literature.....	105
5.4 Practical implications.....	108
5.5 Limitations and future directions	110
5.6 Concluding remarks	112
REFERENCES.....	114
APPENDIX.....	136

LIST OF TABLES

	Page
Table 1. Summary of research questions and hypotheses tested across study 1 through 5.....	22
Table 2. Means, SDs and Inter-Correlations of key study variables (Study 1).....	48
Table 3. Results of mediation analysis of the basic psychological needs between materialism and indicators of well-being (Study 1).....	49
Table 4. Descriptive statistics and t-test results (Study 2)	58
Table 5. Means, SDs and Inter- Correlations of materialism, extrinsic contingent self-esteem domains and well-being indices (Study 3).....	66
Table 6. Materialism and Extrinsic Contingent Self-Esteem Scores as a function of demographic characteristics (Study3).....	67
Table 7. Results of mediation analysis of the basic psychological needs between extrinsic CSE indicators of well-being (Study 3)	71
Table 8. Means, SDs and Inter- Correlations of key variables (Study 4)	75
Table 9. Paths in the mediation analyses of the need for autonomy between intrinsic contingencies of self-esteem and indicators of well-being (study 4)	78

LIST OF FIGURES

	Page
Figure 1. The conceptual multiple mediation model	12
Figure 2. The proposed model of the antecedents, mediating mechanism and consequences of materialism.	20
Figure 3a. The conceptual mediation model with need for autonomy as a mediator between intrinsically contingent self-esteem and well-being.....	77
Figure 3b. The estimated mediation model with need for autonomy as a mediator between intrinsically contingent self-esteem and satisfaction with life	77
Figure 4. Path analysis between contingent self-esteem, materialism, need for autonomy and satisfaction with life, including standardized regression weights.	81
Figure 5. Path analysis between contingent self-esteem, materialism, need for autonomy and self-actualization, including standardized regression weights.....	81
Figure 6. Path analysis between contingent self-esteem, need for autonomy, materialism and satisfaction with life, including standardized regression weights	82
Figure 7. Path analysis between contingent self-esteem, need for autonomy, materialism and self-actualization, including standardized regression weights.....	82

ABSTRACT

While there is evidence from the self-determination perspective for the mediation of basic psychological needs satisfaction in the materialism-well-being link, to date, no research has attempted to examine the relative contribution of the three needs to the mediating effect. Given that, the predictive value of psychological needs on well-being depends upon the match between the need and the life domain, the first two studies investigated the differential mediating role of all three needs in the negative relationship between materialism and well-being. In study 1, 231 adults self-reported their materialistic attitudes, basic needs satisfaction and well-being indicators and a multiple mediation model was tested. Results indicated that materialism diminishes well-being through lower satisfaction of the psychological need for autonomy only. In study 2 (82 undergraduates), experimentally activated materialistic thoughts and their effects on need satisfaction and well-being as compared to a neutral control condition was examined. Results showed that activated materialism, leads to lower satisfaction of the need for autonomy, which in turn produces higher negative affect. The findings point towards the importance of considering the specific role of the psychological need of autonomy in the materialism-well-being link.

Further, majority of previous research examined the materialism-well-being link and antecedent factors that lead to the development of materialistic values separately. The current research aims to integrate causes and consequences of materialism in a single explanatory framework of self-determination theory. An important psychological antecedent of materialism documented in previous research is feelings of low self-worth/self-doubt. However, the exact nature of the domains from which such self-doubt (that breeds materialism) emanates, has remained unexplored. Self-determination theory posits that contingent self-esteem is domain specific,

fragile, requires perpetual validation and is fundamentally different from true self-esteem that is contingent, but on intrinsic factors such as personal growth, authenticity and autonomy. The present study investigates contingent self-esteem in extrinsic domains such as appearance and competition as antecedents of materialism. It is shown that extrinsic and intrinsic forms of contingent self-esteem relate differently with materialism such that intrinsically contingent self-esteem is incompatible with materialistic attitudes. These core proposals were tested in three studies, which included two surveys and one experiment. Study 3 (247 adults) furnished cross-sectional evidence that extrinsically oriented contingent self-esteem predicts materialism. Study 4 (206 undergraduates) found that intrinsically oriented contingent self-esteem is negatively related to materialism. Study 5 (106 participants) showed that experimental induction of extrinsic and intrinsic contingent self-esteem, leads to higher and lower materialism respectively. The findings advance understanding on the self-esteem-materialism link by showing how the domain-specific view of self-esteem, has the potential to promote or discourage materialism based on whether self-esteem is anchored to external or internal domains.

The current study makes a valuable attempt at integrating the antecedents and mediating mechanisms in the materialism well-being link in a single theoretical framework, thereby facilitating a more comprehensive understanding of materialism and its correlates. Recommendations for intervention researchers and practitioners are proposed.

CHAPTER ONE

INTRODUCTION

1.1 What is materialism?

The term ‘materialism’ has its roots in philosophy where it refers to a view that matter is the fundamental substance and reality in the world. All phenomena emanate from interaction with the material world (Lange & Thomas, 1881). However, in contemporary usage, materialism often refers to giving more importance to material desires and comforts as compared to spiritual matters (as defined in the Oxford English Dictionary). Researchers from various disciplines such as marketing, sociology, economics, anthropology, political science and psychology have tried to examine and study this popular connotation of the term materialism (Mannion & Caolan, 1995). However, from a psychological perspective, research has mainly focused on the causes and consequences of materialism (Kasser, Ryan, Couhman & Sheldon, 2002). In the ubiquitous consumer culture of modern day urban societies, acquisition of material goods has come to be associated with social status, financial success and personal accomplishment. The penetration of the idea of the material good life in developed countries (Chan & Joseph, 2000; Schmuck, 2001; Schmuck, Kasser, & Ryan, 2000; Kasser & Ahuvia, 2002; Kim, Kasser, & Lee, 2003), as well as developing nations (Frost, 1998; Ryan, Chirkov, Little, Sheldon, Timoshina & Deci, 1999; Eastman, Fredenberger, Campbell & Calvert, 1997; Podoshen, Li & Zhang, 2011; Dittmar & Kapur, 2011) has instilled a mindset that material acquisitions are a route to attaining fame, identity and even happiness. As such, various definitions of materialism exist. It has been regarded as “*a preoccupation with, desire for and emphasis on, material goods and money to the neglect of other matters*”

(Garoarsdottir, Jankovic & Dittmar, 2008), as a “*general lust for goods*” (Mukerji, 1993), as “*an orientation emphasizing possession and money for personal happiness and social progress*” (Ward & Wackman 1971, p. 426) or even as a “*function of personality traits such as possessiveness, non-generosity and envy*” (Belk, 1985).

While Belk’s conceptualization considers materialism as a stable individual difference variable, the former conceptualizations view it essentially as a personal value system whereby possessions, status/fame and money are important personal goals that dictate one’s way of living (Ahuvia & Wong, 2002). Further, when viewed as a personal value system, materialism may be contextually and situationally determined. The situational conceptualization implies that materialism may be a transient aspect of an individual’s life that may peak or decline in response to various situations and life stages. Recent scholars have found that materialism may fluctuate during a person’s life such that they may choose less materialistic lifestyles during some phases in their lives than others (Etzioni, 1998; Huneke, 2005).

Thus, the basic commonality in all of these conceptualizations is that materialism is guided by a central focus on obtaining status, success or happiness via acquisition of material goods. This three-component values-based approach to materialism developed by Richins and Dawsons (1992) is well validated and each component contributes similarly to overall materialism (Giddens, Schermer & Vernon, 2009). The current research focuses on Richin’s & Dawson’s concept of materialism where people are driven by the necessity to consume more and more products for the status and sense of success and happiness that they provide.

Other strands of materialism research point towards its consistent relationship with consumer behaviors such as compulsive buying, hoarding (Frost, Kyrios, McCarthy & Matthews, 2007), product obsolescence (Scott, 2010) and status driven

consumption (Goldsmith & Clark, 2012). However, an aspect of materialism that has garnered substantial research attention is the negative outcomes related to it. For example, materialistic people are less likely to care for the environment (Kilbourne & Pickett 2008) and materialism has generally been considered as a contributor to environmental problems and global climate change. The above examples highlight the impact that materialism may have on our sustainability on this planet; but another stream of negative outcomes related to materialism focus on its effects on psychological well-being. An academic scholar who has openly criticized the mainstay of materialism in contemporary world is Tim Kasser. In his book *The High Price of Materialism*, Kasser (2002) presents a large volume of research that captures the essence of how materialism diminishes well-being.

However, there are some researchers who have argued in favor of materialism as beneficial. They argue that it may contribute to a sense of personal fulfillment, economic advancement and social progress (Twitchell, 1999). Still others emphasized on the need to consider the purpose of consumption behind people's materialistic behaviors (Csikszentmihalyi and Rochberg-Halton 1978; Holt 1995; Scott 2010), implying that when the purpose of consumption (i.e. engaging in materialistic pursuits) is promoting survival, safety or personal values or goals, materialism may actually be beneficial. As a social resource, material wealth may activate a general sense of confidence and efficacy. In fact, one study found that simply handling money reduces distress over social exclusion and increased tolerance to physical pain (Xinyue, Vohs & Baumister, 2009).

Nevertheless, there is abundant empirical evidence linking materialism with negative outcomes. In fact, its impact on diminished psychological well-being has been established across various age groups (Kasser, 2005; Sheldon & Kasser, 2001)

and among individuals living in the Western as well as the Eastern world (Dittmar, 2005; Speck & Roy, 2008). Such mounting evidence regarding the detrimental psychological effects of materialism warrants further study of the mediating mechanism as well as the psychological underpinnings of this construct. This is because; deeper understanding of the antecedents and mechanisms of materialism may aid psychologists to make recommendations about how to minimize its negative effects. In this research, I was particularly interested in furthering understanding about the reasons that might explain the negative consequences of materialism on psychological well-being and also in understanding the drivers of materialism, both from a self-determination perspective.

While it is possible for materialistic lifestyles to be associated with poor physical health outcomes (Niemic, Ryan & Deci, 2009; Kasser & Ahuvia, 2002), the current research focused on its detrimental effects on psychological well-being only. This is because, the theoretical perspective guiding this research (self-determination theory) has not yet been expanded to explain how materialism and unfulfilled psychological needs might lead to biological consequences (Stehling-Ariza, 2014). Building on previous work on the relationship between materialism and psychological well-being from a self-determination perspective, the current research focused on extending the scholarship within the existing theoretical field.

Next, we turn attention to the three important concepts around which this dissertation is centered; the materialism and psychological well-being link, self-determination theory and contingent self-esteem.

1.2 Materialism and psychological well-being

When materialism represents itself as a combination of strong desires for money, fame and appearance rather than as a survival driven pursuit, it becomes particularly problematic for individual well-being (Hirschman, 1992). Even though there are popular notions about materialism such as ‘money can’t buy happiness’. ‘in the race for money, relationships lag behind’ etc., people continue to tread on the path of acquiring more and more material wealth and financial success much to their own detriment. Empirical evidence lends supports to these popular notions whereby materialism has been found to negatively impact subjective well-being (Webb & Wong, 2014; Garoarsdottir et al., 2008; Vansteenkiste, Duriez, Simons & Soenens, 2006), meaning in life and self-determination (Kashdan & Breen, 2007), self-actualization and vitality (Kasser & Ahuvia, 2002). The overwhelming evidence is that materialism is based on a value system that is unhealthy and has negative repercussions on the psychological well-being of those who pursue it. In an attempt to understand this consistent negative relationship between materialism and psychological well-being, several theoretical models such as the value conflict model (Burroughs & Rindfliesch, 2002), extended value conflict model (Garoarsdottir et al., 2008) and self-determination theory (SDT, Ryan & Deci, 2000) have been proposed. Broadly speaking, the conflicting values perspective suggests that endorsement of materialistic values often conflicts with the concurrent endorsement of other life values such as community and family values. The ensuing conflict produces stress in an individual’s life leading to lower well-being. The SDT perspective on materialism on the other hand proposes that materialistic orientations in themselves work towards lowering satisfaction of the basic psychological needs and thus lowers individual well-being. In other words, SDT posits that holding materialistic values bears costs for an

individual irrespective of whether his/her materialistic values conflict with other life values or not. In the next chapter, I will argue in favor of self-determination theory as a particularly useful paradigm for understanding materialism and its effects. Thus, the current research focuses on burgeoning evidence from self-determination theory as an explanatory theoretical perspective for understanding the development of materialism as well as expanding existing insights about the materialism-well-being link.

1.3 Self Determination theory

Self-determination theory is an approach to human motivation and personality that investigates people's inherent growth tendencies and innate psychological needs that are the basis for their self-motivation and personality integration. Additionally, it examines conditions that foster/inhibit these positive processes (Ryan & Deci, 2000). In an attempt to explain the conditions that foster or inhibit positive processes, SDT emphasizes on the difference between internal motivation to engage in an activity (such as abiding interest, personal commitment to excel) or being externally pressured to do so (such as bribes, fear of surveillance). Ryan, Deci and Grolnick, (1995) found that people whose motivation is internally driven experience heightened general well-being as compared to those who are externally controlled for an action. In fact, they have demonstrated the salutary effects of greater internalization in various domains such as academic achievement (Bailey & Phillips, 2015), health related behaviors (Hagger, Hardcastle, Chater, Mallet, Pal & Chatzisarantis, 2014), religion (Ryan, Rigby & King, 1993), environmentally responsible behaviors (Osbaldeston & Sheldon, 2003) and intimate relationships (Leak & Cooney, 2001). However, self-determination theory has also identified domains that do not readily render themselves to intrinsic motivation and well-being. Research has shown that certain life goals and their related activities do not contribute to well-being (Kasser & Ryan, 1996; Ryan et al., 1999).

Specifically, intrinsic life goals such as affiliation, personal growth, and community are positively associated with well-being and extrinsic life goals such as wealth, fame and image are negatively related to various well-being indicators. Self-determination theorists identified materialism as one such life goal that diminishes well-being due to its inability to satisfy basic psychological needs, discussed next.

1.3.1 Basic psychological needs

The theory identifies three psychological needs that can foster positive processes and play an instrumental role in general well-being; the need for autonomy, the need for competence and the need for relatedness (Ryan & Deci, 2000).

Autonomy, as understood under the SDT, is the inherent desire to feel that one has the power to make his/her own choices and has psychological freedom when carrying out any activity (Van den Broeck et al., 2010). SDT defines competence as “a propensity to have an effect on the environment as well as to attain valued outcomes within it” (Deci & Ryan, 2000 p. 231). Finally, the need for relatedness, as the name suggests, is the need to belong, to connect with others, to be loved and cared for (Baumister & Leary, 1995 as cited in Van den Broeck et al., 2010).

Kasser, (2002) argued that people with strong materialistic values orientation are unable to satisfy these basic needs which explains the negative association between well-being and materialism. Three recent studies (Kasser et al., 2014; Chen, Yao & Yan, 2013; Tsang, Carpenter, Roberts, Frisch & Carlisle, 2014) have documented that basic psychological needs mediate the negative association between materialism and well-being. For instance, Kasser and his colleagues (2014) conducted a 2 year longitudinal study with final year college students testing them just before they graduated and then again 2 years hence. They found that, the extent to which

individuals became relatively less (or more) oriented towards materialistic aspirations over a 2-year period, they reported increased (or decreased) satisfaction of their psychological needs for autonomy, competence, and relatedness, and this increase (or decrease) in need satisfaction fully accounted for the reported increase (or decrease) in well-being. Similarly, the other two studies also found cross-sectional correlational evidence for the mediated path.

However, each of these studies examined overall needs satisfaction as a mediator between materialism and well-being, rather than looking at the individual contribution of each basic need. In addition, all of the previous studies furnished correlational evidence for the mediating role of needs satisfaction and thus direction of the relationships could not be ascertained. SDT researchers have found merit in exploring the unique contribution of each of the needs in need relevant domains. For instance, in one study, the need for relatedness was the most important predictor of attachment quality and relationship commitment among interaction partners as compared to autonomy and competence (LaGuardia, Ryan, Couchman, & Deci, 2000). Experimental evidence was furnished recently whereby participants in a relatedness prime condition showed highest intentions to volunteer as compared to those in autonomy or competence prime conditions (Pavey, Greitmeyer & Sparks, 2011). Similarly, Deci, Ryan, Gagne, Leone, Usunov, & Kornazheva, (2001) showed a strong relationship between satisfaction of the need for competence and job engagement. Therefore, it is clear that, some domains are more suitable for the expression and satisfaction of specific psychological needs (relationships for the need for relatedness and work settings for the need for competence). Based on the above evidence, it is possible that materialism relates differentially to the three basic psychological needs.

I propose that it is the need for autonomy that is the most relevant psychological need affected by materialism. Specifically, when an individual embarks upon accumulating wealth and achieving societal standards of status and material accomplishment, he/she essentially acts in ways that are largely governed by forces from outside the individual. Upward social comparisons are positively associated with materialistic aspirations (Chan & Prendergast, 2007; Richins, 1991). Frequent upward social comparisons place individuals on a ‘hedonic treadmill’ whereby larger and frequent purchases become necessary in order to satisfy the individual’s competitive appetite through acquisition (Dunn, Gilbert & Wilson, 2011). Such a person is unable to act in willful, self-determined ways due to the experience of consistent external pressures to match up to societal standards of wealth, fame and success. Insofar as materialistic aspirations are clearly extrinsic and contingent pursuits, representing an external incentive for behavior (Kasser & Ryan, 1996), they diminish the sense of autonomy and actualization (Ryan, 1993), that is considered so crucial for psychological well-being by SDT. Materialism impedes our need to feel autonomous by taking us closer to the externally regulated wants (fame, status, appearance) and farther away from our core, true needs of self-expression and authenticity (James, 2007). On the other hand, it is possible that non-self-determined/extrinsic goals are effective in satisfying the needs for competence and relatedness (Moneta, 2014). An individual who gives importance to materialistic goals may not necessarily feel incompetent since the attainment of material goals does provide the individual with emotional highs associated with growing financial prosperity. Although, these emotional highs are tenuous as they set up the individual to achieve the next material milestone, at least temporarily the individual experiences a sense of effectance. Similarly, a materialistic individual’s need for relatedness may also not be

compromised to a great extent as the accompaniments of material success, i.e. fame and popularity may make an individual believe that he/she has garnered adequate social support. In fact, in one study, materialistic aspirations were positively associated with social functioning (Żemojtel-Piotrowska, Piotrowski & Clinton 2015). Moreover, material wealth may enable an individual to spend on experiential purchases such as traveling, eating out or attending concerts. Such experiential purchases foster social relationships as most such activities are undertaken with other people (Jansson-Boyd, 2011).

Thus, the potential for materialistic aspirations to temporarily satisfy the needs for competence and relatedness is non-trivial as these tenuous highs may work to perpetuate materialistic lifestyles. However, it is noteworthy that such effects have not been found for the need for autonomy suggesting that materialism is most often, associated with a lower sense of autonomy. The relative importance of the need for autonomy over the other two needs has also been specified under the Cognitive evaluation theory (CET). This theory is a sub-theory of SDT and aims to identify factors that explain variability in intrinsic motivation (Ryan & Deci, 2000). Studies under the CET have shown that feelings of competence will not enhance intrinsic motivation unless preceded by a sense of autonomy. Further they stated that proximal relational supports might not be necessary for intrinsic motivation. Intrinsic forms of motivation have been consistently related to heightened vitality (Mouratidis, Vansteenkiste, Sideridis & Lens, 2011), self-esteem (Chen, Hua & Lou, 2007) and general well-being (Weinstein & Ryan, 2010). This implies that contexts that do not support autonomy not only influence intrinsic motivation negatively but also are also likely to diminish well-being. Thus, in this differential relationship of the basic needs

with materialism may lay the key to understanding the specific route by which materialism diminishes well-being.

Therefore, I suggest that the need for autonomy would be the most relevant mediator in the negative relationship between materialism and well-being. I aimed to tease apart the relative contribution by each of three basic needs of autonomy, relatedness and competence to the mediating effect. Figure 1 illustrates the conceptual diagram of the multiple mediator model specified. Therefore, regarding the effects of materialism on well-being, I hypothesized that lower satisfaction with the need for autonomy mediates the negative relationship between materialism and well-being. As no previous studies have attempted to examine the specific contribution of the three psychological needs in the negative relationship between materialism and well-being, the present research sets out to fill this research gap.

Figure 1. The conceptual multiple mediation model. The hypothesized causal connection between materialism and each basic psychological need score is denoted a ; the hypothesized causal association between each psychological need and well-being is denoted b . The strength of the mediated association (i.e., the extent to which the effect of materialism on well-being may be mediated by basic psychological needs satisfaction) is found by multiplying ' a ' with ' b '. The path denoted c' represents the direct association between materialism and well-being when the indirect or mediated path involving basic psychological needs is statistically controlled. The c coefficient in parenthesis represents the total relationship between materialism and well-being (not controlling for any of the basic psychological needs).

While there is a considerable body of research that has examined the impact of materialism on well-being on one hand and its nature and antecedents on the other, no attempt has been made so far to combine its antecedents and effects in a single explanatory framework. I discuss next, a possible antecedent of materialism and conclude this chapter with a discussion on how this research aims to integrate understanding about the antecedents and effects of materialism within a self-determination framework.

1.3.2 Contingent self-esteem

Previous research has confirmed self-esteem deficits as important antecedents of materialism (see chapter 2 for a detailed review). There is a general consensus in the literature that material goal striving helps individuals to deal with feelings of inadequacy and inferiority (Flouri, 1999; Kasser, 2002; Kasser, Ryan, Couchman & Sheldon, 2004). In order to understand why people continue to pursue material wealth despite the lay wisdom that material comforts cannot buy happiness, I reasoned that, materialism must be a result of conditions that promote its chronic perpetuation in contemporary consumer societies. Thus, I wanted to explore an antecedent of materialism that may shed light on why people find it difficult to dispel materialistic lifestyles and pursuits. Insofar as the antecedent of materialism being considered is of a pervasive nature, it should partially explain people's continued tendency to hold materialistic attitudes. Further, in order to qualify as an explanatory model for materialism, SDT should be able to answer questions regarding the development of materialistic values. I propose that, SDT's idea of contingent and true self-esteem provides a plausible and refined explanation for why people get inclined towards materialism. Deci and Ryan (1995) defined contingent self-esteem as, "feelings about oneself that result from or are dependent upon matching some standard of excellence

or living up to some interpersonal or intra-psychic expectations (p.32).” According to SDT, contingent self-esteem (CSE) is fragile because it requires perpetual validation. On the other hand, true self-esteem is a result of actions that are self-determined, chosen out of genuine interest and importance for the individual rather than from externally imposed criteria. SDT has a domain specific view of contingent self-esteem, such that, people’s self-esteem may be dependent, or contingent, upon performance in one or more specific life domains that the individual deems personally meaningful and important. Some people may derive their self-esteem from achievement domains (academics, sports), while others from money/wealth, and still others from public image and from obtaining social approval. The aforementioned domains are essentially extrinsic (externally regulated and evaluated) domains. On the other hand, people may have their self-esteem contingent upon relatively intrinsic domains such as being self-congruent, authentic and developing themselves in which case, their self-esteem is considered to be true self-esteem. Although other internal contingencies of self-esteem like family support, virtue and God’s love have been reported (Crocker & Park, 2004), other researchers have argued that, these relatively internal contingencies reflect external cultural and societal standards that people are expected to adhere to rather than their own personal values, interests and integrated goals (Vonk & Smit, 2012). Therefore, in the current research, I refer to intrinsically contingent self-esteem as including the domains of self-development, self-congruency and authenticity in the various roles that individuals take on in their lives and not familial or cultural expectations of a virtuous life.

This distinction between extrinsic and intrinsic domains of contingent self-esteem is important because the apparent overlap between extrinsically contingent

self-esteem and materialistic values has been mentioned in theoretical debates (Kasser 2002), empirical investigation of the underlying relationships is clearly lacking.

Research examining antecedents of materialism has shown that feelings of self-doubt and generalized low self-esteem pushes people to look for fixes in the material world (Park & John, 2011; Srivastava, Locke & Bartol, 2001; Garoasdottir et al., 2008; Sheldon & Kasser, 2008; Chang & Arkin, 2002), however, there is a lack of clarity on the exact nature of the domains from which such self-doubt (that breeds materialism) emanates. I propose that doubts and/or threats in specific extrinsic domains on which self-esteem is staked, predispose an individual to turn to materialism.

I expect that three extrinsic contingencies are relevant to materialism, namely appearance, competition and social approval. I argue in favor of these specific domains based on the reasoning that, other extrinsic CSE domains (such as academic competence) might have a distal relationship with materialism. Thus, it is possible that academic competence/success may be related to materialism as it may lay the foundation for a good and lucrative career and consequently purchasing power to indulge in materialistic pursuits. However, a more direct consequence of self-esteem deficits owing to academic incompetence would be to put in more effort into one's academic pursuits to relieve oneself from the insecurity. For example, individuals who have their self-esteem dependent upon academic competence should essentially achieve academic excellence in order to feel worthy rather than develop materialistic orientations. Further, previous researchers have held the view that academic self-esteem is theoretically independent of social and public self-consciousness (Heatherton & Polivy, 1991). Levy (2012) showed that materialism increased among participants who were exposed to a social threat but not when exposed to an academic

performance threat. Thus, as long as materialism is associated with social status concerns, it is bound to be a natural avenue for those experiencing low worth in social domains.

Therefore, if a person's self-worth is contingent on the appearance domain such that he/she experiences insecurity or self-doubt in this area, he/she is more likely to spend more time and resources on grooming, shopping for clothes or exercising. Existing evidence has regarded appearance related ideals and materialism as closely connected aspects of consumer culture that cluster together and have similar associations with negative well-being outcomes (Easterbrook, Wright, Dittmar & Banerjee, 2014). Moreover, appearance contingent self-esteem has been found to be predictive of financial problems such as credit card debt accumulation (Crocker & Luhtanen, 2003). Thus, materialistic pursuits seem to be an important outlet for appearance contingent individuals.

Similarly, individuals with contingent self-esteem in the competition domain have a general preference for feeling superior to others. Material accomplishments can enable such individuals to achieve that sense of superiority in terms of owning better gadgets, bigger homes or more luxurious cars than others. Indeed, previous research has shown that upward social comparisons encourage materialistic aspirations and fuel contingent self-esteem (Chan & Prendergast, 2007; Patrick, Neighbors & Knee, 2004). It is possible that, material acquisitions may provide quick fix emotional highs that help boost one's self-worth in competitive domains (such as sports), at least in the short run. For example, one study found that, novice tennis players were more likely to wear branded clothing as compared to the more confident expert players (Braun & Wicklund, 1989). Thus, here too, materialistic pursuits seem to provide a viable avenue to competition contingent individuals to feel worthy.

Another common external contingency of self-esteem that has been reported is approval from others whereby self-esteem may be based on gaining approval and acceptance from generalized others (Crocker, Luhtanen, Cooper & Bouvrette, 2003). Materialism has been found to be positively associated with fear of social disapproval (Christopher & Schlenker, 2004). It seems plausible that material accomplishments help individuals to impress others and thereby gain social acceptance.

Therefore, good appearance, a sense of competition and social approval may be achieved by a variety of consumer behaviors such as buying clothes, spending on beauty treatments, owning gadgets and luxury goods or attaining signs of material success.

On the flip side, I also expect that intrinsically contingent self-esteem should be incompatible with materialism. This is because people with intrinsic contingent self-esteem are generally more authentic in their relationships, exercise greater self-compassion (in judging their actions and negative evaluations from others) and report higher global self-esteem as compared to those who have their self-esteem dependent on extrinsic domains (Vonk & Smit, 2012). Conversely, people highly focused on materialistic strivings report superficiality in relating with others (Khanna & Kasser, 2002), are highly self-conscious publicly (Schroeder & Dugal, 1995), experience fear of negative evaluations (Christopher & Schlenker, 2004) and report low global self-esteem (Burroughs & Rindfleisch, 2002).

Thus, while previous studies have established links between CSE and upward social comparison and generalized self-doubt and materialism, to my knowledge, no research has linked particularly, frequently encountered CSE domains to materialistic pursuits or values. This research thus advances the field by examining the relationship

between extrinsic and intrinsic domains of CSE with materialism. Furthermore, I propose that only the particular extrinsic domains of appearance, competition, and social approval CSE are related to greater materialism (as compared to intrinsic or other extrinsic CSE domains). In light of previous findings and discussions above, I developed specific hypotheses to test the role of three extrinsically oriented CSE domains as predictors of materialism. I also expected that intrinsically oriented CSE would negatively predict materialism.

Finally, this research sought to clarify the psychological mechanism between contingent self-esteem and well-being. Extrinsic and intrinsic domains of contingent self-esteem have been found to relate differently with well-being indices (Vonk & Smit, 2011; Lakey, Hirsch, Nelson & Nsamenang, 2014; Zeigler-Hill & Noser, 2015). Generally, external/extrinsic contingencies of self-worth have been found lower well-being. Evidence from longitudinal studies suggested that college students who based their self-esteem on appearance were more likely to abuse substances and displayed more symptoms of disordered eating as compared to those who based their self-esteem on being virtuous (Crocker & Luhtanen, 2005). Arjan and his colleagues (2010) found that external contingencies such as appearance, social approval, and academic and activity performance were positively related to depression, anxiety, eating problems and disruptive behaviors. On the other hand, Vonk and Smit (2012) found a positive relationship between intrinsic contingencies of self-worth (self-development, self-contact, autonomy) and well-being. Previous research has shown that in the case of extrinsically contingent self-esteem, the need for autonomy is compromised because people tend to get ego involved in these domains. This ego involvement implies heightened self-consciousness accompanied by feelings that the activity is imposed (Ryan & Deci, 2000). In this way, the need for autonomy is compromised when one's

self-esteem is contingent on extrinsic domains. On the other hand, intrinsically contingent self-esteem, by definition, depends upon self-contact, autonomy and self-development (Vonk & Smit, 2012 p.183). In contrast to extrinsic CSE, individuals with intrinsically contingent self-esteem exhibit task involvement, focus on the inherent enjoyment in the task, and tend to feel that the task is freely chosen (Ryan & Deci, 2000). If lower satisfaction with need for autonomy also explains the negative association between extrinsic CSE and well-being (just as it is expected to mediate between materialism and negative well-being), then need for autonomy may prove to be that important common link that brings the antecedent and consequences of materialism together.

This dissertation seeks to advance the work of SDT theorists by focusing on two ideas. Firstly, it intends to examine the relative contribution of the three basic psychological needs to the mediating effects in the materialism-well-being link. Secondly, it develops the idea that self-esteem enhancing motives that are extrinsic in nature breed materialism. Specifically, I utilized a construct within SDT, i.e. contingent self-esteem to show that certain extrinsic domains of contingent self-esteem are motivational antecedents of materialism while intrinsically contingent self-esteem drives people away from materialistic pursuits. Additionally, this research makes the first attempt to integrate the antecedent and consequences of materialism in a single explanatory framework. Figure 2 illustrates the proposed integrative model. For the purpose of model testing, I propose comparing the broader extrinsic and intrinsic CSE distinctions as positive and negative predictors of materialism respectively. Further, based on the above arguments that need for autonomy is the most likely candidate for the mediator between materialism and well-being, its theoretical similarities with

intrinsic CSE and also that it is especially antithetical to extrinsic CSE, the proposed model only includes the need for autonomy as the mediator.

Figure 2. The proposed model of the antecedents, mediating mechanism and consequences of materialism.

1.4 Research Questions

The research questions listed below seek to expand and refine the existing literature stream surrounding materialism. Previous research has shown that materialism is negatively related to well-being and that this negative association is mediated by basic psychological needs satisfaction. However, some researchers argue that three needs may have differential mediating effects on the materialism well-being link. This research aimed to examine this contention by showing how the need for autonomy may be particularly compromised among materialistic individuals. Additionally, in order to better understand the reason behind the robustness of the negative association between materialism and well-being, it is equally important to examine its roots and developmental course. While generalized self-doubt has been established as an antecedent of materialism in a number of studies, the exact nature of this self-doubt remains unexplored. This research expands on this conceptualization and also shows

that the distinction between extrinsically contingent and intrinsically contingent self-esteem enriches existing literature on the antecedents of materialism. Finally, the relationship between contingent self-esteem, need satisfaction and well-being is also explored. Table 1 enumerates the research questions and the study-wise examination of specific hypotheses related to each question. Thus, four broad research questions are proposed:

1. How does materialism relate uniquely to the three psychological needs to affect well-being?
2. How does extrinsically oriented CSE relate to materialism?
3. How does intrinsically oriented CSE relate to materialism?
4. How does extrinsic/intrinsic CSE relate to need satisfaction and well-being?

1.5 Research Design

To answer these research questions, five studies are reported. These five studies sought to develop and validate the proposition that materialism stems from extrinsically oriented contingent self-esteem and lowers the satisfaction of the need for autonomy. The first study is a correlational study that addresses the first research question. An online survey method was utilized for data collection with an adult population. The second study uses an experimental paradigm to provide causal evidence for the first research question. I attempted to show the effects of manipulating materialism on basic needs satisfaction and state well-being. The third and fourth study sought to answer the second, third and fourth research question through correlational methods. Finally, study five seeks to assess the effects of extrinsic and intrinsic CSE on materialism in an experimental setting.

Table 1

Summary of research questions and hypotheses tested across study 1 through 5

Research Question	Corresponding Hypotheses	Study
How does materialism relate to well-being	H1- Lower satisfaction of need for autonomy negatively mediates the negative relationship between materialism and well-being	Study 1 & Study 2
How does extrinsic CSE relate to materialism	H2a, H2b, H2c- Domain specific contingent self worth in the appearance, competition and approval from others domains positively predicts materialism	Study 3 & Study 5
How does intrinsic CSE relate to materialism	H3-Intrinsic contingencies of self-worth negatively predicts materialism	Study 4 & Study 5
How does extrinsically oriented CSE relate to well-being	H4- Basic psychological needs satisfaction negatively mediates the negative relationship between extrinsically oriented contingent self-esteem and well-being	Study 3
How does intrinsically oriented CSE relate to well-being	H5- Basic needs satisfaction mediates the positive relationship between intrinsic CSE and well-being	Study 4

Note. CSE= contingent self-esteem

1.6 Contribution to the Literature

Although materialism is a research topic that has received adequate attention from consumer researchers, marketers and social psychologists, the plethora of literature has focused on its negative consequences on well-being, its antecedent conditions and causes along with examination of potential mediators and moderators that might explain its relationship to well-being. There is no research that has attempted to address the above-mentioned issues in a single unifying framework.

The current research aims to fill this research gap by testing an explanatory model that includes the causes, consequences and mediators of materialism, firmly rooted in the self-determination theory. A novel contribution of this dissertation lies in the development of the idea that contingent self-esteem in specific extrinsic domains qualifies as an antecedent of materialism. By identifying specific extrinsic domains of contingent self-esteem that form the foreground for developing materialistic values, this research advances understanding of the self-esteem deficit and materialism link. While this link has been previously established but the precise nature of the self-esteem deficits remained unexamined. Additionally, other contributions are made to the current literature stream surrounding intrinsic contingent self-esteem and the materialism and negative well-being link. Firstly, I produce parallel evidence to demonstrate the incompatibility between intrinsic contingent self-esteem and materialism. Furthermore, while intrinsically contingent self-esteem has been related to a number of positive outcomes in previous research, its relationship with need satisfaction has not been explored; I examine this relationship in study 4. Secondly, instead of showing that overall needs satisfaction mediates the relationship between materialism and well-being, the current research tested the differential effects of each the three needs on this relationship. This contribution is particularly valuable because

it highlights the importance of considering the need for autonomy as the most compromised need in the materialism and well-being link. This investigation enriches the existing SDT conceptualization of the basic needs mediating the materialism-well-being link. Based on earlier theoretical debates (Ryan 1993; Kasser 2002; James, 2007), materialism seems to be associated with greater compromises in autonomy as compared to competence and relatedness needs. In view of the fact that the three psychological needs are closely related constructs, the proposed distinction helps to clarify the specific mechanism by which materialism impacts well-being. Finally, the third contribution to the literature is to show the malleability of contingent self-esteem. As long as manipulation of contingent self-esteem can affect materialism and basic needs satisfaction situationally, as shown in study 5, we can assume that long-term exposure to healthier contingencies by means of intervention programs can boost psychological well-being in a more sustainable manner as well as divert people's attention away from materialistic pursuits to more intrinsically satisfying ones.

1.7 General flow of the Dissertation

The dissertation is organized into five chapters. Chapter II discusses the applicable literature regarding antecedents of materialism and the materialism-negative well-being link. The first and second study, which shows correlational and experimental evidence respectively for the relationships between basic psychological needs, materialism and well-being, is discussed in Chapter III. Chapter IV introduces Study 3, 4 and 5, which investigates the relationship between contingent self-esteem, basic needs satisfaction and materialism. While extrinsic CSE is the focus of study 3, intrinsic CSE is examined in study 4. The last study reported in chapter IV is the experimental study 5, where CSE in extrinsic and intrinsic domains is manipulated in order to test the effects of this manipulation on materialism. Lastly, a discussion

follows in Chapter V that includes explanation of major findings, contributions made to the literature, practical implications, limitations and future directions.

CHAPTER TWO

LITERATURE REVIEW

The antecedents of materialism have been examined either from a socialization perspective (Karabati & Cemalcilar, 2010; Grougiou & Moschis, 2014; Kasser, Ryan, Zax & Sameroff, 1995; Ahuvia & Wong, 2002) or from a psychological perspective (Park & John, 2011; Srivastava et al., 2001). Broadly speaking, the socialization perspective examines various socialization agents such as parents, peers, media or cultural values that might predispose an individual to have an excessive focus on materialistic pursuits. The psychological perspective looks at materialism as a way to compensate for feelings of insecurity. Nearly three decades of research has consistently shown that psychological well-being is negatively related to strong focus on materialistic pursuits (Belk, 1985; Segev, Shoham, & Gavish, 2015). Thus, by understanding the psychological antecedents of materialism, researchers might be in better positions to recommend appropriate changes in sociocultural and personal environments that may check the increasing hold of materialistic value systems in many urban societies. The first section of this literature review focuses on lines of research that has examined the psychological antecedents of materialism. Additionally, this section will discuss how the current research builds upon the previous literature on antecedents that drive the development of materialism. Here, I attempt to point out why extrinsically oriented contingent self-esteem is a particularly important concept in understanding the development and perpetuation of materialistic aspirations. The second section will focus on literature related to materialism and its implications on psychological well-being. Relevant research from self-determination theory, that explain the materialistic-well-being link will be reviewed. An assessment of how prior work informs the current research agenda will conclude this section.

2.1 Section I: Antecedents of materialism

There have been a number of attempts in the research literature to identify antecedents of materialistic attitudes. In an attempt to explain why people turn to materialism, researchers have largely delineated two main pathways (Kasser et al., 2004). Firstly, there seems to be a *socialization* pathway, which suggests that an individual may develop materialistic values when he/she is exposed to materialistic models and values from an early age. Interaction with parental figures and peers leading materialistic lifestyles makes children focus more on material acquisitions as a way to fit in. The television and online media in the Western world (Banerjee & Dittmar, 2008) as well as in developing nations of Asia (Ma, Li, Hu, Ma & Wu, 2002) and Africa (BBG Gallup, 2013) constantly bombard children as well as adolescents with images emphasizing consumption of a variety of products. This is obviated by the increasing brand consciousness among the younger generations as documented in several previous studies (Achenreiner & John, 2003; Nelson & McLeod, 2005; Ghazali, 2010). As part of the socialization process, values are transmitted to newer generations. In order to acknowledge the role of value orientations as precursors of materialism, Karabati and Cemalcilar (2010) found that self-enhancement values such as power, achievement and hedonism were highly predictive of materialism in a large sample of Turkish university students. On the same lines, Grougiou and Moschis (2014), found in a sample of Greek young adults that family communication patterns that emphasized individual achievements seems to promote the importance of materialistic values while family settings that encourage compliance instead of self-direction seems to restrain the development of materialistic values. Thus, the internalization of materialistic values from parents, peers and the larger community leads people to adopt these values at early stages of socialization. For example,

Kasser, Ryan, Zax and Sameroff (1995), showed that teenagers who rated financial success aspirations relatively higher than more pro-social aspirations tended to be raised in disadvantaged socio-economic backgrounds, and their mothers also valued financial success highly. Ahuvia and Wong (2002) found that economic deprivation experienced during the formative years of life tends to lead people to have a lifelong focus on material needs at the expense of higher order needs. Banerjee and Dittmar (2008) demonstrated the role of peer pressure and peer rejection in predicting greater materialism. These early socialization experiences foster materialism through passive observational learning from socialization agents at one level and by fostering an implicit belief that one needs to acquire material possessions in order to feel accepted and valued, at a deeper level. It is worth noting that the so-called ‘materialistic models’, whether they are family, culture or peers, breed materialism by instilling a sense of conditional/contingent regard. This conditional regard forms the crux of the self-esteem repair pathway to materialism, discussed next.

The *insecurity repair* pathway proposes that feelings of insecurity, inadequacy or self-doubt are generated when life’s experiences do not afford an individual with feelings of autonomy, competence and connectedness with social others (Kasser et al., 2004). Generally, life experiences and environments that inhibit fulfillment basic psychological needs may be range from the immediate interpersonal environments to the more distal socioeconomic environments. Research examining low self-esteem/self-doubt as an antecedent condition for the development of materialism has provided consistent evidence in favor of self-doubt as a pre-disposing factor in materialism. For instance, Park and John (2011) found that, individuals with low implicit self-esteem were more materialistic than individuals with high implicit self-esteem. Moreover, they showed experimentally that inducing high implicit self-esteem

reduces materialism. Low self-esteem individuals are more likely to experience power threats as compared to those who have high self-esteem (Cohen, 1959). Thus, in another related study, induced states of low social power resulted in participants' willingness to pay for auction items that were status related (Rucker & Galinsky, 2008).

Other lines of research have shown that, when overcoming self-doubt is considered as a motive behind materialistic strivings, it is found to be the strongest negative predictor of subjective well-being among other predictors such as happiness, success and identity. Two important studies have supported this idea. First, Srivastava, Locke & Bartol (2001), found that there are two sets of motives (positive and negative motives) that are behind people's financial goals pursuit. According to them, negative motives reflect a lack of autonomous orientation and positive motives reflect meeting life's necessities and using money as a measure of market worth. They found that when negative motives such as overcoming self-doubt, seeking power, social comparison, were controlled, the negative association between money importance and subjective well-being was not significant. On the other hand, positive motives such as attaining financial security or accruing utilitarian value of products neither benefited nor harmed subjective well-being. Second, Garoarsdottir et al., (2008) conducted a similar study and distinguished between realistic and unrealistic money making motives. Realistic motives were those that were congruent with pursuing financial goals and somewhat achievable via attainment of financial goals. On the other hand, unrealistic motives are incongruent with financial goals. It was found that unrealistic motives such as overcoming self-doubt, seeking happiness and identity through materialistic goals had a negative impact of psychological well-being. With respect to realistic goals such as feeling successful and competent or maintaining financial

security, their impact on well-being was not detrimental. In both these studies, pursuing financial goals as a means for overcoming self-doubt was the strongest negative predictor of subjective well-being. In short, it is important to note that, while some motivations behind materialism are certainly detrimental to subjective well-being (overcoming self-doubt, seeking happiness, searching for identity) there are others (financial security, sense of accomplishment) which may cause no real harm to one's psychological well-being.

In addition to these studies, two experimental studies have suggested that feelings of self-doubt tend to interfere with peoples' self-valuing process and orient them towards materialistic concerns (Sheldon & Kasser, 2008; Chang & Arkin, 2002). Chang and Arkin (2002) primed participants by asking them to memorize general self-doubt related words (insecure, uncertainty etc.). They found that priming self-doubt in participants induced a higher level of materialism. Kasser and Sheldon (2008) made an explicit attempt to delineate distinct types of psychological threats that encourage people to emphasize extrinsic goals of attractive appearance, financial success and social popularity. They experimentally induced existential, economic and interpersonal threats and found that such threats cause greater endorsement of extrinsic aspirations. However, these psychological threats are less likely to be routinely encountered by individuals in their daily lives. While the inevitability of death (existential threat) and the possibility of economic struggle qualify as psychologically important threats, they are relatively abstract and thus probably less likely to be experienced as regular hazards to one's self-esteem. In the current research, I focused on examining the more common and salient threats to self-esteem such as threats to one's appearance, social standing and image. As such, appearance and social self-esteem threats have a pervasive influence on people given the constant bombardment of ideal body and ideal

image messages on popular media in the contemporary world. These self-esteem threats may be particularly hard to escape, as fleeting reminders of such consumer culture ideals are omnipresent in everyday life.

Thus it seems that in order to fill the void created by low self-esteem, individuals turn to materialism as a compensatory strategy. This compensatory strategy seems effective because material possessions have communicative power and thus helps to build one's personal and social identity. For instance, clothes, cars, gadgets, travel, etc. are all symbols of social standing and socio-economic status, which may facilitate image building (Dittmar, 2008). Materialism as a self-esteem repairing mechanism is productive especially in the short-term, in terms of temporarily providing relief from the self-doubt provoking situation.

Although, both correlational and experimental evidence suggests that feelings of low self-worth may lead people to have a more materialistic outlook towards life, the specific nature of this self-doubt/insecurity is unclear. None of the studies attempted to examine frequently accessible domains from which this insecurity might be emanating. I propose that the self-determination theory construct of contingent self-esteem (CSE) is very useful in this regard and can be seen as an antecedent of materialistic orientations. Further, the distinction between extrinsic and intrinsic CSE may be particularly useful in furthering understanding about common domains of self-doubt that are particularly susceptible to materialism and those that drive people's attention away from materialistic concerns. Deci and Ryan (1995) defined contingent self-esteem as, "feelings about oneself that result from or are dependent upon matching some standard of excellence or living up to some interpersonal or intrapsychic expectations (p.32)." As discussed before, according to SDT, self-esteem may be staked upon extrinsic or intrinsic domains. For e.g. if a person's self-esteem is

contingent on the extrinsically oriented appearance domain (or that he/she experiences insecurity or self-doubt in this area), he/she is more likely to spend more time and resources on grooming, shopping for clothes or exercising. Similarly, individuals with CSE in the competition domain frequently engage in competing with and comparing themselves to others. There is little doubt that material acquisitions do provide the quick fix emotional highs that help to boost one's self-worth in these domains, at least in the short run. Good appearance and a sense of competition may be achieved by a variety of consumer behaviors such as buying clothes, spending on beauty treatments, owning gadgets and luxury goods or attaining signs of material success. Christopher and Schlenker (2004) showed that the inverse relationship between materialism and affective well-being was mediated by self-presentational concerns. Being overly concerned about how they appear in front of others and the fear of negative evaluation, leads materialistic individuals to make extra efforts to impress people through their possessions. In other words, social anxiety is experienced and one is trapped in this vicious circle of constantly trying to impress others.

On the other hand, an individual may stake his/her sense of self-worth on personal growth and/or on authentic and supportive relationships. Such contingent self-worth based on intrinsic motives, naturally inclines an individual towards contributing to the larger community, developing authentic and meaningful relational ties and genuine mastery, exploration and learning in life. Thus, individuals with intrinsically contingent self-esteem are less likely to look for self-esteem boosts through materialistic pursuits. Even though the role of extrinsically oriented contingent self-esteem seems plausible in the endorsement of materialistic values, to date, no research has directly examined both these constructs simultaneously.

Moreover, the relationship between intrinsically oriented contingent self-esteem and materialism has not been explored in the extant literature.

By proposing extrinsically contingent self-esteem as an antecedent of materialism that branches out from generalized self-doubt, I have adopted a systemic approach to understanding materialism. This approach provides a single starting point, i.e. low self-esteem, which may further branch out into the specific domains susceptible to materialism such as appearance, competition and social approval. Although, there is evidence for the positive association between low self-esteem and materialism, previous research has not been able to exemplify the possible realms of self-esteem deficits that may be setting the stage for materialistic mindsets to flourish. I hope to fill this research gap by demonstrating the role of specific extrinsic domains of contingent self-esteem in fostering materialism and simultaneously examine the incompatibility of intrinsic contingent self-esteem with materialism. Such a distinct focus on specific domains of contingent self-esteem as precursors of materialism, may aid researchers and practitioners to design more feasible interventions targeted at loosening extrinsically contingent self-esteem as a way of reducing materialism. Specifically, this can be done by including intrinsic forms of self-worth in intervention programs and thus enhance the well-being of individuals. Next, we turn attention to the well-documented negative relationship between materialism and well-being and specifically explore the explanatory mechanism behind this relationship.

2.2 Section II: Materialism and negative well-being

There exists a plethora of literature that substantiates the inverse relationship between materialism and well-being. Decades of psychological studies have unequivocally suggested that materialism undermines subjective well-being

(Burroughs & Rindfliesch, 2002; Vansteenkiste, Duriez, Simons & Soenens, 2006; Laisawat, Jantararat, Ong & Moschis, 2012) self-actualization (Mick, 1996; Carver & Baird, 1998; Kasser & Ryan, 1996), vitality (Kasser & Ahuvia, 2002; Vansteenkiste et al., 2006), positive affectivity (Christopher & Schlenker, 2004; Christopher, Saliba & Deadmarsh, 2009) and meaning in life (Kashdan & Breen, 2007). Diverse theoretical paradigms have attempted to explain the negative association between materialism and well-being.

Drawing on value systems theories, the value conflict model (Burroughs & Rindfliesch, 2002) asserts that when an individual simultaneously endorses two conflicting values such as family oriented values and materialistic values (see also Schwartz's circumplex model of values, 1992) it leads to a sense of internal confusion in the individual's mind. The resulting tussle between the two value systems competing for an individual's psychological resources leads to the experience of stress. This stress emanating from holding two conflicting values then lowers psychological well-being. This perspective is further supported by the *environmental congruence hypothesis*, which states that as long as there is congruence/compatibility between an individual's personal value system and the values held by the larger culture, well-being should not be undermined (Sagiv & Schwartz, 2000). The extended value conflict model added the dimension of value self-discrepancies as an antecedent condition for the experience of value conflict. Value self-discrepancies refer to the gap between a person's actual standing versus his/her ideal standing with regard to a set of values. Higher value self-discrepancies lead to greater value conflict resulting in higher stress and lower subjective well-being. For example, consider a woman who wants to be more independent and self-directive than she is. This implies that she is experiencing a gap between her actual standing versus her ideal standing with regards

to such self-directive values (value self-discrepancy). Now, if she also wants to be more oriented towards her family traditions and conform to them as well, this should lead to a value conflict in her mind. The ensuing value conflict may lead to psychological stress due to the difficulty in choosing one path over the other. Consequently, this psychological stress may lead to lowered well-being. In line with the self-discrepancy argument, Kashdan and Breen (2007) found that experiential avoidance was a significant mediator in the relationship between materialistic values and various well-being outcomes. One key characteristic of having materialistic goals is that there is always a gap between actual and desired goal attainment. Individuals experience this gap as an aversive state of self-awareness where they believe that their current life situation falls below the personal and societal expectations and desires. Experiential avoidance is defined as the unwillingness to accept negatively evaluated, thoughts, feelings, sensations and behaviors. Even though attempts to avoid unwanted thoughts and feelings may provide short-term relief, it is potentially dangerous to habitually steer away from uncomfortable internal experiences. This is because such unrestrained attempts to avoid internal experiences bears negative consequences for self-regulation and psychological flexibility. It encourages avoidance-based strategies of dealing with regular negative experiences (Kashdan & Breen, 2007). In an attempt to escape the negative feelings emanating from the discrepancy between what is achieved and what is expected from them socially, people tend to block such negative feelings. This blocking out process is achieved by focusing attention on immediate environmental stimuli such as material possessions. However, individuals erroneously again end up shifting attentional resources on those stimuli that led to the dissatisfaction in the first place and tend to get caught in this vicious cycle. It is not surprising, therefore, that is tendency of experiential avoidance (if it is chronic and

habitual) helps to explain the negative correlation between materialism and well-being. For example, consider a man who wants to be more financially successful than he currently is. He is necessarily experiencing a discrepancy with respect to his current standing and his desired standing on this financial goal. Consequently, he may experience considerable stress due to this gap. In order to combat these stressful and aversive feelings, he may focus his attention on the immediate material comforts that accompany his current financial situation (such as expensive gifts that he can buy for his children, designer watches, a luxury car etc.). However, this short-term relief from the negative feelings by focusing on material possessions is counter-productive and futile as it redirects his attention to those material pursuits that led to the discrepancy in the first place. The chronicity of the apparent discrepancy and the ensuing avoidance based regulation bears costs for the well-being of the individual.

While, the conflicting values and self-discrepancy perspective provides a plausible explanation for the materialism-well-being link, they lack any prescriptive indications about the content of the values that people hold. Thus, following the value conflict logic, irrespective of the content of the set of values held by an individual, if the values are compatible, it should lead to higher well-being. For example, if an individual has materialistic aspirations and such aspirations are also approved in the socio-cultural milieu, then this compatibility should work towards enhancing the individual's well-being. However, empirical evidence does not support this contention. Studies have reported a consistent negative correlation between materialism and well-being even when people do not endorse competing values (cf. Kasser & Ryan, 1996; Kasser & Ahuvia, 2002; Vansteenkiste, Duriez, Simons & Soenens, 2006). Therefore, given that, materialism produces negative effects on well-being even when it is aligned with an individual's larger value system, it seems

plausible to assume that there are other factors that govern this negative relationship. Humanistic theorists have asserted that financial success aspirations in themselves bear costs to individual well-being (Kasser & Ryan, 1993; Carver & Baird, 1998; Deci & Ryan, 2000). Specifically, the self-determination perspective suggests that failure to adequately meet basic psychological needs explains why materialism diminishes well-being. In other words, if materialism presented itself as a pursuit that satisfies one's basic need for autonomy, competence and relatedness, then the negative association between materialism and well-being would not exist. The current research focuses on qualifying the materialism-well-being link through the self-determination perspective as well as explaining why people turn to materialism from a self-determination theory perspective as illustrated in the first section above. In sum, SDT examines both, basic psychological needs (mediating mechanism) as well as antecedent conditions (contingent self-esteem) that give rise to materialism thereby providing a clearer picture of materialism.

There is enough empirical evidence to show that materialism relates negatively to satisfaction of basic needs (Kashdan & Breen, 2007; Niemiec, Ryan & Deci, 2009; Norris, Lambert, DeWall, & Fincham, 2012). However, recently researchers have begun to examine compromised satisfaction of basic needs as a mediating mechanism in the materialism-negative well-being link. Three recent studies (Kasser et al., 2014; Chen, Yao & Yan, 2013; Tsang, Carpenter, Roberts, Frisch & Carlisle, 2014) have documented that basic psychological needs mediate the negative association between materialism and well-being. Kasser and his colleagues (2014) conducted a longitudinal study and found that the extent to which people became more or less focused upon materialistic aspirations (over a two year period), they reported increased (or decreased) satisfaction of the three psychological needs. This increase or decrease in

needs satisfaction fully accounted for corresponding changes in well-being. These findings were replicated by Chen and colleagues (2013) in a sample of Chinese college students. They too, furnished evidence that basic psychological needs fully mediated the relationship between materialism and emotional well-being, subjective vitality and self-actualization. Similarly, Tsang et al., (2014) documented evidence that gratitude and needs satisfaction mediated the relationship between materialism and decreased life satisfaction.

It seems that an imperative next step should be to disentangle the effects of the three needs. The examination of the differential effects of the three basic needs is important for two reasons; first, there is empirical evidence, which suggests that certain domains may be more suitable for the expression of one or more needs (LaGuardia et al., 2000; Pavey, et al., 2007; Deci et al., 2001). Thus, it is possible that the three needs may have a differential contribution in the materialism-negative well-being link. Second, there is research evidence which suggests that certain kinds of material pursuits may actually satisfy needs for competence and relatedness. For instance, Guevarra and Howell (2015) found that experiential products such as books, sporting goods, and musical instruments satisfy the need for competence. In the same study they also found that life experiences such as eating out, going to a concert, traveling satisfy the need for relatedness.

These studies suggest that the need for competence and relatedness are not adversely affected when people pursue materialistic goals. This is because material success may have the potential for enhancing feelings of competence and self-efficacy (as in the case of experiential products). In a similar vein, rising material success may engender a sense of satisfying relational outcomes because individuals may find

themselves surrounded by various social others while indulging in materialistic activities (as in the case of purchases of life experiences).

My proposition that the need for autonomy is less likely to be satisfied in a materialistic individual is strengthened by empirical evidence suggesting that materialistic individuals have an external locus of control. Basically, people with an external locuses of control have a tendency to consider events occurring as a result of chance or powerful others (external factors) and an experience of loss of control. Christopher, Saliba and Deadmarsh (2009) tested the mediating effect of locus of control in the negative relationship between materialism and affective well-being. They found that the significant positive relationship between materialism and negative affect was substantially reduced when external locus of control was statistically controlled. This loss of control experienced while engaging in materialistic pursuits produced its negative impact of well-being. On the other hand, an internal locus of control and autonomy are highly conceptually related as autonomy has been operationalized as a feeling that people themselves are the cause of their actions rather than the feeling that external forces or pressures are causing them (Sheldon, Elliot, Kim & Kasser, 2001). Thus, the external locus of control experienced by materialistic individuals may be fueled by the self-defeating cycle of pursuing more and more material possessions. There is always a better car, better home to aspire for. Consequently, materialistic individuals, due to their focus on external rewards, social comparison and building an affluent social image, are unable to experience this sense of choice and autonomy as they are constantly preoccupied with fulfilling their material goals (Kasser & Ryan, 1993). In fact, Dittmar (2008) regarded the continuous and pervasive bombardment of consumer messages and ideals as a “cage within” whereby once individuals have internalized materialistic goals as their personal goals,

these material aspirations act as bars in an internal cage that are very difficult to break away from and prevent individuals from considering more meaningful life goals.

Since autonomous individuals are those who indulge in activities volitionally and out of free will with minimal pressures from the external environment, endorsing materialistic values may lead individuals to compromise this psychological need, as acquisitive behaviors are more externally regulated.

In summary, there seems to be two potential research gaps in the materialism-well-being literature when viewed from the SDT perspective. First, while there is considerable evidence for the mediating role of overall needs satisfaction, to my knowledge, no study has attempted to decompose the differential effects of the three needs in the materialism-well-being link. Second, in order to affirm that materialism leads to lower satisfaction of basic needs, there is an urgent need to furnish experimental and longitudinal data to support this contention. As shown in the conceptual diagram of the multiple mediator model in figure 1 above, the current research aims to tease apart the relative contribution by each of three basic needs of autonomy, relatedness and competence to the mediating effect, using correlational and experimental methods. This is important because, by knowing which needs are more strongly implicated in the materialism-well-being link, intervention efforts can be directed towards those specific needs so as to enhance the effectiveness and feasibility of the intervention programs.

2.3 Summing up

Thus, I have adopted a two-pronged approach to understanding the links between contingent self-esteem, materialism and well-being. While this research attempts to clarify the mechanism by which materialism is related to lower well-being

(from a SDT perspective), it also attempts to understand the antecedent conditions that give rise to materialism from a self-determination standpoint. This conceptualization is different from previous ones that either examined the antecedents of materialism or the effects of materialism on well-being in isolation. I investigated the relationships between the key constructs of this research in an integrated explanatory framework and also examined the individual components of the proposed model in the studies.

CHAPTER THREE

STUDY 1 AND STUDY 2

3.1 Study 1: Materialism and well-being – Survey

The goal of this chapter is to provide empirical support to the theoretical viewpoint that materialism interferes with the satisfaction of the need for autonomy and this is how it diminishes individual well-being. To this end, two studies were conducted. The basic aim of study 1 was to measure materialism and its relationship with psychological needs satisfaction and well-being so as to derive preliminary evidence in support for the multiple mediator model proposed earlier (refer to Figure 1). Although previous studies have found good support for the model linking materialism with lower well-being mediated by overall needs satisfaction, the current study aimed to tease apart the relative contribution by each of three basic needs of autonomy, relatedness and competence to the mediating effect. Two lines of research warrant this decomposition of the mediating effect. First, earlier studies (Žemojtel-Piotrowska, Piotrowski & Clinton, 2015; Guevarra & Howell, 2015) have demonstrated that certain types of material acquisitions can fulfill the needs for competence and relatedness, at least in the short run. For instance, purchases such as books or musical instrument give individuals an opportunity to master a skill (reading, comprehension or playing a musical instrument). Further, many materialistic pursuits such as traveling, eating out, attending concerts are usually done with other people, giving individuals an opportunity to experience a sense of connectedness with others. Thus, if the need for competence and relatedness may be satisfied in a materialistic individual temporarily, then it becomes imperative to test the effects of materialism on the third need, i.e. the need for autonomy vis-a-vis the other two needs. Second,

empirical evidence exists which shows that certain domains may be more suitable for the expression of one or more needs (LaGuardia et al., 2000; Pavey et al., 2007; Deci et al., 2001). Sheldon and Hilpert (2012) suggested that combining satisfaction with each of the three needs into a single general measure may lead to overlooking of important distinctive patterns of effects that each of the needs may have. It is proposed in the current study that the key to understanding the negative association between materialism and well-being from an SDT perspective may lie in examining its specific antagonism with the need for autonomy. Thus, regarding the effects of materialism on well-being, I specifically hypothesized that **lower satisfaction with the need for autonomy mediates the negative relationship between materialism and well-being**. As no previous studies have attempted to examine the specific contribution of the three psychological needs in the materialism-well-being link, the present study set out to fill this research gap by directly addressing the research agenda set forth by Chen et al., (2013) and extending it by furnishing cross-sectional evidence for the same. With respect to well-being, two different components of participant well-being as a function of their self-reported materialism were examined. Extant literature (Henderson & Knight, 2012; Fave, Brdar, Freire, Vella-Brodrick, & Wissing, 2011; Ryan & Deci, 2001) indicates that mental well-being is composed of both hedonic (subjective appraisal of one's satisfaction with the conditions of one's life) and eudaimonic elements (individual's self-actualizing tendencies). Typically, hedonic well-being is measured by indicators such as positive and negative emotions and life satisfaction. On the other hand, typical indicators of eudaimonic well-being include self-actualization, vitality, self-acceptance, purpose in life and personal growth. Insofar as materialism diminishes both these elements of well-being, it represents itself as a socio-cultural condition that hampers mental health. It is possible that

materialistic values are differentially related to these two aspects of well-being. For instance, Joshanloo and Ghaedi (2009) show that only two values from Schwartz's (1992) 10 basic value types predicted hedonic well-being while seven values predicted eudaimonic well-being. Incidentally, few materialism studies have measured both aspects of well-being (Chen, Yao, & Yan, 2014; Kashdan & Breen, 2007; Kasser & Ahuvia, 2002). Thus, it is important to explore the relationship of materialism with both the hedonic and eudaimonic aspects of well-being. SDT research has typically supplemented hedonic measures with assessments of self-actualization and vitality (Ryan & Deci, 2001). SDT researchers conceive of eudaimonia as comprising of living well and actualizing one's potential (Deci & Ryan, 2008), thus making self-actualization and vitality the most suitable choices of eudaimonic well-being measures for the current study.

3.1.1 Methodology

Participants

The sample for this study consisted of 231 adults. Participants completed a battery of scales through an online survey platform. Participants were recruited from either the university research participation pool or through the snowball technique. Participation was voluntary and anonymity of responses was maintained. Approval from the institutional review board was obtained prior to the commencement of the study. Mean age of the participants was 30.4 years ($SD= 10.35$) and 58.3% were females. The sample comprised 74.7% Chinese, 17.6% Indians, 3.9% Malays and 3.9% belonged to other races.

Measures

Cronbach alphas for all the measures employed in the study appear in Table 1.

Materialistic Values. The Material Values Scale (MVS) by Richins and Dawson (1992) is an 18-item scale that was used to assess the importance attached by participants to material possessions as a route of happiness, success and centrality. A sample item is, “I admire people who own expensive homes, cars, and clothes.” Subjects responded on a 5-point Likert scale (1= *disagree strongly*, 5= *agree strongly*).¹

Self-Actualization. The Self-actualization scale (SAS) by Jones and Crandall (1986) a widely used measure of self-actualization was used to assess the participants’ self-actualizing tendencies. Participants responded on a 4-point Likert-type scale (1 = *agree*, 4 = *disagree*) to 15 statements such as, “It is better to be yourself than to be popular.”

Life Satisfaction. The Satisfaction with life scale- SWLS (Diener, 1985) consists of five items that measure the individual’s evaluation of satisfaction with life in general (e.g., “If I could live my life over, I would change almost nothing”). Respondents select one of seven options (ranging from “*strongly disagree*” to “*strongly agree*”). Responses were averaged to provide a total life satisfaction score.

Needs Satisfaction. The Basic Psychological Needs Scale (BPNS) developed by Gagne (2003) was used to assess the degree to which the participants experience satisfaction with each of the three needs (autonomy, competence and relatedness)

¹ A higher order factor analysis revealed that the three sub-scales yielded a one-factor solution (Eigenvalue 1.89) accounting for 62.9% of the variance. All three sub-scales loaded above 0.74 on this factor. Therefore, the overall materialism score was used in all the studies.

generally in their life. This is a 21-item scale in which respondents indicate their responses to statements on a 7-point Likert scale ranging from 1(*not at all true*) to 7 (*very true*). Sample items include “I really like the people I interact with”, “I feel pressured in my life” and “People I know tell me I am good at what I do”.

3.1.2 Results

Mediation Analyses

Table 2 shows the inter-correlations between all key variables used in the study. Since the correlations between the three needs was fairly high, I checked for multicollinearity. The variance inflation factor (VIF) was calculated and all VIF scores were below 2.43. Myers (1990) suggested that a VIF value of 10 or above should be a cause of concern. Thus, multicollinearity was not a serious problem in the current analysis. A multivariate analysis of variance for specific demographic variables (gender and race) with key constructs (materialism, psychological needs and well-being) as dependent variables was conducted. Comparisons between males and females participants did not yield a significant multivariate effect, Wilk’s Λ $F(6, 212) = 0.64, p = .70$. Similarly, there were no differences in the dependent variables with respect to ethnicity. The bootstrapping approach developed by Hayes (2013) was used to estimate the direct and indirect effects of materialism on well-being with basic psychological needs as mediators. The indirect effect of materialism on both the measures of well-being via basic psychological needs satisfaction was significant. Beta coefficients for all of the paths in this model appear in Table 3. It was found that only low satisfaction with the need for autonomy was a significant mediator between materialism and well-being whereas the need for competence and relatedness were not significant mediators.

The strength of the mediated effect of materialism on life satisfaction through the basic psychological need of autonomy was significant and was estimated by the product of ($a_1 \times b_1$, -0.02×1.42) = -0.03. The 95% CI's (-0.07, -0.01) obtained for the value of $a_1 \times b_1$ by bootstrapping did not include zero and the normal theory test was significant ($Z = -1.94$, $p = .052$).

The strength of the mediated effect of materialism on self-actualization through the need of autonomy was significant and was estimated by the product of ($a_1 \times b_1$, -0.02×2.48) = -0.05. The 95% CI's (-0.09, -0.03) obtained for the value of $a_1 \times b_1$ by bootstrapping did not include zero and the normal theory test was significant ($Z = -3.49$, $p = .005$). The total effect of materialism on well-being indicators (path c in figure 1 not controlling of basic psychological needs) was -0.14 and -0.14 for life satisfaction and self-actualization respectively and the direct effect of materialism on well-being controlling for the three psychological needs (path c' in Table 2) was -0.07 and -0.08 respectively. Both these coefficients were statistically significant suggesting that the effects of materialism on well-being were partially mediated by lower autonomy need satisfaction. Thus, hypothesized mediation by the need for autonomy between materialism and well-being was supported.

Table 2

Means, SDs and Inter-Correlations of key study variables (Study 1)

	A	B	C	D	E	F
A. Materialism	(.84)					
B. Life satisfaction	-.26**	(.85)				
C. Self-actualization	-.38**	.33**	(.63)			
D. Autonomy	-.29**	.41**	.61**	(.72)		
E. Competence	-.32**	.41**	.53**	.70**	(.73)	
F. Relatedness	-.23**	.35**	.48**	.66**	.65**	(.82)
Mean	50.43	22.95	40.84	4.55	4.53	4.88
SD	10.56	5.51	4.67	0.79	0.88	0.87

Note. N= 231, ** Correlations are significant at .01 level, * correlations are significant at .05 level; reliability coefficients are given on the diagonal in parenthesis; autonomy= satisfaction with need for autonomy, competence= satisfaction with the need for competence, relatedness= satisfaction with the need for relatedness

Table 3

Results of mediation analysis of the basic psychological needs between materialism and indicators of well-being (Study 1)

Well-being indicator	Total effect	Direct effect	Mediation by autonomy need			Mediation by competence need			Mediation by relatedness need			
	c	c'	a ₁	b ₁	a ₁ xb ₁	a ₂	b ₂	a ₂ xb ₂	a ₃	b ₃	a ₃ xb ₃	Total
LS	-.14***	-.07*	-0.02**	1.42*	-0.03*	-.03**	ns	ns	-.02**	ns	ns	.28**
SA	-.14***	-.08**	-0.02**	2.48***	-0.05**	-.03**	ns	ns	-.01**	ns	ns	.44**

Note. N = 231, * $p < .05$, ** $p < .01$, *** $p < .001$, LS = life satisfaction, SA= self-actualization, a₁= path from materialism to need for autonomy, a₂= path from materialism to need for competence, a₃= path from materialism to need for relatedness, b₁= path from need for autonomy to well-being indicator, b₂= path from need for competence to well-being indicator, b₃= path from need for relatedness to well-being indicator, path c- denotes the strength of the total relationship between materialism and well-being indicators (not controlling for the effect of basic needs), c'- denotes the direct effect of materialism on well-being controlling for basic needs, R² – denotes the proportion of variance in well-being predictable from the overall model. Refer to figure 1 for diagrammatic representation of the proposed model.

3.1.3 Study 1 brief discussion

Study 1 lent preliminary empirical support to the proposition that the negative association between materialism and well-being can be explained by lower satisfaction of the need for autonomy only. The findings provide verification to the revised self-determination perspective on the detrimental effects of materialism on well-being by showing that materialism represents itself as a domain that is not conducive for the satisfaction of the need for autonomy. Further, it is important to note that the need for competence and relatedness were not significant mediators in the negative relationship between materialism and well-being. The results point towards the specific antagonism between need for autonomy and materialism and the possibility of materialism not influencing the other two needs as strongly as the need for autonomy. However, I exercised caution in interpreting these results as convincing evidence in favor of the hypothesized mediation. This is because even though the overall mediation by the need for autonomy was significant as compared to the other two needs, the individual paths reveal that much of the mediated effect may be attributed to the differences in path b (from need satisfaction to well-being) rather than path a (from materialism to need satisfaction). Thus, in order to establish the causal links from materialism to lower autonomy need satisfaction and lower well-being, I conducted an experiment in study 2 whereby the extent to which situational induction of materialism may affect the need for autonomy and state well-being was examined.

3.2 Study 2: Materialism and well-being- experiment

The goal of this study was to augment the mediational links found in study 1. To this end, I experimentally induced materialism to examine its effects on need satisfaction and well-being. In study 2, state measures of hedonic and eudaimonic

well-being were used for two reasons. First, since materialism is known to foster upward social comparisons (Chan & Prendergast, 2008), such comparisons may breed mounting discontent and dissatisfaction among individuals, thereby affecting their emotional well-being more than the cognitive appraisal of their overall life satisfaction. Thus, participants were asked to report their positive and negative affective experiences rather than general life satisfaction. Secondly, the short-term activation of materialism used in this study would be more likely to bring about noticeable changes in the momentary evaluation of vitality amongst the participants. Thus, how participants felt in real-time after being exposed to the experimental manipulation would be more suitable measures of well-being for study 2.

Following Bauer, Wilkie, Kim and Bodenhausen (2012), I used the consumer-cuing paradigm as a way to trigger materialistic mindsets. Within this paradigm, participants in the experimental condition are exposed to pictures of attractive luxury goods that are culturally endorsed symbols of status, image and wealth. On the other hand, those in the neutral conditions are shown pictures of unattractive consumer products that clearly lack any signs of luxury, status, image and wealth. It is assumed that consumer cues present in the luxury goods pictures are analogous to the widespread prevalence of such triggering conditions in everyday life.

3.2.1 Pilot Tests

A pilot study was conducted to test if the visual stimuli used for the situational induction of materialism were actually capable of eliciting materialistic strivings. Although, the same pictures that were used by Bauer et al., (2012) were employed in this study, I pilot tested the pictures again in order to ensure their applicability to the current sample. Thirty-nine college students were randomly assigned to rate the

pleasantness of either 19 pictures of luxury goods such as electronics, cars, clothing, accessories or 19 neutral pictures of everyday products such as utensils, furniture and tools. Then, they completed the 5- item Terminal Materialism Scale (Scott, 2010) to assess materialistic concerns. However, it was found that, the two groups did not differ on this measure, $t(37) = 0.98, p = .334$. I suspected that this might be due to social desirability concerns that have found to be prevalent in materialism research (Mick, 1996). Thus, a second pilot study was conducted using an implicit measure of materialism. Thirty-three undergraduate students were assigned to rate either luxury goods pictures or neutral pictures as in the first pilot procedure. Then, as a part of a seemingly unrelated study, they were asked to complete a lexical decision task (Meyer & Schvaneveldt, 1971). The lexical decision task (LDT) was used as an implicit measure of the salience of materialistic concerns among the participants and it was introduced to them as a word recognition task. Participants were shown a string of letters on the computer screen and had to indicate if it was a valid English word or not. If the word was valid, they had to press the 'I' key on the keyboard and if they thought that it was a non-word, they had to press the 'E' key. Five target words and five neutral words were identified through a two-step pre-testing procedure. First, the experimenters brainstormed five words related to materialism based on its definitional characteristics outlined by previous researchers as well as five neutral words that were not seemingly related to materialism. Second, 18 undergraduate students were asked to rate the pleasantness of both sets of words and choose from a set of additional ten words, those that reminded them of the word in question. For instance, if the target word was luxury, students indicated whether the word luxury reminded them of success, fame, good, male, female etc. This process helped to confirm if the chosen words had explanatory power with respect to the defining tenets of materialism. The

chosen target words were *luxury, status, impressive, expensive and branded*. The target ($M = 11.94, SD = 1.55$) and non-target ($M = 12.83, SD = 1.75$) words did not differ from each other in terms of valence and were rated as equally pleasant, $t(17) = -1.36, p = .190$. More importantly, the target words were more frequently associated with success, wealth, achievement, appearance and money ($M = 47.8, SD = 9.83$) as compared to the non-target words ($M = 12.4, SD = 12.77$), $t(4) = 3.65, p = .022, d = 0.65$.

It was expected that, the reaction time of participants in the luxury goods condition to materialism related target words would be faster as compared to those who were shown neutral pictures devoid of materialistic elements indicating social image and class, brands, wealth and luxury. Results indicated that participants in the second pilot study who were exposed to the luxury good images had faster reaction times for the target words ($M = 237.44$ milliseconds, $SD = 27.19$) than those who were exposed to neutral images ($M = 288.44$ milliseconds, $SD = 21.07$), $t(31) = -5.9, p < .001, d = 2.1$. Thus, I was confident that the pictorial manipulation activated materialistic concerns among participants.

3.2.2 Main Study

Participants. Participants were 82 university students (males = 26, females = 56) who were recruited from the psychology department research participation pool. Based on the average effect size ($d = 0.65$) obtained by Bauer et al., (2012) in similar studies, I calculated the minimum sample size required to obtain a similar effect size and a power of .80. Power analysis revealed that the minimum sample size required per group for a one-tailed hypothesis was 30. Therefore, forty-one participants were assigned to each condition. Participation was voluntary and anonymity of responses

was maintained. Mean age of the sample was 21.45 years ($SD = 2.45$), age range = 18-27 years. Regarding ethnicity, 82.9% were Chinese, 4.8% were Malay, 7.3% were Indian and the rest belonged to other races. IRB approval was obtained prior to commencement of the study.

Procedures and materials. Participants were ostensibly invited to participate in a visual perception study where they rated the pleasantness of pictures, which were supposedly being considered for use in marketing research. Participants were randomly assigned to view 19 pictures of either luxury consumer goods such as electronics, cars, clothing, accessories (consumer cue condition) or 19 pictures of neutral objects such as utensils, furniture, tools (neutral control condition). The visual stimuli were the same as used by Bauer et al. (2012). However, I updated the pictures of luxury goods to represent latest models of the products (e.g. picture of PlayStation 2 was replaced by picture of PlayStation 4). Following this, they were asked to answer some survey questions, ostensibly, for a well-being study. As part of the well-being segment, participants responded to questionnaires that included the basic psychological needs scale (BPNS, Gagne, 2003), and two measures of state well-being. First, the Positive and Negative Affect scale (PANAS, Watson et al., 1988) was used to assess the participants' felt emotions at that very moment (here and now). Ten positive (e.g. excited, pleased) and ten negative (e.g. ashamed, distressed) mood adjectives were rated on a scale of 1 (*not at all*) to 5 (*extremely*). The reliability coefficient for the PANAS in the current study was $\alpha = .89$. Second, the subjective vitality scale (SVS, Ryan & Fredreick, 1997) was used to measure the extent to which participants were feeling alive, alert and energetic at the present moment. A 7-point Likert-type scale ranging from 1 (*not at all true*) to 7 (*very true*) was used to indicate participants' agreement with statements like, "I am looking forward to each new day",

“and I feel energized right now”. The reliability coefficient for the SVS in the current study was $\alpha = .84$. Finally, they responded to twenty-one statements on the BPNS (basic psychological needs scale) that assessed their satisfaction with the three basic psychological needs, that is, the need for autonomy, competence and relatedness. The reliability coefficient for the BPNS in the current study was $\alpha = .74$. The participants took about 30-35 minutes on average to complete the experimental task and dependent measure scales.

3.2.3 Results

Manipulation Check

In order to ensure that the pictures in the consumer cue condition activated situational materialism, participants were asked to rate the extent to which the images they saw emphasized core elements of materialism such as wealth, status, image and fame on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Results confirmed that the activation of situational materialism worked as intended as pictures in the consumer cue condition were rated as placing significantly greater emphasis on core elements of materialism ($M = 4.08$, $SD = 0.51$) than pictures in the neutral control condition ($M = 2.39$, $SD = 0.68$), $t(80) = 12.60$, $p < .001$, $d = 2.8$. This check served as an additional evaluation of the experiment materials.

Effects on autonomy satisfaction and emotional well-being

Independent sample t tests were conducted to determine differences in autonomy need satisfaction, positive and negative affect and state subjective vitality, between the consumer cue and neutral control conditions (for means, standard deviations and t -tests, see Table 4). While participants in consumer cue condition

reported decreased levels of autonomy satisfaction and higher negative affect as compared to those in the control condition, there were no significant differences with respect to competence and relatedness need satisfaction, between conditions. Participants in the two conditions also did not differ in terms of reported positive affect and vitality. Additionally, the pictures used in both conditions differed significantly on valence. As in study 1, the mediation model linking materialism to well-being via autonomy need satisfaction was tested in this study as well. However, this time, the independent variable was the assignment into either of the two experimental conditions and was treated as a categorical variable. The Mediate macro for SPSS developed by Hayes (2014) was used as it enables estimation of relative direct and indirect effects of causal variable(s) on outcome variables through a proposed mediator variable. If the effect of the independent variable on the dependent variable (total effect) is statistically significant and effect of the independent variable on the dependent variable with the mediator in the model (direct effect) becomes statistically non-significant, there is said to be evidence for full mediation. Results indicated that the total and the direct effects (unstandardized coefficients) of activated materialism on negative affect were $B = -2.25$, $SE = 1.04$, $p = .03$ and $B = -1.46$, $SE = 1.00$, $p = .15$ respectively. These results indicated that the total effects model was significant but the direct effects model with the inclusion of the mediator was not significant. Further, the indirect effect of the activated materialism on negative affect via autonomy also proved significant, with a point estimate of -0.79 and the 95% bootstrap CI $[-1.6513, -0.1253]$ did not include zero. Thus autonomy need satisfaction fully mediated the effect of the materialism salience manipulation on negative affect.

3.2.4 Study 2 brief discussion

Study 2 partially replicated findings of study 1 in examining the psychological mechanism that explains the negative association between materialism and well-being. I examined experimentally, how attunement to materialistic thoughts and content reduces satisfaction with the need for autonomy and well-being. Following exposure to pictorial content laden with materialistic messages, people were more likely to experience lower autonomy and higher negative affect. It is proposed that this occurred due to the tendency of materialistic messages to activate upward social comparisons. Activation of materialistic thoughts may make individuals feel dissatisfied relative to individuals who own more. This evaluative process of reflecting on whether one matches up to socially constructed criteria of wealth, image and status, defies a sense of autonomy as well as breeds dissatisfaction with one's current standing on these criteria, leading to negative affective states. However, activation of materialistic mindsets did not affect other dependent variables such as positive affect and vitality (possible explanations covered in the general discussion). Further, there were no differences between groups with respect to reported satisfaction with competence and relatedness needs. This reiterates the specific antagonism that materialism shares with the need for autonomy. While study 1 and 2 examined the self-determination perspective on materialism as a value orientation that negatively impacts well-being, the next set of studies explored variables that are antecedents of materialism from a self-determination viewpoint.

Table 4

Descriptive statistics and t-test results (Study 2)

Dependent Measure	Consumer Cue		Neutral Control		Comparison	
	Mean	SD	Mean	SD	<i>t</i>	<i>p</i>
Autonomy	4.49	0.72	4.85	0.86	-2.03 (79)	.05
Competence	4.63	0.73	4.55	0.92	0.45 (78)	.65
Relatedness	4.99	0.73	5.25	0.84	-1.52 (79)	.13
Positive Affect	28.09	7.41	27.41	8.11	0.29 (80)	.76
Negative Affect	16.50	3.87	14.39	5.40	2.09 (80)	.04
Vitality	3.79	1.10	3.88	0.99	-0.40 (80)	.69
Picture Valence	3.77	0.33	3.13	0.41	7.63 (80)	.00

Note. Autonomy= satisfaction with need for autonomy, competence= satisfaction with the need for competence, relatedness= satisfaction with the need for relatedness. Variation in degrees of freedom for autonomy, competence and relatedness is due to missing data on few items.

CHAPTER FOUR

STUDY 3, STUDY 4 AND STUDY 5

4.1 Overview

The main goal of this chapter is to furnish empirical support to the theoretical viewpoint that contingent self-esteem in extrinsic domains pushes people towards materialistic orientations and contingent self-esteem in intrinsic domains is incompatible with materialistic orientations.

While there is substantial evidence regarding the role of generalized low self-esteem and identity deficits as potential antecedents of materialism (Park & John, 2011; Srivastava, Locke & Bartol, 2001; Garoasdottir et al., 2008; Sheldon & Kasser, 2008; Chang & Arkin, 2002), the exact nature of the domains from which such self-doubt (that breeds materialism) emanates, has remained unexplored. For instance, we know from previous research that the more an individual feels a sense of worthlessness, is publicly self-conscious or socially anxious, he/she is more likely to turn to material acquisitions as a way to overcome these feelings of self-doubt (Chang & Arkin, 2002). However, the extant literature is not clear about the factors or situations on which such self-doubt may be anchored. Given the importance of the inherent tendency of people to be selective about what events might affect their self-esteem (James, 1890; Crocker & Knight, 2005), it is imperative to examine specific domains on which self-esteem may be contingent. Specifically, the current research attempted to identify contingent self-esteem domains that pre-dispose an individual to developing materialistic tendencies. Domains of contingent self-esteem have largely been categorized into extrinsic or intrinsic domains (Crocker et al., 2003). Within the extrinsic contingencies are included domains such as academic competence,

appearance, competition and social approval. While Crocker and colleagues (2003) regarded family support, virtue and God's love as relatively intrinsic contingencies of self-esteem, other researchers have argued that these contingencies are not truly intrinsic (Vonk & Smit, 2012). They argue that each of these relatively internal contingencies reflect moral codes, cultural standards of religious commitments and conditional approval from family members. As a way out of this confusion about what constitutes intrinsic domains of contingent self-esteem, they merged the SDT concept of true/non-contingent self-esteem with what they termed as intrinsically contingent self-esteem. According to Vonk and Smit (2012), intrinsically contingent self-esteem is dependent upon being authentic, autonomous and developing oneself as a person. Thus, I expected that extrinsic and intrinsic forms of contingent self-esteem would relate differently with materialism. Specifically, extrinsic domains such as appearance, competition and social approval should be especially likely to produce materialistic behaviors such as buying clothes, spending on beauty treatments, owning gadgets and luxury goods or attaining signs of material success. On the other hand, intrinsically contingent self-esteem would be largely incompatible with materialistic attitudes and behaviors.

The present studies investigated contingent self-esteem in extrinsic domains as antecedents of materialism. Moreover, since there is scant research attention on intrinsically oriented contingent self-esteem and how it relates to materialism, the current research is the first to attempt the examination of these relationships. These core proposals were tested in three studies, which included two surveys and one experiment. Specific hypotheses to test the role of three extrinsically oriented CSE domains as predictors of materialism were tested:

H2a- High levels of contingent self-esteem in the appearance domain will positively predict materialism.

H2b- High levels of contingent self-esteem in the competition domain will positively predict materialism.

H2c- High levels of contingent self-esteem in the approval from others domain will positively predict materialism.

Study 3, furnishes correlational evidence for the relationships (**H2a**, **H2b**, **H2c**) between extrinsic CSE and materialism. Further, it was expected materialism will show an inverse relationship with intrinsically contingent self-esteem and negatively predict materialism (**H3**). Thus, study 4, presented correlational data supporting the inverse relationship between intrinsic CSE and materialism. Concurrently, in study 3, I tested how extrinsic CSE relates to need satisfaction and well-being. Study 1 and 2 found that materialism was associated with greater compromises in the satisfaction of the need for autonomy as compared to the other two needs. I also wanted to explore if similar mechanism works between extrinsic CSE, need satisfaction and well-being. In chapter 1, I discussed the proposed integrative model of the causes, mediator and consequences of materialism. So, if there is evidence that extrinsic CSE is related to lower well-being due to its effects on lowering a sense of autonomy, it can help to provide additional support for the proposed theoretical model (refer to figure 2). It is plausible to expect extrinsic CSE to interfere with autonomy because the idea that contingent self-esteem leads to non-autonomous forms of self-regulation such as introjection has been previously discussed (Ryan & Brown, 2003). However, clear empirical support for this idea is

lacking. Thus, it is hypothesized that the negative relationship between extrinsic CSE and well-being is mediated by the need for autonomy (**H4**).

Further, another path in the proposed integrative model (figure 2) that is particularly interesting to explore is the positive relationship between intrinsically oriented CSE, need for autonomy and well-being. This is because, empirical evidence of this path would not only help to bolster the theoretical similarity between true/non-contingent self-esteem and intrinsically contingent self-esteem but will also clarify the psychological mechanism by which intrinsic CSE enhances well-being. Thus, it was expected that intrinsically contingent self-esteem should relate positively to well-being mediated by the satisfaction with the need for autonomy (**H5**). Additionally, in this study I tested the goodness of fit of my proposed integrative model through structural equation modeling. Finally study 5 intended to furnish experimental support for the extrinsic/intrinsic CSE—materialism sequence. Specifically, study 5 examined the effects of an experimental induction of appearance-related contingent self-esteem (**H2a**) and intrinsically contingent self-esteem (**H3**) on materialism.

4.2 Study 3: Extrinsic contingent self-esteem and materialism – Survey

4.2.1 Method

Participants. The sample for this study consisted of 152 undergraduate students and 79 working adults. Participants were asked to complete a battery of scales through the online survey platform Qualtrics. Undergraduate students were recruited from the psychology department research participation pool and working adults were recruited through the snowball technique. Participation was voluntary and anonymity of responses was maintained. Approval from the institutional review board was obtained prior to the commencement of the study. Mean age of the participants was

30.4 years ($SD= 10.35$) and 58.3% were females. The sample comprised 74.7% Chinese, 17.6% Indians, 3.9% Malays and 3.9% belonged to other races.

Measures. A battery of standard self-report scales with good psychometric properties was administered to the participants, along with some demographic questions. Given below is a summary of the psychological measures employed in the study. Cronbach alphas for all the measures employed in the study appear in Table 5. The same well-being measures used in study 1 were employed in this study as well.

Materialistic Values. *The Material Values Scale* (MVS) by Richins and Dawson (1992) was used again to assess the importance attached by participants to material possessions as a route of happiness, success and centrality. Sample item would be, “I admire people who own expensive homes, cars, and clothes.” Participants responded on a 5-point Likert-type scale (1= *disagree strongly*, 5= *agree strongly*).

Contingent Self-Esteem. *The Contingent Self-worth Scale* (Crocker & Knight, 2005) was used to assess participants’ contingency of self-worth in extrinsic domains of appearance, approval from others, academic competence, and competition. Respondents were required to indicate their level of agreement to each of the 25 statements on a 7-point Likert scale where 1= (*strongly disagree*) and 7= (*strongly agree*). Higher score indicated greater dependency of the self-worth in the particular domain.

Needs Satisfaction. The Basic Psychological Needs Scale (BPNS) was used to assess the degree to which the participants experience satisfaction of each of the three needs (autonomy, competence and relatedness). This is a 21-item scale in which respondents indicate their responses to statements on a 7-point Likert scale ranging from 1(*not at all true*) to 7 (*very true*). Sample items include “I really like the people I

interact with”, “I feel pressured in my life” and “People I know tell me I am good at what I do”.

4.2.2 Results

Descriptive analysis with demographic factors

Table 5 shows the inter-correlations between all key variables used in the study for the students and working adults combined data. Majority of the correlations are in the expected direction and are statistically significant. A multivariate analysis of variance for specific demographic variables with key constructs (materialism and extrinsically oriented contingent self-esteem) as dependent variables was conducted. Comparisons between working adults and student participants yielded a significant multivariate effect, Wilk’s Lamda $F(4, 226) = 5.46, p < .01$. Follow up univariate tests revealed that, with regards to materialism, students tended to be more materialistic $F(1, 229) = 12.98, p < .01, \eta^2 = .05$. Also, students’ self-esteem was more contingent on appearance $[F(1, 229) = 9.81, p < .01, \eta^2 = .04]$ and competition $[F(1, 229) = 15.94, p < .01, \eta^2 = .07]$ as compared to working adults. Consequently, working status was used as a covariate in subsequent analyses. Comparisons between males and females also yielded a significant multivariate effect, Wilk’s Lamda $F(4, 226) = 6.05, p < .01$. Follow up univariate tests revealed that females scored higher on contingent self-esteem for the appearance domain as compared to males $F(1, 229) = 13.87, p < .01, \eta^2 = .06$. Therefore, gender was used as a covariate in analysis pertaining to this CSE domain. Gender had no effect on the endorsement of materialistic values and other extrinsic CSE domains. There were no significant differences between the ethnic groups. Table 6 summarizes the participants’ scores on

the materialistic values scale and contingent self-esteem based on their demographic characteristics.

Table 5

Means, SDs and Inter- Correlations of materialism, extrinsic contingent self-esteem domains and well-being indices (Study 3)

	Mean	SD	A	B	C	D	E	F	G	H	I	J
A. Materialism	50.43	10.56	(.84)									
B. CSE _{appearance}	4.64	1.04	.49**	(.80)								
C. CSE _{competition}	5.12	1.03	.54**	.53**	(.81)							
D. CSE _{academic competence}	5.1	0.98	.35**	.53**	.63**	(.83)						
E. CSE _{social approval}	4.04	1.17	.33**	.46**	.36**	.33**	(.79)					
F. Life satisfaction	22.95	5.50	-.26**	-.12	-.17**	-.13*	-.08	(.85)				
G. Self-actualization	40.84	4.67	-.37**	-.34**	-.37**	-.21**	-.39**	.33**	(.63)			
H. Autonomy	4.55	.79	-.29**	-.21**	-.22**	-.08**	-.30**	.41**	.61**	(.72)		
I. Competence	4.22	.88	-.32**	-.25**	-.26**	-.16**	-.22**	.41**	.53**	.70**	(.73)	
J. Relatedness	4.88	.86	-.23**	-.08	-.19**	-.09**	-.02	.35**	.48**	.66**	.65**	(.82)

Note. N= 231, ** Correlations are significant at .01 level, * correlations are significant at .05 level; reliability coefficients are given on the diagonal in parenthesis. CSE-contingent self-esteem. Autonomy= satisfaction with need for autonomy, competence= satisfaction with the need for competence, relatedness= satisfaction with the need for relatedness.

Table 6

Materialism and Extrinsic Contingent Self-Esteem Scores as a function of demographic characteristics (Study3)

Demographic Variable	Materialism		CSE Appearance		CSE Competition		CSE Social Approval	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Gender								
Male (N=93)	50.57	12.18	4.36 ^a	1.12	5.15	1.14	3.91	1.25
Female (N=136)	50.33	9.34	4.84 ^b	0.94	5.09	0.95	4.12	1.09
Working Status								
Working (N=79)	47.01 ^a	10.50	4.35 ^a	1.06	4.76 ^a	1.14	3.97	1.18
Not working (N=152)	52.17 ^b	10.19	4.79 ^b	1.01	5.29 ^b	0.92	4.07	1.16
Ethnicity								
Chinese (N=170)	51.22	10.08	4.64	1.01	5.16	1.01	4.04	1.15
Malay (N=9)	50.66	6.91	4.97	1.31	4.84	0.92	3.57	4.18
Indian (N=41)	46.58	12.02	4.39	1.07	4.93	1.02	4.06	1.13
Others (N=9)	52.55	13.07	5.37	1.15	5.31	1.14	4.35	1.26

Note. Means within a column for one demographic variable with different subscripts are significantly different from each other at $p < .05$. CSE - contingent self-esteem

Antecedents of Materialism (Testing H1a through H1c)

The materialistic values score (MVS), was regressed on the three extrinsic domains of contingent self-esteem. As expected, the results indicated that the three predictors explained 35.4% of the variance ($R^2 = .354$, $F(3, 227) = 41.53$, $p < .001$). The analysis revealed that contingent self-esteem in the appearance domain ($\beta = .26$, $t(225) = 3.95$, $p < .001$) and competition domain ($\beta = .37$, $t(225) = 5.78$, $p < .001$) significantly predicted materialism. However, contingent self-esteem in approval from others domain ($\beta = .08$, $t(225) = 1.31$, $p = .189$) did not predict materialism. Hence H2a (predicting materialism from appearance related CSE) and H2b (predicting materialism from competition related CSE) were supported but H2c (predicting materialism from social approval related CSE) was not supported. Although academic competence was not a formally hypothesized CSE domain, but since academic competence was positively associated with materialism, I also tested academic competence (another extrinsic CSE domain) as an additional predictor. It was found that self-esteem in this domain did not predict materialism ($\beta = -.08$, $t(225) = -1.18$, $p = .236$). This finding provides parallel evidence for the idea that only socially visible extrinsic CSE domains foster materialism.

Mediation Analyses (Testing H4)

Bootstrapping approach developed by Hayes (2013) was used to estimate the direct and indirect effects of extrinsically contingent self-esteem on well-being with basic psychological needs as mediators. For this analysis, I computed a composite extrinsic CSE score by averaging the scores on the appearance, approval from others and competition domains. A higher order factor analysis on the three extrinsic domains indicated that they could be meaningfully combined as all three tapped into some element of an extrinsically derived self-esteem. The factor analysis of the three

scales yielded one factor (Eigenvalue 1.91) accounting for 63.5% of the variance. All the three domains loaded above 0.75 on this factor. The results for the mediation of the three psychological needs between the three extrinsic contingent self-esteem and well-being measures are shown in Table 7. The need for relatedness was not a significant mediator in either of the analysis. The need for competence was a significant mediator when life satisfaction was the dependent variable but not so with self-actualization. Only, the need for autonomy was a significant mediator for both well-being indicators. For instance, when self-actualization was considered as the dependent variable, the normal theory test for the indirect effect via autonomy satisfaction was significant ($Z = -3.18$ $p = .001$) and the 95% confidence interval of the indirect effect did not include zero 95% CIs (-0.94, -0.26). In the case of life satisfaction too, the normal theory test for indirect effect via autonomy was significant suggesting mediation by the need for autonomy ($Z = -2.05$, $p = .043$) and the 95% confidence interval of the indirect effect did not include zero 95% CIs (-0.85, -0.03). However, in this case the need for competence was also a significant mediator. Therefore, H4 (stating the mediating role of satisfaction of the need for autonomy in the relationship between extrinsic contingencies and well-being) is supported.

4.2.3 Study 3 brief discussion

Study 3 lent support to my expectation about the role that contingent self-esteem in extrinsic domains like appearance and competition play in the endorsement of materialistic values.

These findings provide verification to the proposed self-determination perspective on the antecedent role of extrinsic contingent self-esteem in fostering materialism. This study has shown empirically, for the first time, that self-esteem that

is dependent upon looking good and out-doing others in the face of competition sets the foreground for the development of materialistic values. However, the regression results were not significant for the third extrinsic CSE domain, i.e. social approval. This was a counter-intuitive finding considering that materialistic individuals tend to exhibit high fear of negative evaluation from social others. Nonetheless, this study aided in delineating two domains of contingent self-esteem as potential pre-cursors of materialism. Additionally, this study provided evidence for the meditational link of autonomy need satisfaction between extrinsic CSE and well-being. Specifically, the results showed that when self-esteem is staked upon extrinsic domains such as appearance and competition, it is associated with diminished satisfaction with the need for autonomy. This lowered sense of autonomy is then associated with deficits in hedonic and eudaimonic well-being. The findings suggest that the psychological mechanism which governs the negative association between materialism and well-being is also a potential mechanism between the pre-cursor of materialism (extrinsic CSE) and well-being. The next study examined how intrinsic contingencies of self-worth relate to materialism and well-being.

Table 7

Results of mediation analysis of the basic psychological needs between extrinsic CSE and indicators of well-being (Study 3)

Well-being indicator	Total effect	Direct effect	Mediation by autonomy need			Mediation by competence need			Mediation by relatedness need			Total R ²
	c	c'	a ₁	b ₁	a ₁ x b ₁	a ₂	b ₂	a ₂ x b ₂	a ₃	b ₃	a ₃ x b ₃	
Life satisfaction	-1.03**	-0.22	-.26***	1.32*	-.35*	-.28***	1.36*	-.39*	ns	ns	ns	.19*
Self-actualization	-2.36***	-1.64**	-0.27***	2.05***	-0.55**	-.29**	.24	ns	ns	ns	ns	.53**

Note. N = 231, * $p < .05$, ** $p < .01$, *** $p < .001$, a₁= path from extrinsic CSE to need for autonomy, a₂= path from extrinsic CSE to need for competence, a₃= path from extrinsic CSE to need for relatedness, b₁= path from need for autonomy to well-being indicator, b₂= path from need for competence to well-being indicator, b₃= path from need for relatedness to well-being indicator, path c- denotes the strength of the total relationship between extrinsic CSE and well-being indicators (not controlling for the effect of basic needs), c'- denotes the direct effect of extrinsic CSE on well-being controlling for basic needs, R² – denotes the proportion of variance in well-being predictable from the overall model.

4.3 Study 4: Intrinsic contingent self-esteem and materialism: survey

In study 3, it was found that extrinsic contingencies of self-esteem are positively related to materialism. Next, I tested if intrinsic contingencies would relate negatively to materialism. Furthermore, while theoretical similarities have been drawn between Vonk and Smit's (2012) intrinsically contingent self-esteem and SDT's non-contingent self-esteem, there is a need to empirically substantiate this claim. To this end, study 4 was conducted to test the following hypotheses:

H3- Intrinsic contingencies of self-esteem will negatively predict materialism.

H5- Basic needs satisfaction mediates the positive relationship between intrinsic CSE and well-being

Additionally, this study sought to test the plausibility of the integrative model of the antecedents, mediators and consequences of materialism in a single explanatory framework based on self-determination theory (refer to Figure 2).

4.3.1 Method

Participants. Participants were 206 university students (males = 79, females = 127) who completed a battery of scales through an online survey and were recruited from the psychology department research participation pool. Participation was voluntary and anonymity of responses was maintained. Mean age of the sample was 21.2 years ($SD= 1.71$), age range = 18-27 years. Regarding ethnicity, 176 of the subjects were Chinese, 11 were Malay, 7 were Indian, 2 were Eurasians and 10 belonged to other races. IRB approval was obtained prior to commencement of the study.

Measures. The same self-report measures used in study 3 were employed in this study to assess participants on materialism, basic psychological needs, well-being and extrinsic CSE. Scores on all extrinsic CSE domains were averaged to derive a single composite measure of extrinsically contingent self-esteem. However, this time I included a measure of negative well-being in this study in order to have a more comprehensive coverage of well-being indices. Cronbach alpha for all the scales appears in Table 7. Details about the intrinsic CSE and the negative well-being measure are given below.

Intrinsic Contingencies of Self-Worth. The 8 items from the scale developed by Vonk and Smit (2012) was used to assess the extent to which intrinsic contingencies are important to the individual. Sample items include, “My self-esteem suffers when I’m being untrue to myself”, “I feel worthy when I take out time for myself” and “I feel worthy when I discover a new side of myself.” Respondents indicate their agreement on these statements on the 7- point Likert scale where 1= *strongly disagree* and 7 = *strongly agree*.

Negative well-being. The Depression and Anxiety Stress Scale (DASS- Lovibond & Lovibond, 1995) was used as a negative measure of well-being. This is a 41-item scale in which subjects respond to the statement, “For each of the statements below, please circle the number which best indicates how much the statement applied to you over the past week. ” on a 4 point scale from 0 (*did not apply to me at all*) and 3 (*applied to me very much or most of the time*). Sample items include “I felt downhearted and blue.” “I felt I was close to panic” and “I was aware of dryness of my mouth.”

4.3.2 Results

Correlational and Regression Analyses

Table 8 reports the correlations between the intrinsic contingency scale, materialism and well-being measures. Additionally, I also replicate findings from study 1 regarding the positive association between extrinsic CSE and materialism. Specifically, intrinsic contingencies were negatively related to materialistic values. Interestingly, only the need for autonomy was positively associated with intrinsic CSE, pointing towards the conceptual alignment between the two constructs. When materialistic values score (MVS), was regressed on intrinsic contingent self-worth (ICSW), the results indicated that ICSW explained 2.9% of the variance ($R^2 = .029$, $F(1, 204) = 6.13$, $p = .014$) in MVS. The analysis revealed that intrinsically contingent self-esteem ($\beta = -.17$, $t(205) = -2.47$, $p = .014$) negatively predicts materialism. Hence H3 (predicting materialism negatively from intrinsic contingencies) was supported.

Table 8

Means, SDs and Inter- Correlations of key variables (Study 4)

	A	B	C	D	E	F	G	H	I
A. Materialism	(.84)								
B. Extrinsic CSE	.55**	(.76)							
C. Intrinsic CSE	-.18*	-.12	(.81)						
D. Self-Actualization	-.32**	-.39**	.16*	(.59)					
E. Life Satisfaction	-.32**	-.19**	.19**	.42**	(.86)				
F. Depression	.22**	.25**	-.19**	-.39**	-.39**	(.96)			
G. Autonomy	-.19**	-.22**	.21**	.45**	.45**	-.53**	(.72)		
H. Competence	-.18**	-.25**	.07	.46**	.46**	-.54**	.71**	(.73)	
I. Relatedness	-.19**	-.08	.10	.39**	.39**	-.52**	.64**	.60**	(.83)
Mean	51.99	4.95	4.59	38.61	23.32	75.33	4.57	4.51	4.90
SD	10.66	0.75	0.82	4.03	5.78	22.19	0.79	0.88	0.87

Note: N= 206, ** Correlations are significant at .01 level, * correlations are significant at .05 level, reliability coefficients are given on the diagonal in parenthesis. CSE= contingent self-esteem.

Mediation Analyses (Testing H5)

Considering that only the need for autonomy was significantly related to intrinsic contingencies, I tested the mediation model of only this particular need. As illustrated in Figure 3a, if the coefficient for path c' is not significant, we can say that there is evidence for a full mediated effect. I indeed found that this was the case. The unstandardized coefficients corresponding to these paths are represented in Figure 3b and also in the row labeled life satisfaction in Table 9. The total effect of intrinsic contingencies on satisfaction with life was 1.30, $p = .006$ and the direct effect of

intrinsic contingencies on satisfaction with life when the indirect or mediated path was controlled for was 0.60, $p = .15$. Moreover the indirect effect 95% CI's (0.20, 1.26) does not include zero. The normal theory test for indirect effect was significant ($Z = 2.83$, $p = .005$). Similar results were obtained for the other measures of well-being as well (see Table 8). For instance, when self-actualization was considered as the dependent variable, the normal theory test for the indirect effect was significant ($Z = 2.84$, $p = .005$) and the 95% confidence interval of the indirect effect did not include zero 95% CIs (0.15, 0.94). In the case of depression too, the normal theory test for indirect effect was significant suggesting mediation by the need for autonomy ($Z = -2.85$, $p = .004$) and the 95% confidence interval of the indirect effect did not include zero 95% CIs (-5.06, -0.84). Therefore, H5 (stating the mediating role of basic needs satisfaction in the relationship between intrinsic contingencies and well-being) is partially supported.

Figure 3a. The conceptual mediation model with need for autonomy as a mediator between intrinsically contingent self-esteem and well-being

Figure 3b. The estimated mediation model with need for autonomy as a mediator between intrinsically contingent self-esteem and satisfaction with life

Table 9

Paths in the mediation analyses of the need for autonomy between intrinsic contingencies of self-esteem and indicators of well-being (study 4)

Well-being indicator	Total c	Direct c'	Mediation by autonomy need			Total R ²
			path a	path b	(axb)	
Life satisfaction	1.30**	0.60	0.19**	3.72***	0.69**	.19**
Self-actualization	0.82*	0.29	0.19**	2.81***	0.53**	.16*
Depression	-5.10**	-2.25	0.19**	-15.2***	-2.86**	.19**

Note. N = 206, * $p < .05$, ** $p < .01$, *** $p < .001$, path a- denotes the unstandardized co-efficient between intrinsic contingency and need for autonomy, path b- denotes the unstandardized co-efficient between need for autonomy and well-being indicator, path c- denotes the strength of the total relationship between intrinsic contingencies and well-being indicators (not controlling for the effect of need for autonomy), c'- denotes the direct effect of intrinsic contingencies on well-being controlling for need for autonomy, R² – denotes the proportion of variance in well-being predictable from the overall model. Mediation by competence and relatedness needs was not tested as the correlation between intrinsically contingent self-esteem and these needs was not significant. Refer to figure 3a for diagrammatic representation of the proposed model.

4.3.3. SEM Analysis

In an attempt to accommodate the antecedents and consequences of materialism explored in the previous studies of this research program into a single explanatory self-determination framework, I subjected the proposed model to a path analysis in order to determine the goodness of fit of the model. SPSS AMOS 20.2 was used to arrive at the model fit indices. I first tested the model with satisfaction with life as the dependent variable and found that the model fit indices were satisfactory ($\chi^2 = 4.19$, $df=2$, $p=.123$, RMSEA=.073, NFI = .976, CFI = .987)—and provided good fit to the data. Then, the model with self-actualization as the dependent variable was also tested and it was found that the model fit indices ($\chi^2 = 3.28$, $df=2$, $p=.194$, RMSEA=.056, NFI = .983, CFI = .993) were good, suggesting that the proposed model is plausible. Figure 4 and 5 present the maximum likelihood estimates for the above-mentioned models. Thus, plausibility of the proposed model held good for both measures of well-being.

Further, based on the contention of previous researchers that insufficient need satisfaction may motivate people to embrace materialism as a potential solution to their needs deficiency (Dittmar, Bond, Hurst & Kasser, 2014), I tested an alternative model. In this model autonomy satisfaction would negatively predict materialism and positively predict well-being. The analysis indicated that this alternative model did not fit the data well. With respect to satisfaction with life, the model fit indices ($\chi^2 = 71.32$, $df=2$, $p=.000$, RMSEA=.411, NFI = .595, CFI = .583) were not satisfactory. Similarly, when self-actualization was the dependent variable for the alternative model, the model fit indices ($\chi^2 = 5.13$, $df=2$, $p=.023$, RMSEA=.142, NFI = .977, CFI = .973) provided only moderate fit to the data. Thus, the alternative model did not exhibit consistently good fit indices. Figure 6 and 7 present the maximum likelihood

estimates for the alternative models for life satisfaction and self-actualization respectively.

4.3.4 Study 4 brief discussion

Study 4 lent empirical support to the idea that intrinsic contingencies negatively predict materialism. Therefore, if extrinsically oriented self-esteem sets the stage for materialism, intrinsically oriented self-esteem should set the stage for non-materialistic outcomes. For instance, consider an individual whose self-esteem depends upon being true to oneself, upon personal development and growth. For such an individual, putting on a mask in social interactions, making upward social comparisons and being fearful of negative social evaluations would be quite difficult. Instead, he/she should have a natural inclination towards forming meaningful bonds with others, exercise authenticity in everyday life situations and accumulate a wealth of experiences rather than material artifacts.

Moreover, using path analysis, I also presented evidence to support the plausibility of my proposed integrative model of the causes, mediator and consequences of materialism. This offers tentative empirical support for the revised self-determination perspective on materialism which posits that extrinsically oriented contingent self-esteem gives rise to materialistic orientations which in turn lower an individual's sense of autonomy thereby diminishing his/her well-being, indicating that CSE may have a distal influence on need satisfaction and well-being whereas materialism may have a more proximal effect. Further, no support for the alternative model (which suggested that perhaps lower satisfaction with the need for autonomy might push people onto the path of materialism) was found. However, the findings of study 3 and 4 are correlational and thus experimental examination is needed to

determine whether extrinsic CSE actually leads to materialism and intrinsic CSE leads to diminished focus on materialistic pursuits.

Figure 4. Path analysis between extrinsic and intrinsic contingent self-esteem, materialism, need for autonomy, and satisfaction with life, including standardized regression weights. CSE: contingent self-esteem

Figure 5. Path analysis between extrinsic and intrinsic contingent self-esteem, materialism, need for autonomy, and self-actualization, including standardized regression weights. CSE: contingent self-esteem

Figure 6. Path analysis between extrinsic and intrinsic contingent self-esteem, need for autonomy, materialism and satisfaction with life, including standardized regression weights. CSE: contingent self-esteem

Figure 7. Path analysis between extrinsic and intrinsic contingent self-esteem, need for autonomy, materialism and self-actualization, including standardized regression weights. CSE: contingent self-esteem

4.4 Study 5: Extrinsic/intrinsic contingent self-esteem and materialism – Experiment

The goal of the experimental study was to provide a more explicit test of the correlational relationships found in study 3 and 4. While the regression results support the idea that extrinsic CSE is a possible pre-cursor of materialism, it might be the case that prolonged engagement with materialistic pursuits fosters self-esteem that is contingent upon domains that are closely associated with materialism. Thus, in study 5, an experiment was designed that manipulated two forms of contingent self-esteem and observed the effects of the manipulations on implicit as well as self-reported materialism. In accordance with H2a, an appearance threat manipulation was used and it was expected that the threat to an extrinsic (appearance) domain of contingent self-esteem should heighten focus on materialistic dispositions and increase salience of materialistic content. Appearance related CSE was used as an exemplar of an extrinsic domain of contingent self-esteem in this study as this domain had been successfully manipulated in previous research (Park & Maner, 2009). Further, as outlined in H3, an intrinsic contingent self-esteem induction was designed and I expected that this induction will lower favorability of materialistic content as well as dispositional materialism.

4.4.1 Pilot Tests

Since social desirability concerns have generally been prevalent in materialism research (Mick, 1996), an implicit measure of materialism that could be used in conjunction with the self-report measure was developed for this study. A pilot test was run in order to ensure that the choice of the dependent variable measure was valid and reliable. Forty-six undergraduate students were asked to rate the pleasantness of a

picture set which included 17 luxury goods pictures and 17 natural landscape pictures. The assumption was that higher preference for the luxury good pictures could serve as the situationally activated materialism measure. At first, the general valence of both sets of pictures was compared and it was found that there were no significant differences in the pleasantness ratings ascribed to the luxury good pictures ($M = 1.69$, $SD = 0.41$) and natural scenery pictures ($M = 1.71$, $SD = 0.42$) by the participants, $t(45) = -1.08$, $p = .283$. This finding was important because if participants in the main study gave more favorable ratings to the luxury goods pictures, I could be assured that the ratings were a result of the manipulation procedure and not due to pre-existing differences in general valence of the two sets of pictures.

Further, in order to confirm that viewing/rating pictures with materialistic content lead to increased attunement to materialism related thoughts and response tendencies, the participants were asked to complete a lexical decision task (Meyer & Schvaneveldt, 1971). This was the same task that was developed in study 2. Thirty undergraduate students were randomly assigned to rate the pleasantness of either pictures of luxury goods or pictures of natural scenes, after which they completed the lexical decision task. As was the case in study 2 in which materialism-related words such as *luxury*, *branded*, *expensive*, *impressive*, *status* were embedded in neutral words seemingly unrelated to materialism such as *table*, *banana*, *shoulder*, *shirt* and non-words. It was expected that the reaction time of participants who rated the luxury goods images would be faster as compared to those who were shown natural scenery pictures for materialism related target words. Results indicated that participants who were exposed to the luxury good images had faster reaction times to the target words ($M = 244.73$ milliseconds, $SD = 38.00$) than those who were exposed to natural scenery images ($M = 279.33$, $SD = 26.05$), $t(28) = 2.9$, $p = .007$, $d = 1.07$. Therefore,

participants were faster in recognizing materialism related words after being exposed to consumer cues via pictures of luxury goods as compared to when they viewed pictures of natural scenery, indicating that the luxury goods picture set was capable of eliciting materialism related thoughts and response tendencies. This suggests that the implicit measure of situationally activated materialism to be used as a dependent variable in the main study was indeed valid.

4.4.2 Manipulation Check

In order to ensure that the manipulation activated contingent self-esteem in appearance and intrinsic domains, manipulation checks were carried out prior to the main study. With respect to the manipulation of appearance contingent self-esteem, procedures used by Park and Maner (2009) were replicated. Participants were asked to reflect about one aspect of their physical appearance that they felt insecure about and then write a brief essay about it. Along the same lines, an intrinsic self-worth condition was developed where by participants were asked to reflect upon a situation or event in their lives when they behaved authentically and in accordance with their deepest core values. Seventy college students were randomly assigned to either the appearance threat condition or intrinsic self-worth condition. After completing the reflection, participants completed five items from the Contingent Self Worth Scale (Crocker & Knight, 2005) to assess the salience of appearance related contingencies.

Additionally, I used the 8-item measure for intrinsic contingencies of self-worth developed by Vonk and Smit (2012). It was found that the two groups differed significantly from each other on the appearance contingency measure, $t(68) = 2.12, p = .038$, such that participants in the appearance contingency condition reported higher appearance contingency ($M = 5.26$ $SD = 0.96$) than the intrinsic self-worth participants ($M = 4.81$ $SD = 0.81$). However, even though participants in the intrinsic self-worth

condition had higher scores on the intrinsic contingency measure ($M = 5.22$ $SD = 0.77$) than the appearance contingent participants ($M = 5.07$ $SD = 0.61$), the two groups did not differ from each other significantly, $t(68) = -0.86$, $p = .389$. Thus, while I was confident that the appearance threat manipulation increased the salience of appearance CSE in the participants, additional evidence to support the validity of the intrinsic self-worth induction was needed. It was suspected that this might be due to the fact that people generally respond in socially desirable ways in response to socially sensitive questions, especially those related to their self-esteem (King & Brunner, 2000; Ragozzino, 2009). Additionally, it is possible that people find it difficult to disagree with statements (such as those in the intrinsic contingency scale) that show them in a positive light. Fortunately, participants were also asked to evaluate the reflection exercise (the manipulation procedure) on whether it was a positive or negative experience on the whole, as well as how it made them feel about themselves. Participants rated the extent to which the incident/event/aspect they wrote about was positive or negative on a 7-point Likert scale ranging from 1 (*not at all positive/negative*) to 7 (*very positive/negative*). Likewise, they also indicated how good/bad this reflection made them feel about themselves on a 7-point Likert scale ranging from 1 (*very bad about myself*) to 7 (*very good about myself*). Lower scores on this measure meant that participants felt worse about themselves. Expectantly, results confirmed that the intrinsic self-worth induction worked as intended, as participants in the intrinsic self-worth condition felt significantly better about themselves ($M = 4.85$, $SD = 1.51$) than participants in the appearance threat condition ($M = 3.71$ $SD = 1.59$), $t(68) = -3.04$, $p = .003$, $d = 0.73$. Further, those in the intrinsic self-worth condition felt that the event they wrote about was more positive ($M = 4.05$ $SD = 1.98$) as compared to participants in the appearance threat condition ($M = 2.77$, $SD = 1.41$), $t(68) = -3.04$,

$p = .003$. Finally, participants in the appearance threat condition felt that the incident they wrote about was more negative ($M = 4.74$ $SD = 1.49$) as compared to those in the intrinsic self-worth condition ($M = 3.71$, $SD = 1.97$), $t(68) = 2.44$, $p = .017$, $d = 0.58$. Thus, I felt that the intrinsic self-worth induction was somewhat successful.

4.4.3 Main Study

Participants. Participants were 105 university students (males = 36, females = 69) who were recruited from the psychology department research participation pool. In the absence of any effect sizes available from previous research that employed an appearance-threat manipulation (Park & Maner, 2009), I used power analysis procedures similar to those employed in study 1 to determine the minimum sample size required per experimental group ($N=30$) to achieve a power of .80. Thus, I randomly assigned 34, 35 and 36 participants in the control, intrinsic self-worth and appearance-threat conditions respectively. Participation was voluntary and anonymity of responses was maintained. Mean age of the sample was 20.89 years ($SD= 1.25$), age range = 18-25 years. IRB approval was obtained prior to commencement of the study.

Design. A between-subjects design was employed in which participants were randomly assigned to either the appearance threat condition, the intrinsic self-worth condition or to a neutral control condition and completed outcome measures presented on an online questionnaire format.

Procedures and materials. As adapted from Park & Maner (2009), participants were ostensibly invited to participate in a life reflection study where they were asked to reflect upon and write about an aspect of their life. They were seated in private cubicles with a computer screen in front of them. In the appearance contingent self-esteem condition, participants read the following instructions on their screens:

“We all have parts of our body or physical appearance that we are dissatisfied about or feel insecure about. Take a moment to think about one such aspect and write a brief essay about it describing why you feel this way, how these feelings developed and how they have affected you. This is a free writing exercise so there is no time limit. Feel free to stop whenever you wish.”

In the intrinsic self-worth condition, participants were given the following instructions:

“ We all have an internal need to develop and grow as individuals, to be true to oneself and discover new sides of ourselves. Take a moment to think about one such situation where your self-worth or identity depended upon acting in ways that satisfied your inner feelings or acting in ways that were in line with your core values. Write a brief essay about it. This is a free writing exercise so there is no time limit. Feel free to stop whenever you wish.”

In the neutral control condition, participants received the following instructions:

“If you look around yourself, there are many things in this room. Take a moment to think about these things and write a brief essay about them. This is a free writing exercise so there is no time limit. Feel free to stop whenever you wish.”

Following this, they were asked to rate the pleasantness of visual stimuli and answer some survey questions, supposedly, for a well-being study. The visual stimuli to be rated were actually the implicit dependent measure to assess the situational activation of materialistic mindsets among the participants. It included 17 pictures of

either luxury consumer goods such as electronics, cars, clothing, accessories or 17 pictures of natural landscapes devoid of any consumer products.

As part of the well-being segment of the study, participants responded to questionnaires that included the terminal materialism scale (Scott, 2010) and the satisfaction with life scale used in previous studies. Thereafter, the participants were debriefed and dismissed.

4.4.4 Results

Planned Contrasts (Testing H2a and H3)

To test the hypothesis that participants in the appearance contingent condition would report higher materialistic inclinations than those in the other two conditions, three planned contrasts were conducted and were tested for self-reported materialism as well as the implicit measure of activated materialism (operationalized as more favorable preference ratings for materialistic pictorial content). With respect to self-reported materialism, there was no significant difference between the three groups, $F(2,102) = 1.43, p = .243$ and therefore planned contrasts could not be conducted. However, when the implicit measure of materialism was used as the dependent variable, one-way analysis of variance revealed a significant difference between groups, $F(2,102) = 3.94, p = .022$. Thus, I proceeded to test how the groups differed from each other based on the a-priori hypotheses. In the first contrast, participants in the appearance contingent condition ($M = 3.19, SD = 0.36$) were compared with those in the intrinsic self-worth condition ($M = 2.94, SD = 0.60$) and this contrast was significant, with $t(102) = 2.17, p = .032, d = 0.51$, indicating that appearance contingent participants reported more favorable ratings for materialistic pictures as compared to the intrinsic self-worth participants. The second contrast which compared

the appearance contingent participants to neutral control condition participants was not significant, $t(102) = -0.49, p = .62$. Finally, in the third contrast, I compared the intrinsic self-worth condition with the neutral condition and found a significant result such that, participants in the neutral control condition ($M = 3.25, SD = 0.44$) reported higher preference ratings for materialistic pictures as compared to participants in the intrinsic self-worth condition ($M = 2.94, SD = 0.60$), $t(102) = -2.62, p = .01, d = 0.59$.

4.4.5 Study 5 brief discussion

Study 5 provided additional evidence of the antecedent role of appearance oriented extrinsic CSE in serving as a breeding ground for the expression of materialistic values. Additionally, it also provided further insight into the incompatibility between intrinsic CSE and materialism. Specifically, following a reflection on an extrinsic domain of contingent self-esteem, there was an increased preference for materialistic goods. It seems that materialism has the potential to provide temporary relief from doubt-provoking situations in extrinsic CSE domains, especially in appearance domains, as was tested in this study. On the other hand, reflecting about an experience that was in line with intrinsic self-esteem, decreased participants' preference ratings for materialistic goods. I reasoned that this happened because intrinsically valuable experiences provide a securely based self-esteem, thus reducing the desire to engage with materialistic pursuits as a compensatory strategy. Also, writing about a situation/event that satisfied intrinsic self-worth led to diminished preference for materialistic content as compared to writing about a mundane aspect of the environment. This is a significant finding as it shows that simply paying attention to situations that are in line with one's intrinsic self-worth makes individuals focus less on materialistic thoughts. Another notable finding of this study is that the differences between the experimental groups were significant with

respect to the implicit measure of materialism but not significant with respect to self-reported (explicit) materialism. This points to the susceptibility of explicit measures of materialism to social desirability concerns. The inclusion of the implicit measure aided in minimizing such concerns and lent valuable support to the proposed links between extrinsic/intrinsic CSE and materialism.

CHAPTER FIVE

GENERAL DISCUSSION

The purpose of the final chapter of this dissertation is to provide a discussion of the major findings from the five studies conducted in this research. This chapter will also reiterate the contributions made to the literature, practical implications of this research and end with limitations, directions for future research and concluding remarks.

The purpose of this research was to draw an integrated picture of the construct of materialism from a self-determination perspective paying attention to its causes, consequences on well-being and the intervening psychological mechanisms. To this end, four broad research questions were proposed:

1. How does materialism relate uniquely to the three psychological needs to affect well-being?
2. How does extrinsically oriented CSE relate to materialism?
3. How does intrinsically oriented CSE relate to materialism?
4. How does extrinsic/intrinsic CSE relate to need satisfaction and well-being?

These questions seek to extend understanding of the psychological mechanism that intervenes between the negative relationship between materialism and well-being on one hand and expands knowledge about what kinds of self-esteem deficits are closely associated with materialism on the other. Study 1 and 2 provided correlational and experimental evidence for the negative relationship between materialism and well-being indices mediated by the lower satisfaction with the need for autonomy. Study 3 focused on the relationship between extrinsic domains of contingent self-esteem and

materialism using correlational methods. Study 4 examined the relationship between intrinsically contingent self-esteem and materialism via correlational methods and also sought to answer specific questions about the differential relationship of extrinsic and intrinsic CSE with need satisfaction and well-being. Finally, study 5 aimed to provide experimental evidence to support the correlational findings of study 3 and 4.

5.1 Psychological mechanism behind the materialism-well-being link

The first two studies set out to examine why materialism is negatively related to well-being from a self-determination perspective. I proposed that lower satisfaction of the need for autonomy explains this consistent negative relationship. These two studies advance existing SDT literature on the materialism-well-being link by showing—both via correlational and experimental evidence—that it is the need for autonomy that is most strongly compromised and not the other two basic needs of relatedness and competence, when people give importance to materialistic pursuits.

Study 1 lent evidence for the role of reduced satisfaction of the need for autonomy as a mediating mechanism between materialism and well-being. The role of *overall* psychological needs as a mediating mechanism between materialism and well-being has been documented in a series of studies in the recent past (Chen et al., 2012; Kasser et al., 2014; Tsang et al., 2014). However, these studies did not attempt to delineate the differential roles that each of the basic needs might play, even though they acknowledged that it must be fruitful to do so (Chen et al., 2012). The first two studies of the current research have attempted to examine the individual effects of each of the three basic needs and aimed to validate my theoretical claim that the need for autonomy is most relevant when considering the relationship between materialism and well-being.

Specifically, it was found that when people are focused on materialistic pursuits, they experience a loss of autonomy such that the mediated path between materialism and well-being was significant only for the need for autonomy and not for the other two needs (competence and relatedness). I proposed that this is mainly because materialistic pursuits are extrinsic in nature and are usually done to meet ‘external’ societal standards of social status, identity and position. Kasser (2002) explained why materialistic values along with their explicit external focus, are unable to satisfy the need for autonomy. He suggested that this might happen due to three reasons. First, materialistic individuals are more likely to focus on rewards, praise and approval (Khanna & Kasser, 2001) in their pursuits thereby distracting themselves from the interesting, enjoyable and challenging aspects of those pursuits. As autonomy requires engagement in any activity with a sense of interest and commitment, materialistic individuals often do not experience this sense of volition. Second, since materialistic individuals exhibit a high degree of self-presentational concerns (Christopher & Schlenker, 2004) and intrinsically motivating/autonomous activities require losing self-consciousness; it seems that materialism is fundamentally different from autonomy. Due to this distinct focus on how they appear to others, materialistic individuals might be more likely to value possessions as symbols of achievement. On the other hand, those who are low on materialism may care little about what others think about them as long as the chosen activities are those that in line with their intrinsic goals and needs. Finally, a variety of materialistic behaviors such as shopping (Fave & Bassi, 2000) watching television (Czikshentmihalyi, 1999) or working overtime (Schor, 1992) are unlikely to make individuals experience flow— one of the essential ingredients of being in an autonomous state. Thus, the sense of inherent choice or will in pursuing materialistic aspirations is often lost. Further, the cultural

composition of the study participants may have made them more prone to experiencing lower autonomy. Even though the three basic psychological needs are assumed to be universal, Ryan and Deci (2008) point out that the needs may be expressed differently and through different channels in variable societies, cultures and stages of life. In East Asian cultures where degrees of face consciousness are particularly high (Liao & Wang, 2009), people are very concerned about how they are perceived by others and experience higher social anxiety as compared to westerners. (Abe, Bagozzi & Sadarangani, 1996). Such public self-consciousness is negatively related to autonomy (Schlenker & Weigold, 1990).

On the other hand, the mediated paths for the needs for competence and relatedness were not significant and in line with the theorized proposal. Drawing from personal goals motivational theory (see Little 1989), well-being may be enhanced as a result of attaining personal goals that are either supported by others and/or engender a sense of efficacy. Material success (acquiring luxurious and designer products, cars, bungalows etc.) might afford individuals with this sense of achievement and may work towards improving feelings of competence; at least, in the short run. Moreover, a variety of tangible goods that provide people with an opportunity to demonstrate their abilities such as books, musical instruments, sporting goods have been found to satisfy the need for competence as compared to tangibles such as clothing, jewelry, beauty products or accessories (Geuvarra & Howell, 2014). However, I acknowledge that, in the long run, the need for competence may not be readily satisfied via material accomplishments because “it is always possible to have newer, better and more goods, rendering material pursuits ultimately unsatisfying (Solberg, Diener & Robinson, 2004 p.39).

Similarly, the results show that pursuing materialistic aspirations may not hinder an individual's relationships. This might be due to the fact there are a number of relational activities possible when individuals climb the ladder of material success. For instance, previous research has shown that discretionary purchase of life experiences such as traveling, dining, adventure sports satisfy the psychological need for relatedness (Caprariello & Reis, 2010) and are a route for enhancing social relationships (Schmitt & Zarantonello, 2013). Thus, even though it may be argued that these positive relational experiences may be fleeting, it seems that these short-lived gains are sufficient for encouraging individuals to stay engaged in materialistic pursuits. Moreover, branded expensive material goods bring face and enhance social position of individuals due to the high social recognition of these products (Tse, 1996). East Asian communities, with their distinct focus on face consciousness tend to regard face as support in interpersonal relationships (Hwang, 1987).

Results from study 1 suggest that, materialism is related to greater compromises in the fulfillment of autonomy needs as compared to the other two needs of competence and relatedness. Consequently, the lowering of this sense of volition and autonomy is associated with diminished well-being.

Study 2 supported findings of study 1 by examining these relationships through experimental procedures. Study 2 showed that individuals who were situationally exposed to cues of materialism (such as pictures of luxury products) felt less autonomous and experienced greater negative affect as compared to those who were exposed to neutral pictures. This experiment provided compelling evidence for the special significance of the need for autonomy in the materialism well-being link. The mere activation of materialistic thought patterns seemed sufficient for rousing feelings of lower autonomy among the participants. Further, these findings support the

theoretical standpoint that as people engage more in materialistic thoughts, they tend to compare themselves with others who have higher status, more possessions and better image. As a result, they tend to experience negative emotionality in the form of higher dissatisfaction with themselves, greater distress and anxiety. Moreover, this heightened negative emotionality resulting from materialistic content is mediated by a decreased sense of autonomy.

In line with earlier findings whereby situationally activated materialism was associated with greater negative affect but not lesser positive affect (Bauer et al., 2012), study 2 also found that participants exposed to consumer cues did not differ from those exposed to neutral pictures with respect to positive affect. These findings echo what researchers have said about the independence of positive and negative affect such that the amount of positive and negative affect experienced by a person is unrelated to each other (Diener, Larsen, Levine & Emmons, 1985) and that the two correlate differently to different classes of variables (Watson, Clark & Tellegen, 1988). More specifically, previous research has shown that negative affect may be more closely associated with materialism (Hudders & Pandelaere 2012; Christopher & Schlenker, 2004). Christopher and Schlenker (2004) found that social aspects of identity (an important accompaniment of materialism) were only related to negative affect and not to positive affect. Moreover, materialism did not predict positive affect in their study and was significantly correlated with negative affect items such as *distressed*, *hostile*, *upset*, and *irritable*. Thus, it is plausible that in this study too, exposure to materialistic content led to the experience of negative emotionality without a corresponding decrease in positive affective states. Additionally, I also suspected that this might be due to the significant difference in the valence of the pictures used in both conditions. Pictures in the consumer cue condition were rated as

significantly more pleasant than pictures in the neutral control condition (see last row in Table 3). There is a possibility that positive valence of pictures in the consumer cue condition may have led to a ceiling effect and worked to arouse positive affect among participants in the experimental group. Nonetheless, this study was successful in establishing the potential causal paths from materialism to lower autonomy to lower well-being (measured as higher negative affect among participants in the consumer cue condition).

This study is the first to show that a temporary activation of materialism produces noticeable changes in individuals' sense of autonomy and negative affect. This finding is important because it points towards the malleability of materialism as an attitude/value system. As seen in study 2, mere exposure to limited materialistic content can focus people's attention on such stimuli and make their response tendencies more attuned to materialistic concerns, diminish autonomy satisfaction and increase negative affect. Therefore, the rampant and continuous bombardment of such messages in contemporary consumer climate, pose real dangers to emotional well-being and satisfaction of the basic psychological need for autonomy. The costs to well-being may be higher in East Asian cultures where pressures towards materialism are compounded by the high levels of face consciousness.

5.2 Extrinsic/Intrinsic contingent self-esteem and materialism

The next set of studies set out to examine two main research questions. Firstly, I investigated whether extrinsically oriented contingent self-esteem is an antecedent of materialism (study 3). Secondly, I sought to explore how intrinsically oriented contingent self-esteem is related to materialism (study 4). In this study, I also established the goodness of fit of the proposed integrative model of materialism.

Finally, I tested the findings of the previous two studies within an experimental paradigm (study 5).

Study 3 lent empirical evidence to the idea that contingent self-esteem that is staked upon external contingencies is a potential precursor of materialistic values. Specifically, the results showed that CSE in the appearance domain was the strongest predictor of materialistic values followed by CSE in the competition domain. Although, contingent self-esteem in the approval from others domain was not a significant predictor of materialism as hypothesized, I caution against dismissing its role completely as CSE in the social approval domain did have a significant positive correlation with materialism.

With regards to appearance based contingencies, when an individual bases his/her sense of worth on having an appealing appearance, it is quite plausible that such an individual will be more likely to make efforts towards enhancing his/her appearance via several consumer behaviors such as shopping for clothes, accessories, spending on grooming treatments etc. If an individual's sense of worth is dependent upon how he/she looks, it is quite certain that they will experience a high degree of public self-consciousness (Neff & Vonk, 2009). Interestingly, tactical use of clothing for defining oneself has been found to have a consistent and pervasive positive correlation with public self-consciousness. While research has documented a positive association between materialism and public self-consciousness (Schroeder & Dugal, 1995), I propose that materialism can be seen as an outcome of high appearance contingency and public self-consciousness. Materialistic pursuits, especially buying clothes and accessories (visible signs of enhancing appearance) may prove to be the most be natural way for such individuals to experience some relief from any doubt regarding their appearance.

Similarly, when self-esteem is dependent on competing with others, then individuals are more likely to be dissatisfied with their current social standing and would be in perpetual activity to achieve that dominance over others. We know from previous research that materialistic individuals tend to engage in frequent social comparisons (Chan & Prendergast, 2007; Richins, 1991). It is reasonable to expect that this tendency to compare one's social standing with others can translate into a habitual tendency to compete with others. In fact, Roberts and Pirog (2004) asserted that materialistic pursuits are a competitive and comparative process. I acknowledge the possibility that the competitive streak in competition contingent self-esteem individuals may be expressed in showing their superiority in academic, sports or creative skills, in which case they may not be specifically drawn to materialistic pursuits. However, individuals whose self-esteem is contingent upon competition may be equally likely to pick up competitive cues in their social environment. Thus, they may constantly try to compete with social others and stay on an acquisitive treadmill where the level of material goods required to make a strong social statement keeps rising (Bell 1998). Notwithstanding, materialistic pursuits such as acquiring luxury goods like cars, gadgets, homes (visible signs of social status) may be a very obvious way for such individuals to experience comfort from doubt regarding their social position.

Thus, materialism seems to be a possible avenue for people with extrinsically oriented CSE to achieve possible gains in appearance, social status and success in competition with others. From a SDT perspective, self-esteem that is staked on such extrinsic domains is highly vulnerable and unstable. It represents introjected regulation whereby one's ego gets involved in an outcome and meeting externally evaluated criteria are a route to enhancing feelings of worth (Deci & Ryan, 2004 p. 17). This

implies that success in the external domain becomes the instrument for such individuals to experience self-worth. Materialistic pursuits (such as buying clothes, designer accessories, gadgets, cars etc.) have considerable symbolic-communicational power (Dittmar, 1992). This symbolic-expressive function of material possessions may help to temporarily alleviate self-esteem deficits in appearance and competition domains.

Thus, these findings theoretically advance previous work on the antecedents of materialism by showing that, extrinsically contingent self-esteem in specific, commonly encountered domains acts as a precursor of materialism. I propose that these specific CSE domains follow from the psychological antecedents of materialism outlined in previous research, e.g. insecurity (Dittmar, 2008; Park & John, 2011) and self-doubt, (Chang & Arkin 2002). To be more explicit, if an individual is experiencing insecurity, then he/she experiences a disturbance to his/her self-view and self-worth. However, these disturbances may be located at specific domains of an individual's life. The results of study 3 are suggestive that appearance and competition might be those domains that are specifically relevant for the development of materialistic mindsets. It seems that people feel that material wealth will provide the needed boosts in these self-esteem domains.

Study 4 attempted to expand on the findings of study 3 by examining how intrinsically contingent self-esteem relates to materialism. The regression results showed that intrinsic contingencies of self-worth explain a small yet significant portion of the variance in materialistic values. The negative association between intrinsic contingencies and materialism provides an indication of how basing one's sense of worth on self-development, autonomy and living authentically might be contradictory to the pursuance of materialism. Self-esteem that is contingent upon

being true to oneself, living autonomously and experiencing personal development should work towards inhibiting the likelihood of endorsing materialistic aspirations. This is due to the inherent incompatibility of materialistic values with such self-actualizing tendencies. In this way, materialism may not act as an outlet for individuals driven by intrinsic contingencies of self-worth. This could be because such individuals are unlikely to be predisposed to searching for identity fixes in the material world, which is quite likely for their extrinsically contingent self-esteem counterparts. Any self-esteem deficits experienced in intrinsic domains may be effectively removed by acting in ways that in line with one's core values rather than going on a shopping spree.

Further, the SEM analysis in study 4 revealed that the data fits the proposed model better than the tested alternative model. The results demonstrated that the temporal sequence of extrinsically contingent self-esteem leading to materialism and then lower autonomy and diminished well-being is a plausible one. Conversely, intrinsically oriented contingent self-esteem is related negatively to materialism and acts as a positive predictor of autonomy and well-being. However, it is important to note that the individual pathways in the hypothesized model were not significant. Thus, the SEM analysis offers only tentative support to the hypothesized integrated model of the causes and consequences of materialism in a single explanatory framework.

Additionally, in this study, I tested other individual components of the proposed model. Specifically, I tested how extrinsic/intrinsic contingent self-esteem relates to well-being. Here again, a multiple mediator model linking CSE—three psychological needs satisfaction—well-being was tested. The results of these analyses indicated that the negative link between extrinsic CSE and well-being is mediated by

lower satisfaction of the need for autonomy. On the other hand, the positive association between intrinsic CSE and well-being was fully mediated by the satisfaction of the need for autonomy. Even though these analyses were not the primary focus of this dissertation, they lent much needed empirical support for the alleged congruence between intrinsic CSE and SDT's non-contingent self-esteem (Vonk & Smit, 2012). Furthermore, this was the first attempt to clarify the psychological mechanism by which extrinsic/intrinsic CSE affects well-being. In addition to its operation in the materialism- well-being link (study 1 and 2), the mediating effects of the need for autonomy were found to be operating between the CSE-well-being links too. With respect to extrinsic CSE, the negative association between contingent self-esteem in extrinsic domains and well-being was mediated most strongly by the need for autonomy. Ryan and Brown (2003) emphasized that contingent self-esteem (which by their definition was clearly tied to extrinsic factors) represents a regulatory process driven by introjection. During such introjection, individuals internalize contingent regard from others and begin evaluating themselves contingently as well. This introjected regulation can prove to be a strong motivating force, as people tend to get ego involved in these domains. The ego involvement implies heightened self-consciousness accompanied by feelings that the activity is imposed (Ryan & Deci, 2000). Consequently, the need for autonomy is inevitably compromised.

The mediation results for intrinsic CSE indicated that out of the three psychological needs, the need for autonomy is the most closely associated with having a self-esteem based on intrinsic factors. This is in line with the fact that there is an inherent sense of volition involved in the concept of intrinsically contingent self-esteem. For instance, consider an individual whose self-esteem depends upon being

true to oneself, upon personal development and growth. For such an individual, experiencing a sense of free will and choice in determining his/her course of action in various situations would be inevitable and necessary. The corresponding satisfaction of the need for autonomy, then could translate into positive outcomes for this individual.

More concrete conclusions regarding the effects found in study 3 and 4 could be drawn when experimental procedures were used to manipulate two different domains of contingent self-esteem and observing the effects of these short-term contingent self-esteem manipulations on salience of materialistic inclinations. Thus, in study 5, it was found that appearance contingent participants reported significantly higher preference ratings for materialistic pictorial content as compared to intrinsic self-worth contingency participants. This finding was important because it provided support for a possible direct causal relationship between an extrinsic CSE domain and materialistic inclinations. Simultaneously, it was seen that when people focused on intrinsic contingencies of self-worth, they were less likely to endorse liking for materialistic content. The results were not significant with respect to dispositional materialism, however this is not surprising as short-term inductions (such as the one used in study 5) that result in temporary fluctuations in self-esteem related thoughts and feelings may not affect chronic tendencies towards materialism. Longitudinal or intervention based studies might be able to document the effects of such manipulation/inductions on trait levels of outcome measures. A second and equally noteworthy finding of study 5 is that when individuals focus on intrinsic contingencies as compared to doing a mundane neutral activity, they are less likely to favor materialism. This finding suggests that the materialistic messages prevalent in modern urban societies are placing considerable pressure on unsuspecting individuals to affirm

materialistic inclinations. The widespread prevalence of materialistic messages may be regarded, in a sense, as analogous to the neutral control condition in study 5. Thus, a gentle reminder of an individual's core values and inner strengths may successfully shift one's focus away from materialism to more meaningful pursuits (as evidenced by a significant planned contrast between the neutral control and intrinsic self-worth condition), and eventually enhance an individual's psychological well-being. Despite these encouraging results, we cannot rule out the possibility that perhaps endorsement of materialism as a value would lead individuals to rely more on extrinsic sources of self-esteem. This may be especially true for those individuals who endorse materialistic values due to exposure to materialistic role models in the socialization process. However, it may be argued that the socialization pathway breeds materialism not only by passive imitation but also by instilling a sense of conditional/contingent regard. It fosters an implicit belief that one needs to acquire material possessions in order to feel accepted and valued. For instance, Banerjee and Dittmar (2008) found that peer culture pressure predicts higher materialism. However, this relationship is mediated by social motives such as desire to fit in or be liked by the peer group. Thus, imitating materialistic models, also in a sense work towards fulfilling self-esteem searches. However, more research is required to examine whether such bi-directionality exists between contingent self-esteem and materialism exists and under what conditions.

5.3 Contributions to the literature

The current research makes some very valuable contributions to the existing literature. An important theoretical contribution of this research lies in providing support for the specific role of the need for autonomy in the materialism-well-being link. This is valuable because it clarifies the antagonistic relationship between need for

autonomy and materialism and specifically shows how materialism does not readily lower the satisfaction with the need for competence and relatedness. This advances the SDT conceptualization of materialism and its costs to well-being by going beyond the extant perspective of overall needs satisfaction being compromised when individuals are materialistic. By exploring the unique contribution of each psychological need, rather than general needs satisfaction through employment of different research designs (cross-sectional survey and experiment) and different samples, testing and re-testing the hypothesis, the current research complements the burgeoning efforts of SDT researchers to provide a deeper understanding of the materialism and negative well-being association. By carefully considering the differential relationship of the three needs with materialism, the current study helps to overcome the risk of overlooking important distinctive pattern of effects that the three needs have with materialism. The current research found that materialism is particularly harmful for the satisfaction of the need for autonomy and not as detrimental to the need for competence and relatedness. This proves to be an expansion of earlier SDT research that documents the match between certain settings and individual needs. For instance, previous research has shown the strong negative effects of controlling situations in the work settings (such as being forced to meet a deadline) on satisfaction with the need for autonomy but not on the need for competence and relatedness (Van Den Broeck, Vansteenkiste, De Witte, Soenens, & Lens, 2010). Similarly, the current research shows that materialistic pursuits representing an externally evaluated controlling social setting, lowers satisfaction with the need for autonomy but not necessarily the need for competence and relatedness.

Another important contribution of these studies lies in providing support for the role of extrinsic contingent self-esteem in specific domains as an antecedent of

materialistic values. Moreover, this research provides parallel evidence to support the negative relationship of intrinsic contingencies with materialism. These theoretical contributions are valuable because earlier studies on materialism that adopted the self-determination perspective shed light on how materialism is antagonistic to overall basic psychological needs satisfaction. None of these studies explored the precursors of materialistic aspirations from a self-determination perspective. The current research explores a construct often discussed within SDT, that is, contingent self-esteem (Deci & Ryan, 1995) as both a potential precursor and possible deterrent to materialism depending upon whether it is extrinsically or intrinsically oriented respectively. This understanding advances the field of materialism research as it shows specific self-esteem deficit domains under which materialism flourishes and those under which it stays in check. In other words, this research suggests that people seeking to overcome materialistic pressures may be well advised to shift focus away from appearance and status enhancing concerns to more autonomy driven self-development and authentic relationship building. Further, identifying antecedents of a construct helps to build the nomological net for the relevant construct, which eventually aids in scale development and establishing validity of the construct (Mowen & Voss, 2008). It may be beneficial to re-consider existing measures of materialism and develop newer, more refined ones that capture antecedent factors identified in the current research such as extrinsically oriented contingent self-esteem. Additionally, a novel implicit measurement of materialism was devised that may be used effectively in future studies to help overcome the social desirability concerns that often plague materialism research. The findings advance understanding on the self-esteem-materialism link by showing how the domain-specific view of self-esteem, has the potential to promote or discourage materialism based on whether self-esteem is anchored to external or internal domains.

5.4 Practical implications

The current study has several practical implications for practitioners as well as policy makers. The knowledge generated in this research may be useful in improving the effectiveness of existing intervention programs designed for reducing materialism (e.g. www.sharesavespend.com; c.f. Kasser et al., 2014). For instance, by incorporating autonomy-enhancing elements into these programs, psychologists may be able to enhance the efficacy of these programs. As long as psychologists are interested in developing tools and interventions that enhance psychological well-being via building resilience to materialistic messages, autonomy support may prove to be a valuable action lever for such interventions. Further, the malleability of contingent self-esteem, as evidenced by study 5, has valuable practical implications. For example, researchers and practitioners interested in designing interventions to reduce materialism may benefit greatly by incorporating stable self-esteem elements in their programs. Cultivating intrinsic forms of contingent self-esteem and a guided emphasis on loosening the hold of specific extrinsic CSE domains may enhance the overall effectiveness of such intervention programs.

It is not uncommon for practitioners and counselors to come across clients who may have concerns about their appearance and social standing or those who exhibit compulsive buying tendencies. The counseling practice might benefit from creating awareness amongst clients about the negative effects of materialistic pursuits on their basic need for autonomy. Furthermore, clients may be educated about the psychological roots of materialistic inclinations. Psychologists can inform clients that self-esteem contingent on extrinsic domains of appearance and competition is related to greater materialism (as compared to intrinsic or other extrinsic CSE domains). Importantly, psychologists can help people redirect their attention to intrinsic domains

of self-worth that will help to mitigate the negative consequences of materialism on their well-being.

This research also has implications for policy makers to consider. If the society is educated about the reasons behind the negative influence of materialistic pursuits on well-being, people may be better equipped to re-think their materialistic goals and their importance in their lives. While materialistic pursuits certainly have utilitarian value, it is when these pursuits are seen as a route to overcoming doubt in extrinsic domains of contingent self-esteem that they become problematic, as shown in this research. Since the development of materialism can be attributed in part to the socialization process (Kasser et al., 2004), it is important that socialization agents such as parents, educators and peer groups be aware of the perils of materialistic values endorsement. Thus, educational institutions may play a significant role in highlighting a balanced view of materialism among children and youth. Parenting workshops can teach strategies that encourage intrinsically contingent self-esteem, which could lead to a decrease in materialism among children. Public awareness programs may be implemented in order to make people more discerning consumers such that they may be more capable of distinguishing between needs, wants and status-enhancing acquisitive desires. Policy makers may do well to support population-based studies that aim to document the penetration of materialistic ideals in society. With adequate statistics about materialism's negative impact on well-being, its apparent antagonism with autonomy satisfaction and its psychological antecedents, more justified efforts to keep materialism in check may be instituted by government bodies.

5.5 Limitations and future directions

Although the current research makes important contributions to the literature and has many practical implications, certain caveats need to be made. In all the five studies, the sample was somewhat homogenous which limits generalizability of these results. Future research may test these hypotheses with adolescent and/or older adult samples. Prior studies have indicated that economic deprivation leads to an excessive focus on material pursuits (Abramson & Inglehart, 1995; Cohen & Cohen, 1996). Testing the proposals of the current research among people from various socio-economic backgrounds is an interesting avenue for future research. Further, only emotional well-being was assessed in study 2. Future longitudinal studies may attempt a more comprehensive coverage of well-being indicators. This will enable researchers to have a clearer picture about the long-term effects of being exposed to materialistic cues on various facets of well-being.

An important empirical question that warrants examination in a future longitudinal study is whether the short-term deficits in emotional well-being (found in study 2) translate into long-term changes in general well-being. This will help to improve the ecological validity of the experimental findings. On the lines of previously examined person-oriented approach (Ratelle, Guay & Vallerand, 2007), future work may look into how different motivational profiles link to materialism and whether the autonomous and integrated profiles are associated with lower materialism and higher well-being.

In study 5, we only manipulated a single extrinsic CSE domain, that is, appearance. Future studies may devise effective manipulation procedures for other extrinsic domains such as competition and social approval in order to provide a more

comprehensive picture of other extrinsic CSE domains that pre-dispose an individual to developing materialism. Further, the manipulation of the extrinsic and intrinsic CSE were not equivalent such that the appearance condition induced a threat to self-esteem but the intrinsic self-worth condition induced a sense of satisfaction in that domain. This may have possibly confounded the effects that were seen on the favorability of materialistic content. Future studies may work towards inducing more congruent contingent self-esteem manipulations to minimize such confounding effects. Another possible methodological advance could be achieved by developing implicit measures of contingent self-esteem so that more authentic, unbiased and accurate measure of people's self-esteem may be gathered. A wider coverage of the qualitative differences between different domains of contingent self-esteem and how they influence need satisfaction and well-being may prove to be an exciting avenue for future work.

Another limitation of the current research that may be overcome in future studies is the measurement and control of the types of goods that define people's materialistic pursuits. Previous research has shown that purchase of experiential products and life experiences might be able to satisfy the need for competence and relatedness respectively (Guevarra & Howell, 2015). The current studies measured materialism as a general value orientation and documented its differential effects on needs satisfaction and did not take into account the influence of types of products that represent people's acquisitive desires. It would be worthwhile to assess whether the salutatory effects of life experiences and experiential products are off-set by the overall negative effects of materialistic orientations.

The homogeneity of the cultural composition of participants in the current studies is another limitation that needs addressing in future research. This is because; there is evidence for the idea that East Asian cultures are more susceptible to

experiencing lower satisfaction with the need for autonomy (Abe et al., 1996). Thus, it might be possible that the lowered autonomy experienced by the participants was not solely a result of higher endorsement of materialism but a cumulative effect of high public self-consciousness and concerns about maintaining face in social situations. Therefore, future research may explore disentangling the effects of materialism, public self-consciousness and face on satisfaction of need for autonomy. Additionally a cultural comparison study may be undertaken in order to assess if the links between autonomy need satisfaction and well-being differ across cultures. Perhaps future qualitative research may explore the intersection of income, gender, culture, and religion in shaping materialism.

5.6 Concluding remarks

In conclusion, we found that materialistic values are harmful for individual well-being and that materialism impacts well-being through the reduced satisfaction of the basic psychological need for autonomy. Furthermore, this research has shown that contingent self-esteem in extrinsic domains is associated with higher materialism. However, it is equally encouraging to know that when self-esteem is staked upon being true to oneself, on self-growth and autonomy, the hold of materialistic messages may begin to loosen and consequently, well-being might be enhanced.

SDT postulates that the need for autonomy must be sufficiently satisfied before intrinsic motivation and healthy mental growth can occur. Moreover, the theory states that need for autonomy is primary— in that it needs to be satisfied first; before the needs for competence and relatedness can make any contributions to intrinsic motivation. A vast array of SDT research has shown that psychological well-being is closely connected with intrinsic motivation. However, material accomplishment with

its focus on extrinsic forms of motivation leaves little room for enhancing well-being; rather, it works towards dampening it. Thus, autonomy-supportive environments might have the potential to act as buffers against the detrimental effects of materialism on individual well-being. This study is the first to demonstrate this experimentally, and opens up a line for future research investigations on how to meet the need for autonomy in spite of the encroaching influence of materialism in increasingly consumerist urban climates.

Additionally, the current research suggests that vulnerability to developing materialism may indeed be related to basing one's self-esteem on external rather than internal sources. Moreover, it provided the first experimental confirmation of these relationships, thus adding value to the existing literature stream surrounding self-esteem and materialism.

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APPENDIX

A. MATERIALISTIC VALUES SCALE

Rate the following statements according to the rating scale given below by inserting the number that best describes how you feel about the statement next to it.

- 1- Disagree Strongly
- 2- Disagree somewhat
- 3- Neither agree or disagree
- 4- Agree somewhat
- 5- Agree Strongly

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.

B. TERMINAL MATERIALISM SCALE (SCOTT 2010)

For each item indicate the number that best describes how frequently you feel or act in the manner described in your professional, leisure, and home lives. There are no right or wrong answers. Just circle the response that most accurately describes how you feel or act in your daily life, not how you wish you would act. Please note that some of the questions may appear to be similar to each other. It is important, however, that you Answer ALL Questions.

1. Always
2. Very Frequently
3. Frequently
4. Often

5. Occasionally

6. Sometimes

7. Rarely

8. Very Rarely

9. Never

- Enjoy owning luxurious things.
- Put more emphasis on material things than most people I know.
- Like owning products that show my status.
- My possessions are important because they classify me among others.
- Like owning things that are better than what others have.

C. SATISFACTION WITH LIFE SCALE

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

_____ In most ways my life is close to my ideal.

_____ The conditions of my life are excellent.

_____ I am satisfied with my life.

_____ So far I have gotten the important things I want in life.

_____ If I could live my life over, I would change almost nothing.

D. SELF-ACTUALIZATION SCALE

Rate the following statements according to the rating scale given below by inserting the number that best describes how you feel about the statement next to it.

1- Disagree Strongly

2- Disagree somewhat

3- Agree somewhat

4- Agree strongly

1. I do not feel ashamed of any of my emotions.

2. I feel I must do what others expect me to do.

3. I believe that people are essentially good and can be trusted.

4. I feel free to be angry at those I love.

5. It is always necessary that others approve of what I do.

6. I don't accept my own weaknesses.

7. I can like people without having to approve of them.

8. I fear failure.

9. I avoid attempts to analyze and simplify complex domains.

10. It is better to be yourself than to be popular.

11. I have no mission in life to which I feel especially dedicated.
12. I can express my feelings even when they result in undesirable consequences.
13. I do not feel responsible to help anybody.
14. I am bothered by fears of being inadequate.
15. I am loved because I give love.

E. CONTINGENCIES OF SELF-WORTH SCALE

INSTRUCTIONS: Please respond to each of the following statements by circling your answer using the scale from "1 = Strongly disagree" to "7 = Strongly agree." If you haven't experienced the situation described in a particular statement, please answer how you think you would feel if that situation occurred.

1.	When I think I look attractive, I feel good about myself.
2.	My self-worth is based on God's love.
3.	I feel worthwhile when I perform better than others on a task or skill.
4.	My self-esteem is unrelated to how I feel about the way my body looks.
5.	Doing something I know is wrong makes me lose my self-respect.
6.	I don't care if other people have a negative opinion about me.
7.	Knowing that my family members love me makes me feel good about myself.
8.	I feel worthwhile when I have God's love.
9.	I can't respect myself if others don't respect me.
10.	My self-worth is not influenced by the quality of my relationships with my family members.
11.	Whenever I follow my moral principles, my sense of self-respect gets a boost.
12.	Knowing that I am better than others on a task raises my self-esteem.
13.	My opinion about myself isn't tied to how well I do in school.
14.	I couldn't respect myself if I didn't live up to a moral code.

15.	I don't care what other people think of me.
16.	When my family members are proud of me, my sense of self-worth increases.
17.	My self-esteem is influenced by how attractive I think my face or facial features are.
18.	My self-esteem would suffer if I didn't have God's love.
19.	Doing well in school gives me a sense of self-respect.
20.	Doing better than others gives me a sense of self-respect.
21.	My sense of self-worth suffers whenever I think I don't look good.
22.	I feel better about myself when I know I'm doing well academically.
23.	What others think of me has no effect on what I think about myself.
24.	When I don't feel loved by my family, my self-esteem goes down.
25.	My self-worth is affected by how well I do when I am competing with others.
26.	My self-esteem goes up when I feel that God loves me.
27.	My self-esteem is influenced by my academic performance.
28.	My self-esteem would suffer if I did something unethical.
29.	It is important to my self-respect that I have a family that cares about me.
30.	My self-esteem does not depend on whether or not I feel attractive.
31.	When I think that I'm disobeying God, I feel bad about myself.
32.	My self-worth is influenced by how well I do on competitive tasks.
33.	I feel bad about myself whenever my academic performance is lacking.
34.	My self-esteem depends on whether or not I follow my moral/ethical principles.
35.	My self-esteem depends on the opinions others hold of me.

F. INTRINSIC CONTINGENCIES OF SELF-WORTH SCALE

INSTRUCTIONS: Please respond to each of the following statements by circling your answer using the scale from "1 = Strongly disagree" to "7 = Strongly agree." If you haven't experienced the situation described in a particular statement, please answer how you think you would feel if that situation occurred.

- My self-esteem depends on discovering a new side of myself.
- My self-esteem depends on giving attention to my inner feelings.
- My self-esteem depends on getting to know myself better.
- My self-esteem depends on taking time for myself.
- When I think I'm going against my conscience, I feel bad about myself. My self-esteem goes when I am being untrue to myself.
- My self-esteem would suffer if I didn't take my feelings seriously.
- My self-worth is reduced when I present myself different from who I am.

G. BASIC NEEDS SATISFACTION (GENERAL)

Please read each of the following items carefully, thinking about how it relates to your life, and then indicate how true it is for you. Use the following scale to respond:

1 2 3 4 5 6 7

not at all true somewhat true very true

1. I feel like I am free to decide for myself how to live my life.
2. I really like the people I interact with.

3. Often, I do not feel very competent.
4. I feel pressured in my life.
5. People I know tell me I am good at what I do.
6. I get along with people I come into contact with.
7. I pretty much keep to myself and don't have a lot of social contacts.
8. I generally feel free to express my ideas and opinions.
9. I consider the people I regularly interact with to be my friends.
10. I have been able to learn interesting new skills recently.
11. In my daily life, I frequently have to do what I am told.
12. People in my life care about me.
13. Most days I feel a sense of accomplishment from what I do.
14. People I interact with on a daily basis tend to take my feelings into consideration.
15. In my life I do not get much of a chance to show how capable I am.
16. There are not many people that I am close to.

17. I feel like I can pretty much be myself in my daily situations.
18. The people I interact with regularly do not seem to like me much.
19. I often do not feel very capable.
20. There is not much opportunity for me to decide for myself how to do things in my daily life.
21. People are generally pretty friendly towards me.

H. DEPRESSION ANXIETY STRESS SCALE

For each of the statements below, please indicate the number according to the ratings below, which best describes how much the statement applied to you OVER THE PAST WEEK. There are no right or wrong answers. Do not spend too much time on any one statement.

- (0) 'Did not apply to me at all'
- (1) 'Applied to me to some degree, or some of the time'
- (2) 'Applied to me a considerable degree, or a good part of the time'
- (3) 'Applied to me very much, or most of the time'
- I felt downhearted and blue
 - I felt sad and depressed
 - I could see nothing in the future to be hopeful about
 - I felt that I had nothing to look forward to
 - I felt that life was meaningless

- I felt that life wasn't worthwhile
- I felt I was pretty worthless
- I felt I wasn't worth much as a person
- I felt that I had lost interest in just about everything
- I was unable to become enthusiastic about anything
- I couldn't seem to experience any positive feeling at all
- I couldn't seem to get any enjoyment out of the things I did
- I just couldn't seem to get going
- I found it difficult to work up the initiative to do things
- I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)
- I perspired noticeably (e.g. hands sweaty) in the absence of high temperatures or physical exertion
- I was aware of dryness of my mouth
- I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)
- I had difficulty in swallowing
- I had a feeling of shakiness (e.g. legs going to give way)
- I experienced trembling (e.g. in the hands)
- I was worried about situations in which I might panic and make a fool of myself
- I found myself in situations which made me so anxious I was most relieved when they ended
- I feared that I would be "thrown" by some trivial but unfamiliar task

- I felt I was close to panic
- I felt terrified
- I felt scared without any good reason
- I had a feeling of faintness
- I found it hard to wind down
- I found it hard to calm down after something upset me I found it difficult to relax
- I felt that I was using a lot of nervous energy
- I was in a state of nervous tension
- I found myself getting upset rather easily
- I found myself getting upset by quite trivial things
- I found myself getting agitated
- I tended to over-react to situations
- I found that I was very irritable
- I felt that I was rather touchy
- I was intolerant of anything that kept me from getting on with what I was doing
- I found myself getting impatient when I was delayed in any way (e.g. lifts, traffic lights, being kept waiting)
- I found it difficult to tolerate interruptions to what I was doing

I. THE POSITIVE AND NEGATIVE AFFECT SCALE (GENERAL)

This scale consists of a number of words that depict different feelings and emotions.

Read each item and then mark the extent to which you have experienced the particular feeling over the past one week using the scale given.

- 1- Not at all
- 2- Little
- 3- Moderately
- 4- Quite a bit
- 5- Extremely

afraid

scared

nervous

jittery

irritable

hostile

guilty

ashamed

upset

distressed

active

alert

attentive

determined

enthusiastic

excited

inspired

interested

proud

strong

J. VITALITY SCALE (STATE VERSION)

Please respond to each of the following statements in terms of how you are feeling right now. Indicate how true each statement is for you at this time, using the following scale:

1 2 3 4 5 6 7

not at all true somewhat true very true

1. At this moment, I feel alive and vital.
2. I don't feel very energetic right now.
3. Currently I feel so alive I just want to burst.
4. At this time, I have energy and spirit.
5. I am looking forward to each new day.
6. At this moment, I feel alert and awake.
7. I feel energized right now.

K. PICTURE SET USED IN STUDY 2 (CONSUMER CUE CONDITION)

Kindly rate the pleasantness of the pictures shown to you by indicating your choice from the scale provided below each picture.

- 1- Very pleasant
- 2- Pleasant
- 3- Neither
- 4- Unpleasant
- 5- Very Unpleasant

Dimension: 188.0 X 150.0 X 20 (mm)

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LOUIS VUITTON

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K. PICTURE SET USED IN STUDY 2 (NEUTRAL CONDITION)

L. NATURE PICTURE SET USED IN STUDY 5

Now you will be shown some pictures. Kindly rate how much you like the pictures shown to you by indicating your choice based on the rating scale provided under each picture.

- 1- Extremely like
- 2- Like
- 3- Neither
- 4- Dislike
- 5- Extremely dislike