

UNIVERSITÉ DU QUÉBEC À MONTRÉAL

MONEY, SPENDING AND WELL-BEING: FIVE STUDIES BASED ON SELF-
DETERMINATION THEORY ON THE FACTORS THAT INFLUENCE THE
RELATIONSHIP BETWEEN MONEY AND PSYCHOLOGICAL HEALTH

THESIS

PRESENTED

AS A PARTIAL REQUIREMENT

OF A DOCTORATE IN PSYCHOLOGY

BY

LARA MANGANELLI

MARCH 2021

UNIVERSITÉ DU QUÉBEC À MONTRÉAL

ARGENT, DÉPENSES, ET BIEN-ÊTRE: CINQ ÉTUDES SUR LES FACTEURS
QUI INFLUENCENT LA RELATION ENTRE L'ARGENT ET LA SANTÉ
PSYCHOLOGIQUE BASÉES SUR LA THÉORIE DE
L'AUTODÉTERMINATION

THÈSE

PRÉSENTÉ(E)

COMME EXIGENCE PARTIELLE

DU DOCTORAT EN PSYCHOLOGIE

PAR

LARA MANGANELLI

MARS 2021

UNIVERSITÉ DU QUÉBEC À MONTRÉAL
Service des bibliothèques

Avertissement

La diffusion de cette thèse se fait dans le respect des droits de son auteur, qui a signé le formulaire *Autorisation de reproduire et de diffuser un travail de recherche de cycles supérieurs* (SDU-522 – Rév.10-2015). Cette autorisation stipule que «conformément à l'article 11 du Règlement no 8 des études de cycles supérieurs, [l'auteur] concède à l'Université du Québec à Montréal une licence non exclusive d'utilisation et de publication de la totalité ou d'une partie importante de [son] travail de recherche pour des fins pédagogiques et non commerciales. Plus précisément, [l'auteur] autorise l'Université du Québec à Montréal à reproduire, diffuser, prêter, distribuer ou vendre des copies de [son] travail de recherche à des fins non commerciales sur quelque support que ce soit, y compris l'Internet. Cette licence et cette autorisation n'entraînent pas une renonciation de [la] part [de l'auteur] à [ses] droits moraux ni à [ses] droits de propriété intellectuelle. Sauf entente contraire, [l'auteur] conserve la liberté de diffuser et de commercialiser ou non ce travail dont [il] possède un exemplaire.»

ACKNOWLEDGMENTS

I would first like to express the deepest appreciation for my research supervisor, Professor Jacques Forest, whose intellect, optimism, enthusiasm and immense knowledge have inspired me throughout my Ph.D. journey. My sincerest thank you for your continual support and guidance, which have sustained me through my toughest moments. It is truly an honour to have worked under the supervision of such a talented and passionate researcher, whose work benefits many people.

I would also like to extend my gratitude to the thesis committee members. My sincerest thank you for taking the time to read and evaluate my dissertation. I thank you for your insights, questions, comments and feedback all of which contribute to making my research project more rigorous and useful.

Thank you to all the professors at the ESG and psychology departments who have taught and mentored me throughout my Ph.D. program. Whether through course work, research assistant positions or internship supervision, your knowledge and wisdom have positively shaped my development as a researcher and practitioner. I am grateful to have had the opportunity to learn from you.

I would also like to thank my friends, colleagues and lab mates, whose support and advice contributed immensely to my thesis. I would like to extend a special thank you to my good friend Cécile Renucci. I would not have made it through this program without you by my side. I am eternally grateful for having met you, as your friendship is one that I deeply cherish.

Finally, my deepest gratitude is to my family. It is through the love and support of my parents, my grandmother, my sister, my brother in law, and my husband that I have accomplished this dissertation. I am also immensely appreciative for the encouragement from my in-laws and my husband's brother and sister. Thank you all for your many insights and questions about my subject matter as the thoughtful discussions that these provoked have directly contributed to improving my thesis. The road has been long and not always easy, and I thank you from the bottom of my heart for being there every step of the way.

DEDICATION

To my grandparents, whose greatest sacrifices
have given me the opportunity to be where I
am today.

To my parents, Andrea and Gloria, whose
unyielding love, support and encouragement
are the foundations upon which my
accomplishments lie.

To my sister Dalia, whose laughter and light-
heartedness have uplifted me through my
hardest moments.

To my husband Cedric, whose belief in my
abilities surpasses my own and whose
unconditional love enriches my soul and gives
me strength in my darkest hours.

To my son Alessio, the light of my life, who
inspires me to be a better person every day.

TABLE OF CONTENTS

LIST OF FIGURES.....	ix
LIST OF TABLES	x
LIST OF ABBREVIATIONS.....	xii
LIST OF SYMBOLS	xiv
RÉSUMÉ.....	xv
SUMMARY	xviii
INTRODUCTION.....	1
CHAPTER I SUMMARY OF LITERATURE REVIEW	4
1.1 Money, happiness and Self-Determination Theory.....	4
1.2 Motivations for making money	7
1.2.1 Materialism and motivations for making money	9
1.3 Previous money interventions.....	11
1.4 Spending motives and psychological health.....	12
1.5 Overview of Chapter II.....	15
1.6 Overview of Chapter III.....	16
CHAPTER II ARTICLE 1	18
2.1 Abstract.....	19
2.2 Introduction.....	20
2.3 Literature review and hypotheses	22
2.3.1 Money and happiness.....	22
2.3.2 Self-Determination theory and psychological need satisfaction.....	24

2.3.3	Motivations for making money.....	26
2.3.4	Materialism and the motives for making money.....	30
2.3.5	Previous money interventions.....	35
2.4	Method : Study 1	37
2.4.1	Recruitment and study procedure.....	37
2.4.2	Sample description and demographics.....	38
2.4.3	Measures	38
2.4.4	Results.....	39
2.4.5	Discussion: Study 1.....	45
2.5	Method: Study 2	46
2.5.1	Recruitment and study procedure.....	46
2.5.2	Sample description and demographics.....	46
2.5.3	Measures	47
2.5.4	Results.....	50
2.5.5	Discussion: Study 2.....	57
2.6	Method: Study 3	58
2.6.1	Recruitment and study procedure.....	58
2.6.2	Sample description and demographics.....	59
2.6.3	Measures	59
2.6.4	Results.....	61
2.6.5	Discussion: Study 3.....	63
2.7	General discussion.....	63
2.7.1	Limitations and future research.....	66
2.8	Conclusion.....	71
2.9	References.....	72
CHAPTER III ARTICLE 2.....		105
3.1	Abstract.....	106
3.2	Introduction.....	107
3.3	Literature review.....	109
3.3.1	Money and happiness.....	109
3.3.2	Self-Determination Theory and psychological need satisfaction.....	110
3.3.3	SDT and motives for making money	111
3.3.4	Spending motives and psychological health	113
3.4	The current research	117

3.5	Method: Study 1	122
3.5.1	Recruitment and study procedure.....	122
3.5.2	Sample description and demographics.....	123
3.5.3	Measures	123
3.5.4	Results.....	127
3.5.5	Discussion: Study 1.....	134
3.6	Method: Study 2	135
3.6.1	Recruitment and study procedure.....	135
3.6.2	Sample description and demographics.....	136
3.6.3	Measures	136
3.6.4	Results.....	137
3.6.5	Discussion: Study 2.....	140
3.7	General discussion.....	141
3.7.1	Theoretical contributions and practical implications	145
3.7.2	Limitations and future research.....	146
3.8	Conclusion.....	147
3.9	References.....	148
CHAPTER IV GENERAL DISCUSSION.....		174
4.1	Summary of findings across Articles 1 and 2.....	174
4.2	Theoretical contributions.....	180
4.3	Practical implications.....	183
4.4	Limitations and future research	186
CONCLUSION.....		191
APPENDIX A QUESTIONNAIRES.....		194
APPENDIX B CONSENT FORMS		213
APPENDIX C ETHICS		233
BIBLIOGRAPHY		236

LIST OF FIGURES

Figure	Page
Article 1	
1.1 The final model tested in Study 2 depicting the standardized path coefficients between motives for making money, need satisfaction/frustration and psychological health outcomes	101
1.2 The final model tested in Study 2 depicting the standardized path coefficients between materialism, need satisfaction/frustration and well-being/ill-being.....	102
1.3 The model tested in Study 2 depicting the relationships between money motives, materialism and need satisfaction/frustration	103
1.4 The plot depicting the significant Time by Condition effect for Non-integrated motives found in Study 3.....	104
Article 2	
2.1 The final model (Model 2) tested in Study 1 depicting the standardized path coefficients between motives for spending, the satisfaction of the three psychological needs and psychological health outcomes (well-being and ill-being).....	171
2.2 The final model (Model 2) tested in Study 1 depicting the standardized path coefficients between motives for spending, the frustration of the three psychological needs and psychological health outcomes (well-being and ill-being).	172
2.3 The estimated marginal means for the spending motives across purchase type found in Study 2.....	173

LIST OF TABLES

Table	Page
Article 1	
1.1 Table 1 – Study 1 – Intercorrelations between items of the MMMS (Srivastava et al., 2001)	91
1.2 Table 2 - Study 1 – Means and standard deviations for MMMS items that differ according to data collection method	92
1.3 Table 3 - Study 1 – Means and standard deviations for MMMS items that differ according to language	93
1.4 Table 4 - Study 1 – Results of First-order Confirmatory Factor analysis of the MMMS	94
1.5 Table 5 - Study 2 – Descriptive statistics and intercorrelations between study variables	95
1.6 Table 6 – Study 2 - Means and standard deviations for study variables that differ according to data collection method	96
1.7 Table 7 – Study 2 - Means and standard deviations for study variables that differ according to language	97
1.8 Table 8 - Summary of hypothesis testing across Studies 2 and 3.....	98
1.9 Table 9 – Study 2 - Results of Hierarchical Regression Analyses for Need Frustration	99

1.10	Table 10 - Study 3 – Estimated marginal means for Integrated, Financial stability and Non-integrated money motives.....	100
------	---	-----

Article 2

2.1	Table 1 - Study 1 – Intercorrelations between items of the Motives for Spending Scale.....	163
2.2	Table 2 - Study 1 – Results of exploratory factor analysis of the Motives for Spending Scale.....	164
2.3	Table 3 - Study 1 – Means and standard deviations for study variables that differ according to data collection method	165
2.4	Table 4 - Study 1 – Means and standard deviations for study variables that differ according to language	166
2.5	Table 5 - Study 1 – Descriptive statistics and intercorrelations between study variables	167
2.6	Table 6 - Study 2 – Intercorrelations between study variables.....	168
2.7	Table 7 - Study 2 – Estimated marginal means for spending motives by purchase type	169
2.8	Table 8 - Study 2 – Examples of purchases by spending motive and purchase type	170

LIST OF ABBREVIATIONS

AIC	Akaike Information Criterion
ANOVA	Analysis of Variance
APA	American Psychological Association
CES-D	Center for Epidemiological Studies – Depression Scale
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CHRP	Certified Human Resources Professionals
CI	Confidence Interval
CMB	Common Method Bias
CMIN/DF	Minimum Discrepancy per Degree of Freedom
DF	Degrees of Freedom
EFA	Exploratory Factor Analysis
e.g.	For example

MANOVA	Multivariate Analysis of Variance
MEBS	Motivation for Experiential Buying Scale
MMMS	Motives for Making Money Scale
MSS	Motives for Spending Scale
MTurk	Amazon's Mechanical Turk
PANAS-SF	Positive and Negative Affect Schedule – Short Form
PNTS	Psychological Need Thwarting Scale
RMSEA	Root Mean Square Error of Approximation
SD	Standard deviation
SDT	Self-Determination Theory
SEM	Structural Equation Modeling
SRMR	Standardized Root Mean Square Residual
TLI	Tucker-Lewis Index
UQAM	Université du Québec à Montréal

LIST OF SYMBOLS

α	Cronbach alpha
β	Unstandardized beta coefficients
F	F-statistic
n	Sample size
p	P-value
r	Correlation coefficient
χ^2	Chi-square
\$	Dollar
η^2	Eta squared
Wilk's Λ	Wilk's Lamda

RÉSUMÉ

L'argent est l'une des causes les plus importantes de stress dans la vie des individus et entraîne des effets néfastes sur la santé physique et psychologique (APA, 2015). Une raison potentielle de ce stress financier est que les gens sont actuellement confrontés à des niveaux d'endettement alarmants. En 2018, l'endettement total de tous les ménages canadiens dépassait les deux billions de dollars, un montant qui équivaut à la production économique totale du pays (Banque du Canada, 2018). Les experts suggèrent qu'avec le crédit plus facile que jamais à obtenir, les gens semblent succomber à la tentation constante de la consommation (Benessaïeh, 2017). Il urge donc de comprendre les facteurs psychologiques qui influencent les décisions en matière d'argent et de dépenses. À travers cinq études, la présente thèse a cherché à comprendre ce qui motive les gens à gagner, et à dépenser de l'argent, comment ces motifs affectent la santé psychologique et à identifier des moyens pratiques afin d'aider les individus à développer une relation plus saine avec l'argent d'un point de vue psychologique.

Les deux articles de cette thèse s'inscrivent dans la recherche visant à comprendre la relation entre l'argent et le bien-être psychologique. Des études basées sur la théorie de l'autodétermination (Deci & Ryan, 2000) suggèrent que l'argent permet d'acheter du bien-être dans la mesure où il permet, en plus d'acquiescer les nécessités de base pour vivre, la satisfaction des trois besoins psychologiques d'autonomie, de compétence et d'affiliation sociale (e.g., Howell & Howell, 2008). De plus, de récentes études soulignent que les motifs qui sous-tendent le désir de gagner et de dépenser de l'argent peuvent encourager ou nuire à la satisfaction des besoins et, par conséquent, ont un impact sur le bien-être (Srivastava, Locke, & Bartol, 2001; Thibault Landry et al., 2016). Alors que l'article 1 de cette thèse se concentre spécifiquement sur les motifs à vouloir gagner de l'argent, l'article 2 explore les motifs à dépenser de l'argent.

À travers trois études, l'article 1 visait à comprendre les raisons qui motivent les individus à vouloir gagner de l'argent, comment ces motifs affectent le bien-être psychologique et à explorer s'il est possible d'encourager l'adoption de motivations saines pour gagner de l'argent. L'étude 1 reproduit plusieurs résultats clés de cette recherche en se basant sur des analyses factorielles confirmatoires avec un échantillon de 633 personnes. Les résultats démontrent que les individus sont motivés à gagner de l'argent pour dix raisons principales, qui peuvent être classées en trois grandes catégories de motifs, à savoir la Stabilité financière (sécurité et famille), les motifs

Intégrés (valeur marchande, liberté, fierté, loisirs et charité) et les motifs Non-intégrés (comparaison sociale, doute de soi et l'impulsivité). À travers des analyses de modélisation d'équations structurelles (N = 464), l'étude 2 a révélé que vouloir faire de l'argent pour des raisons de Stabilité financière et pour des raisons Intégrées encourage la satisfaction des besoins et le bien-être, tandis que les motifs Non-intégrés mènent à la frustration des besoins et au mal-être. En essayant de comprendre ce qui motive les gens à gagner de l'argent, la grande quantité de recherches révélant les effets négatifs du matérialisme sur la santé ne peut être ignorée (Kasser, 2016). Ainsi, en utilisant des analyses de régression hiérarchique et de modélisation d'équations structurelles, l'étude 2 a également exploré comment le concept de matérialisme est lié aux trois types de motifs et les résultats suggèrent que le matérialisme représente un ensemble de raisons malsaines de désirer de l'argent. Enfin, un objectif secondaire de l'article 1 (étude 3) était de tester l'efficacité d'une intervention visant à aider les individus à développer une relation plus saine avec l'argent. Les résultats de cette étude quasi-expérimentale (N = 41) ont démontré l'efficacité de l'intervention à aider les gens à prendre conscience de leurs propres motifs à faire de l'argent et à éviter une augmentation des motifs malsains. Bien qu'aucun changement significatif des motifs bénéfiques n'ait été observé, les participants du groupe expérimental ont révélé des motifs non-intégrés significativement inférieurs à ceux du groupe témoin, et ce deux semaines après l'intervention.

À travers les deux études de l'article 2, cette thèse apporte également une contribution significative à la documentation sur les dépenses. De nombreuses recherches soutiennent la recommandation selon laquelle dépenser de l'argent pour les autres (plutôt que pour soi-même) et investir dans des expériences (plutôt qu'acheter des biens matériels) procurent plus de bonheur (Aknin, Wiwad & Hanniball, 2018). Néanmoins, un petit nombre d'études suggèrent que les raisons qui motivent les individus à dépenser sont importantes, car elles peuvent également influencer la santé psychologique (e.g., Hill & Howell, 2014). En se basant sur l'analyse factorielle exploratoire d'une nouvelle échelle (Motives for Spending Scale; une version adaptée de l'échelle sur les Motifs à vouloir faire de l'argent de Srivastava et al., 2001), l'étude 1 (N = 312) a identifié un ensemble de motifs pouvant sous-tendre les dépenses. Les résultats suggèrent que les individus dépensent de l'argent afin d'assurer le bien-être de leur famille (Stabilité), d'investir dans des objectifs professionnels actuels et/ou futurs (Développement), aider les autres (Aide), de participer dans des activités de loisir (Loisir), et afin de surmonter un doute de soi (Insécurité personnelle). Des analyses de modélisation d'équations structurelles ont également révélé que, lorsque les individus sont motivés à dépenser de l'argent dans le but d'aider les autres, de profiter d'une activité de loisir et d'investir dans leur développement, cela encourage la satisfaction des besoins psychologiques et conduit à son tour au bien-être. Lorsque l'argent est dépensé dans le but de surmonter un doute de soi, cela mène à la frustration des besoins et, par conséquent, à un plus grand mal-être. L'étude 2 (N = 305) a également exploré la présence relative des motifs de dépenses dans les achats matériels, prosociaux et

expérientiels. Les résultats suggèrent que les achats prosociaux et expérientiels sont plus susceptibles d'être motivés par des raisons qui encouragent la satisfaction des besoins psychologiques (e.g., un désir d'aider les autres et de participer dans des activités de loisir). Cependant, les résultats suggèrent qu'il est également possible de consommer des expériences pour des raisons malsaines (e.g., pour attirer de l'attention) et d'acheter des biens matériels pour des raisons saines (e.g., loisir et développement personnel). Ensemble, les résultats des cinq études de cette thèse suggèrent que le fait de prendre conscience des raisons qui motivent les individus à gagner et à dépenser de l'argent serait la première étape dans le développement d'habitudes de dépenses saines permettant une meilleure santé psychologique et un bonheur accru.

Mots-clés: Argent, Motifs, Dépenses, Théorie de l'Autodétermination, Satisfaction des besoins, Frustration des besoins, Bien-être, Mal-être

SUMMARY

Money is the most significant source of stress in people's lives with serious detrimental effects on physical and psychological health (APA, 2015). One explanation for this financial stress is that people are currently facing alarmingly high levels of debt. In 2018, the total debt load of all Canadian households was over two trillion dollars, an amount that is roughly equivalent to the country's total economic output (Poloz, 2018, Bank of Canada). Experts suggest that with credit that is easier than ever to obtain, people appear to be succumbing to the constant temptation of consumption (Benessaïeh, 2017). There is an urgent need to understand the psychological factors that influence people's decisions when it comes to money and spending. Across a total of five studies, the current thesis sought to understand what motivates people to make and spend money, how these motives impact psychological health and to identify practical ways to help individuals develop a healthier relationship with money from a psychological standpoint.

The two articles encompassed in this thesis fit into the larger body of research on money and psychological well-being. Research based on Self-Determination Theory (SDT; Deci & Ryan, 2000) suggests that money buys well-being to the extent that it is used, in addition to acquiring basic necessities needed for survival, in ways that allow individuals to satisfy their three psychological needs for autonomy, competency and relatedness (Howell & Howell, 2008). Moreover, recent studies have highlighted that the motives underlying people's desire to make and spend money can either encourage or prevent psychological need satisfaction and consequently impact well-being (Srivastava, Locke & Bartol, 2001; Thibault Landry et al., 2016). While Article 1 of

this thesis focused specifically on the motives people have for making money, Article 2 explored people's motives for spending.

Through three studies, Article 1 aimed to understand the motives people have for making money, how these motives affect psychological well-being and to explore whether it is possible to encourage the adoption of healthy motives for making money. Study 1 replicated several key findings by using confirmatory factor analysis of the Motives for Making Money Scale (MMMS; Srivastava et al., 2001) with a sample of 633 individuals. The results provide support for the contention that people are motivated to make money for ten primary reasons, which can be classified into three broad categories of motives depending on whether they encourage or impede psychological growth, namely Financial stability (Security and Family), Self-integrated (Market worth, Freedom, Pride, Leisure, and Charity) and Non-integrated motives (Social comparison, Overcoming Self-doubt and Impulse). Through structural equation modeling analyses (N = 464), Study 2 revealed that making money for Self-integrated and Financial stability reasons encourages need satisfaction and well-being, whereas Non-integrated motives lead to the active thwarting of the psychological needs and, in turn, ill-being. In trying to understand what motivates people to make money, the vast amount of research revealing the negative effects of materialism on health cannot be ignored (Kasser, 2016). Thus, using hierarchical regression and structural equation modeling, Study 2 also explored how the concept of materialism relates to the money motives and the results suggest that materialism may represent a set of unhealthy reasons for desiring money. Finally, a secondary objective of Article 1 (Study 3) was to test the effectiveness of an intervention, which aimed to help individuals develop a psychologically healthier relationship with money. The results of this quasi-experimental study (N = 41) provided preliminary evidence for the effectiveness of the intervention at helping people become aware of their motives for making money and potentially keeping unhealthy motives at bay. Although no significant changes in beneficial motives (Financial stability and Self-integrated) were

witnessed, participants in the experimental group revealed significantly lower Non-integrated motives than the control group two weeks after the intervention.

Through the two studies of Article 2, this thesis also makes significant contributions to the spending literature. Much research supports the recommendation that spending money on others (as opposed to oneself) and investing in experiences (rather than material goods) provide greater happiness (Aknin, Wiwad & Hanniball, 2018). Nevertheless, a very small but growing body of research suggests that the motives people have for making purchases are important as they can also influence psychological health (e.g., Hill & Howell, 2014). Through the use of exploratory factor analysis (N = 312) of the Motives for Spending Scale (an adapted version of the MMMS; Srivastava et al., 2001), Study 1 uncovered a set of motives that may underlie everyday spending choices, namely Stability (to ascertain one's own and one's family's physical well-being), Self-development (to invest in one's current and/or future professional goals), Helping others (to help others in need), Fun (to participate in an enjoyable leisure activity), and Personal insecurity (to overcome feelings of self-doubt by appearing better than others). Using structural equation modeling, the results revealed that when individuals spend money with the intent of helping others, enjoying a leisure activity, and investing in self-development, this encourages the satisfaction of the psychological needs and in turn leads to well-being. When money is spent with the intent of overcoming feelings of insecurity, this leads to the active thwarting of the psychological needs and consequently to greater ill-being. Moreover, Study 2 (N = 305) explored the relative presence of the spending motives across material, prosocial and experiential purchases and revealed that these purchases tend to be made for different reasons. Specifically, prosocial and experiential purchases are more likely motivated by reasons that encourage need satisfaction (i.e., a desire to help others and to participate in enjoyable activities). However, the results suggest that it is also possible to consume experiences for unhealthy reasons (i.e., attract attention to oneself) and to purchase material items for beneficial reasons (i.e., participate in leisure activities and

invest in self-development). Together, the results found across the five studies of this thesis suggest that helping individuals become aware of the reasons that motivate them to make and spend money may be the first step in developing healthier money habits that allow for greater psychological health and happiness.

Keywords : Money motives, Spending, Self-Determination Theory, Need satisfaction, Need frustration, Well-being, Ill-being

INTRODUCTION

Despite the vital role of money in everyday life, the American Psychological Association (APA) warns that stress related to money can be seriously detrimental to psychological health. According to a survey led by the APA, money remains the most significant source of stress in people's lives (APA, 2015). Among the individuals surveyed, seventy-two percent reported feeling stressed about money during the past month and twenty-two percent experienced extreme stress about finances. This financial stress, in turn, has a considerable negative impact on physical and psychological health and also detrimentally affects the quality of romantic relationships (APA, 2015). This finding raises the question, 'why does a tool as essential as money have such dire effects on health and well-being?' One possible explanation is that people are currently facing extremely high levels of personal debt. In 2018, the total debt load of all Canadian households was over two trillion dollars, an amount that is roughly equivalent to the country's entire economic output (Poloz, 2018, Bank of Canada; Wright, 2018). Approximately seventy percent of all households have debt at a level of 170 percent of disposable income. This means that for every dollar earned after taxes, individuals owe \$1.70. For ten percent of Canadian households, debt levels reach a worrying 350 percent of disposable income (Poloz, 2018, Bank of Canada; Wright, 2018). Experts surmise that with credit that is becoming easier than ever to obtain, individuals are succumbing to the constant temptation of consumption (Benessaieh, 2017). These alarmingly high debt levels point to an urgent need to understand the psychological factors that govern people's decisions with respect to money and spending.

The two research articles encompassed in this thesis fit into the larger body of research on money and psychological well-being. To date, the literature suggests that money leads to well-being to the extent that it is used, in addition to fulfilling the basic requirements needed to live (e.g., decent housing and proper nutrition), in ways that allow individuals to satisfy their higher-order psychological needs (Diener & Biswas-Diener, 2002; Diener, Ng, Harter, & Aurora, 2010; Howell & Howell, 2008). Specifically, research based on Self-Determination Theory (SDT) suggests that money leads to substantial gains in well-being if and when it allows people to satisfy their three innate and universal psychological needs for autonomy (having the freedom to live according to one's values), competence (feeling efficacious in overcoming daily challenges), and relatedness (developing meaningful relationships with others; Howell & Hill, 2009). Moreover, a few key studies have highlighted the importance of considering the motives that underlie individuals' desire to make and spend money as these motives have crucial implications for need satisfaction and psychological health (Howell & Hill, 2014; Srivastava et al., 2001; Thibault Landry et al., 2016; Zhang et al., 2013). Across a total of five studies (Articles 1 and 2), the current thesis adds to this literature by delving into the psychological processes that govern people's drive to make money as well as the motives that influence spending. This thesis endeavors to contribute to a more comprehensive understanding of the nuances inherent in the association between money and well-being in order to ultimately encourage individuals to develop a healthier relationship with money from a psychological standpoint.

The current thesis is structured as follows. Chapter I presents a summary of the research literature relevant to the specific objectives of the thesis. First, the research on money and happiness from the perspective of SDT is described followed by a summary of the effects of motives for making money on psychological health as well as a description of intervention studies aimed at encouraging healthier money habits. The research on the motives for spending is then summarized. Chapter I concludes with an overview of the objectives of the two research articles that constitute the current thesis, which are

subsequently presented in Chapters II and III respectively. The thesis concludes with a general discussion in Chapter IV, which summarizes the findings of the five studies and describes the theoretical and practical implications of the current thesis. Limitations and directions for future research are also presented.

CHAPTER I

SUMMARY OF LITERATURE REVIEW

1.1 Money, happiness and Self-Determination Theory

A great amount of scientific effort has been devoted to understanding the association between money and subjective well-being, which typically includes an assessment of both happiness (i.e., emotional well-being) and life satisfaction (Kahneman & Deaton, 2010). While life satisfaction involves a cognitive assessment of a person's life as a whole, happiness refers to the frequency and intensity of positive (e.g., joy, fascination, affection) and negative (e.g., anxiety, sadness, anger) affect (Diener, 2000; Kahneman & Deaton, 2010). Research suggests that while income has strong associations with life satisfaction (Diener et al., 2010; Howell & Howell, 2008; Kahneman & Deaton, 2010), its ability to predict daily happiness is particularly weak (Diener & Biswas-Diener, 2002; Diener et al., 2010; Diener, Kahneman, Arora, Harter & Tov, 2009; Frey & Stutzer, 2000; Howell & Howell, 2008; Kahneman, Krueger, Schkade, Schwarz & Stone, 2006). What is more, income's effect on both life satisfaction - and particularly happiness - satiates once higher income levels are reached (Clingsmith, 2016; Jebb et al., 2018; Kahneman & Deaton, 2010). Finally, research finds that the association between income and well-being is significantly stronger among economically developing samples than among middle and upper class individuals in wealthier countries (Cummins, 2000; Diener & Biswas-Diener, 2002; Howell & Howell, 2008).

Together, the findings suggest that at low-income levels, money leads to substantial gains in well-being because it allows people to extract themselves from poverty and acquire basic life necessities, such as sufficient food, sanitation and shelter (Diener & Biswas-Diener, 2002; Diener et al., 2010; Howell & Howell, 2008; Jebb et al., 2018; Kahneman & Deaton, 2010). For wealthier individuals (who presumably have these needs met), earning additional income does very little to improve happiness (Diener & Biswas-Diener, 2002; Diener & Seligman, 2004). In fact, when it comes to happiness in particular, research finds that the fulfillment of higher-order psychological needs is a much better predictor of daily happiness than money (Arthaud-Day & Near, 2005; Diener et al., 2010; Diener, Oishi, & Lucas, 2003; Lever, Pinol, & Uralde, 2005; Tay & Diener, 2011). Thus, money may buy happiness to the extent that, in addition to securing food and shelter, it is used to help individuals fulfill their psychological needs (Howell & Hill, 2009).

According to Self-Determination Theory (SDT), the fulfillment of the three innate psychological needs for autonomy, competence and relatedness is key for optimal functioning and well-being (Deci & Ryan, 2000; Sheldon, Cheng, & Hilpert, 2011). Autonomy refers to the need to experience a sense of freedom in living according to one's true self and values (Chirkov, Sheldon & Ryan, 2011; Deci & Ryan, 2000), while competence refers to the need to feel efficacious in overcoming daily challenges and achieving one's goals (Deci & Ryan 2000; Hofer & Busch 2011). The need for relatedness is the desire to develop intimate and meaningful relationships with others (Deci & Ryan, 2000; Lavigne, Vallerand, & Crevier-Braud, 2011). Diverse forms of research convincingly show that the fulfillment of these psychological needs plays a central role in predicting well-being, vitality and positive affect as well as in predicting the absence of mental and physical ill health (Deci, 2005; Gagné et al. 2015; Gagné & Tay & Diener, 2011; Ryan & Deci, 2000; Stebbings, Taylor, Spray, & Ntoumanis, 2012; Vansteenkiste Niemiec, & Soenens, 2010). Furthermore, research suggests that negative health outcomes occur when the three needs are not only not satisfied but also

actively thwarted. Different from low need satisfaction, the concept of need frustration reflects instances when individuals' needs are actively and intensely violated. Thus, with respect to autonomy frustration people feel oppressed, while in the case of competence frustration they feel incompetent and worthless and in the case of relatedness frustration they feel actively rejected by others (Bartholomew, Ntoumanis, Cuevas, & Lonsdale, 2011; Bartholomew, Ntoumanis, Ryan, & Bosch, 2011). Compared to the mere absence of satisfaction, need frustration is a better predictor of ill-being, such as depression, negative affect, burnout, disordered eating and physical symptoms (Bartholomew et al., 2011a, 2011b; Gunnell, Crocker, Wilson, Mack, & Zumbo, 2013; Vansteenkiste and Ryan 2013). For instance, an individual may not feel much closeness with friends, and thus feel less happy. But if the person feels actively rejected by friends, he/she may experience depression or anxiety.

An important premise of SDT is that people engage in certain behaviours for different reasons that fall along a continuum ranging from intrinsically or autonomously motivated (e.g., engaging in behaviours because they are enjoyable or interesting and/or because they are believed to be important) to extrinsically motivated or controlled (e.g., engaging in behaviours to receive external rewards and/or to avoid punishment and feelings of guilt; Ryan & Deci, 2000). SDT posits that behaviours that are autonomously motivated are more likely to lead to well-being because they encourage psychological need satisfaction, whereas behaviours that are pursued for controlled reasons lead to ill-being because they actively thwart psychological need satisfaction (Deci & Ryan, 2000; Niemec, Ryan, & Deci, 2008). In order to gain a clearer understanding of the postulates of SDT, as well as the notions advanced in this thesis, it is useful to clarify some overlapping but distinct constructs. In the psychological literature, the concepts of values, goals, aspirations and motives are sometimes used interchangeably and are considered to overlap conceptually (Hogan & Hogan, 1996). Nevertheless, the concepts of 'values', 'goals' and 'aspirations' are often considered as broader level concepts that refer to people's overall life objectives.

In other words, terms such as values/aspirations/goals refer to ‘what’ people believe to be important in life and what they choose to pursue. Concepts such as ‘motivation’ and ‘motives’, on the other hand, are narrower terms that are used to refer to the ‘why’ or the reasons people choose to pursue certain aspirations and specific behaviours (Carver & Baird, 1998; Hogan & Hogan, 1996).

With respect to SDT, some types of goals (overarching life objectives or aspirations) and behaviours, such as becoming involved in one’s community and developing relationships with others were traditionally viewed as being inherently intrinsically motivated. On the other hand, goals such as seeking fame and social status as well as pursuing money were commonly considered as being extrinsically motivated and thus detrimental to long term well-being (Kasser & Ryan, 1993). Over the years, authors have contested the notion that the pursuit of financial success is always detrimental to well-being by showing that pursuing money is a goal or behaviour that can be intrinsically and/or extrinsically motivated (Carver & Baird, 1998). Thus, aspiring to make money is a general life goal that people may choose to pursue. However, people can pursue this goal for very different reasons, or motives. In fact, research has revealed that the reasons that motivate individuals to want money are more predictive of well-being than money per se because they can either encourage or prevent psychological need satisfaction and need frustration (Carver & Baird, 1998; Srivastava et al., 2001; Thibault Landry et al., 2016).

1.2 Motivations for making money

Carver and Baird (1998) were among the first to reveal that the motives underlying people’s desire to make money have crucial implications for well-being. Specifically, their study revealed that desiring wealth for intrinsic reasons/motives such as personal fun and satisfaction led to greater well-being, while pursuing money for extrinsic reasons (such as social pressure and status) led to decreased well-being. Inspired by the

results of Carver and Baird (1998), Srivastava et al. (2001) developed the Motives for Making Money Scale (MMMS) to determine whether there was a broader set of motives for making money. Using factor analytic techniques, the authors found that individuals are motivated to make money for ten main reasons, namely to support one's family (Family support), to ensure basic life requirements such as housing and food (Security), to earn a fair compensation for one's work and effort (Market worth), to donate money and time to those in need (Charity), to participate in enjoyable activities and hobbies (Leisure), to have the ability to live one's life independently (Freedom), to experience a sense of pride for life accomplishments (Pride), to attract the attention of others (Social comparison), to appease feelings of personal insecurity (Overcoming self-doubt) as well as to spend impulsively (Impulse). Through subsequent analyses, the authors suggested that the ten motives could be categorized into three broader motive categories, namely Positive (Security, Family support, Market worth and Pride), Negative (Social comparison and Overcoming self-doubt) and Freedom of action (Leisure, Freedom, Impulse and Charity) motives. Their study also revealed that the Negative money motives were associated with lower levels of subjective well-being while Positive motives and Freedom of action motives were unrelated to well-being.

Since Srivastava et al.'s (2001) study, the handful of studies that have used the complete version of the MMMS have not been able to replicate the originally proposed factor structure of the scale (Lim and Sng 2006; Robak, Chiffrieller, & Zappone, 2007; Thibault Landry et al., 2016) or have used a restricted set of items (Gardarsdóttir, Dittmar, & Aspinall, 2009). Recently, a study by Thibault Landry et al. (2016) attempted to replicate the factor structure of the MMMS and to delineate more precisely the processes through which money motives affect well-being. The results of their study suggested that the ten motives are more suitably represented by three broad categories that differed from Srivastava et al.'s (2001) classification. The motives of Charity, Leisure, Freedom, Pride, and Market worth were conceptualized as 'Self-integrated motives' as they represent individuals' desire to behave in line with their

values and allow optimal social, emotional and physical development (Sheldon & Elliot, 1999). The motives of Social comparison, Overcoming self-doubt and Impulse represent 'Non-integrated motives' because they impede healthy personal development. Moreover, Family support and Security motives were labeled 'Financial stability' motives as they represent individuals' desire to support themselves and loved ones, especially during precarious financial times. In a subsequent study, the authors found that individuals endorsing Self-integrated motives were more likely to experience need satisfaction and in turn greater well-being (as well as lower ill-being). On the other hand, Non-integrated motives positively predicted need frustration (and negatively predicted need satisfaction), which in turn led to greater ill-being (and lower well-being). In this study, Stability motives were unrelated to need satisfaction or need frustration. Although Thibault Landry et al.'s (2016) study is important as it implicates the role of need satisfaction and frustration in the relationship between money motives and happiness, their sample was limited to individuals with a professional background in human resources, which may present issues with respect to the generalizability of the results. The authors advised future researchers to replicate their findings using a more diverse sample. In line with this recommendation, an objective of the current thesis (Article 1) is to replicate the factor structure of the MMMS and its associations with psychological health.

1.2.1 Materialism and motivations for making money

Any empirical investigation into the reasons that motivate people to make money must consider the vast literature on materialism, which is generally defined as a value or goal that reflects the extent to which an individual ascribes importance to the acquisition of money and possessions relative to other life goals, particularly as a way to obtain social approval and recognition (Diener and Seligman, 2004; Kasser & Ryan, 1993, 1996; Richins & Dawson, 1992). Research compellingly reveals that highly materialistic individuals experience lower levels of happiness, vitality, life satisfaction, mental

health and physical health (Diener & Seligman, 2004; Dittmar, Hurst, Bond, & Kasser, 2014; Kasser, 2002; Unanue, Dittmar, Vignoles, & Vansteenkiste, 2014). Materialism has also been linked with an increased incidence of anxiety, depression, unpleasant emotions, as well as low self-esteem (Diener & Seligman, 2004; Dittmar et al., 2014; Kasser, 2002). From a societal standpoint, materialism correlates positively with racial prejudice (Duriez, Vansteenkiste, Soenens, & De Witte, 2007) and is negatively associated with pro - environmental attitudes and behaviors (Hurst, Dittmar, Bond, & Kasser, 2013; Moldes & Ku, 2020). It comes as no surprise that individuals high in materialism are less likely to fulfill their psychological needs and this, in turn, explains their lower well-being levels (Chen, Yao, & Yan, 2014; Dittmar et al., 2014; Kasser, 2014; Nagpaul & Pang, 2017; Tsang, Carpenter, Roberts, Frisch, & Carlisle, 2014; Wang, Liu, Jiang, & Song, 2017). Recently, need frustration has also been found to be a complete mediator of the relationship between materialism and indices of ill and well-being (Unanue et al., 2014; Unanue, Rempel, Gomez, & Van den Broeck, 2017).

Despite the conceptual overlap, the money motives and materialism research has evolved relatively independently. One exception is Srivastava et al. (2001), which in addition to developing the MMMS, explored materialism's associations with the different motives for making money. The results indicated that when Negative money motives (Social comparison and Overcoming self-doubt) were controlled for, materialism's negative effect on well-being disappeared. Srivastava et al. (2001) assert that desiring money to overcome personal insecurities and to attract attention from others actually drive materialism's effects on well-being, and that the concept of materialism is oversimplified. In their study, however, materialism was assessed using a measure of 'money importance', which refers to the degree to which a person assigns importance to money in comparison to other life goals. This is an important limitation as the concept of materialism also incorporates the notion of using money to attain social recognition. Given materialism's harmful repercussions for individuals and society, scholars urge for studies to further explore the concept of materialism and how

it relates to other psychological factors (Gardarsdottir et al., 2008; Karabati & Cemalcilar, 2010; Kasser, 2016). Moreover, Thibault Landry et al. (2016) found a different factor structure for the MMMS. Thus it is useful to explore how materialism relates to the Self-integrated, Financial stability and Non-integrated motives for making money. When someone is labeled as materialistic, it follows that they consider the pursuit of money as important because it can be used as a way to obtain social approval. However, if a broader approach is taken, the goal of acquiring money can be pursued for a variety of reasons or motives. Thus, an additional objective of the current thesis (Atricle 1) is to explore how materialism relates to the money motives and to test the hypothesis that materialism's effect on well-being is explained by the Non-integrated motives for making money. This will be accomplished while addressing a limitation of Srivastava et al.'s (2001) study by assessing materialism directly using a widely used materialism scale (Material Values Scale; Richins & Dawson, 1992).

In addition to exploring what motivates people to make money (i.e., money motives and materialism), a secondary objective of this thesis is to determine whether it is possible to encourage the adoption of healthy motives for making money to help people develop psychologically healthier relationship with money. This will be accomplished by developing and testing an intervention that targets money motives.

1.3 Previous money interventions

To date, the majority of intervention studies focus on reducing materialism (Kasser, 2016). For instance, Kasser et al. (2014) provided longitudinal evidence of the effectiveness of an established three-session financial education program (compared to a no-treatment control group) in reducing materialism. In a similar vein, interventions that help people focus on values, such as community contribution and helping others, help them shift away from materialism (Lekes, Hope, Gouveia, Koestner & Philippe, 2012). Finally, research points to the fact that simply reflecting on one's materialistic

tendencies helps people shift away from materialism (Sheldon, Arndt & Houser-Marko, 2003). Given materialism's many adverse effects on well-being, authors have suggested that interventions and policies aimed at reducing the endorsement of materialistic values are timely (Dittmar et al., 2014; Kasser, 2016).

In line with the research presented above, materialism may actually represent a set of unhealthy motives for desiring money. Hence, when money is used to avoid feelings of personal insecurity (Overcoming self-doubt), to develop an image/status that others will envy (Social comparison) as well as to spend money impulsively (Impulse), this likely actively thwarts psychological needs and leads to greater mental ill-health. Encouraging the adoption of healthier reasons for desiring money (Financial stability and Self-integrated motives) may countermand these negative effects. For instance, desiring money for reasons such as to help others, participate in leisure activities, invest in one's future and to feel accomplished in life, are more likely to encourage psychological need satisfaction, increase happiness and potentially reduce the desire for impulsive spending (Thibault Landry et al., 2016). Thus, a secondary aim of this thesis is to test an intervention (Article 1; Study 3) designed to help individuals become aware of their own motives for making money, encourage the pursuit of money for beneficial (rather than detrimental) reasons as well as promote healthier spending habits (e.g. saving, spending money on others and on experiences).

1.4 Spending motives and psychological health

In addition to exploring the reasons why people make money, a separate but related research literature reveals that spending decisions also have important effects on well-being (Aknin et al., 2018). Quite a number of studies find support for the recommendation that spending money on others (as opposed to oneself) and investing in experiences (rather than material things) provide greater well-being (Aknin, Whillans, Norton & Dunn, 2019; Gilovich & Gallo, 2019). A substantial number of

studies using a wide range of designs (correlational, experimental, and cross-cultural) find that spending money on others (e.g., gifts, donations to charity, etc.), typically called prosocial spending, has positive consequences on well-being (Aknin, Barrinton-Leigh et al., 2013; Aknin, Dunn & Norton, 2012; Aknin, Hamlin & Dunn, 2012; Aknin, Whillans, Norton & Dunn, 2019; Dunn, Aknin & Norton, 2008) and is associated with better physical health (Dunn, Ashton-James, Hanson & Aknin, 2010; Whillans, Dunn, Sandstrom, Dickerson, & Madden, 2016). In addition to prosocial spending, a large body of research suggests that experiential purchases (i.e., an event or series of events that people live through, such as going on a trip) provide more enduring happiness compared to material purchases (tangible objects that are kept in one's possession; Caprariello & Reis, 2013; Carter & Gilovich, 2010, 2012; Chan & Mogilner, 2017; Howell & Hill, 2009; Kumar, Killingsworth & Gilovich, 2014; Millar & Thomas, 2009; Nicolao, Irwin & Goodman, 2009; Rosenzweig & Gilovich, 2012; Thomas & Millar, 2013; Van Boven, 2005; Van Boven & Gilovich, 2003).

Despite the known benefits of prosocial and experiential spending, researchers now emphasize the importance of considering that people may be motivated to make such purchases for different reasons, which can influence the level of well-being experienced (Burroughs et al., 2013). For instance, Harbaugh, Mayr and Burghart (2007) provided neural evidence that people can be motivated to give to charity for different reasons (i.e., giving to charity to gain satisfaction from the act of helping others and/or for the sense of agency that giving provides) and that each activate the sections of the brain associated with processing rewards. Similarly, Wiwad and Aknin (2017) revealed that people who reflected on a previous prosocial purchase they had made in which they were motivated to help someone else experienced greater happiness than those who thought about a prosocial purchase in which their primary intention was to help themselves gain some benefit. These studies highlight that it might not be sufficient to simply consider the types of purchases that people make, but also what motivates them to do so, as this may have an impact on well-being.

A small number of studies have gone a step further in suggesting that the different motives that people have for making purchases are linked to psychological health through their effect on psychological need satisfaction. For instance, a study by Hill and Howell (2014) found that prosocial spending led to happiness only for individuals who endorsed a concern for others when making the purchase and that psychological need satisfaction mediated this association. Thus, they argue that prosocial purchases provide need satisfaction only when individuals have a desire to help others. Similarly, Zhang et al. (2013) found evidence that individuals who spend money on experiences for intrinsic/autonomous reasons (i.e., purchasing experiences because they align with one's core values and because they provide genuine interest) experienced significantly greater need satisfaction compared to those who spend money on experiences for extrinsic/controlled reasons (i.e., purchasing experiences in order to receive external approval or recognition from others). Thus, the authors argue that it is possible for people to purchase life experiences for extrinsic reasons and that the benefits of experiential purchases depend on the reasons why people buy them. These studies highlight the importance of considering spending motives, as these may be more important for well-being than the actual purchase itself (Gilovich & Gallo, 2019). More research is needed to reach a more comprehensive understanding of the motives that underlie everyday spending choices and how these affect psychological health. As elucidated by Gilovich and Gallo (2019), "The consumer's motives matter".

In order to extend the literature on the motives for spending, Article 2 (Study 1) aims to uncover whether a broader set of motives underlie everyday purchases and determine if these spending motives influence well-being through psychological need satisfaction and frustration. This will be accomplished by using the Motives for Spending Scale (MSS), which was adapted from the Motivations for Making Money Scale (Srivastava et al., 2001). As previously described, Srivastava et al. (2001) revealed that people are motivated to make money for ten main reasons. Given that individuals make money in order to eventually spend it, it is likely that these ten motives may also represent the

motives people have when they spend money. A secondary objective of Article 2 (Study 2) is to explore whether people endorse different motives when making prosocial, experiential and material purchases. As previously described, a vast amount of research has been devoted to exploring the types of purchases that provide the greatest amount of well-being (Aknin et al., 2019). Many studies support the recommendation that spending money on others, as opposed to on oneself and on experiences (rather than material things) have greater positive effects on well-being (Aknin et al., 2019; Gilovich & Gallo, 2019). Nevertheless, a few studies have highlighted the importance of considering that people can make these purchases for different reasons and this can influence the level of well-being provided by the purchase (e.g. Zhang et al., 2013). For instance, going on a trip to Italy to learn more about the culture certainly presents an opportunity for personal growth and enrichment, but such a trip is likely to be very expensive and not accessible to everyone. Thus, even an experience may be undertaken for reasons such as boasting to friends about the expensive vacations one can afford (Zhang et al., 2013). Similarly, donating to charity for reasons such as gaining prestige and social status is unlikely to provide enduring psychological benefits (Wiwad & Aknin, 2017). In answer to researchers' call to explore individuals' motives when making specific purchases (Howell & Hill, 2009), Study 2 explores the relative presence of the spending motives (identified in Study 1) across material, experiential and prosocial purchases. This analysis may provide additional insight into the pathways through which specific purchases provide happiness (or not).

1.5 Overview of Chapter II

Chapter II presents the first article of this thesis, which encompasses three studies. As previously described, Thibault Landry et al. (2016) found that the motives for making money are more suitably represented by three categories of motives (Self-integrated, Financial stability, and Non-integrated motives) depending on whether they encourage

or impede psychological growth. Given that only a handful of studies have attempted to replicate the factor structure of the MMMS, Thibault Landry et al. (2016) urge researchers to replicate their classification of the money motives and their concomitant links with psychological health outcomes. Hence, Study 1 uses a sample of 633 individuals to replicate the factor structure of the MMMS through confirmatory factor analysis, while Study 2 (N = 464) tests the effects of the money motives on psychological health using structural equation modeling (SEM). In line with Srivastava et al.'s (2001) contention that materialism's effects on well-being are accounted for by unhealthy reasons for desiring money, a secondary aim of Study 2 is to explore materialism's associations with the money motives. Finally, Study 3 uses a quasi-experimental design (N = 41) to test an intervention designed to help individuals become aware of their motivations for making money, encourage the endorsement of beneficial motives and promote healthier spending habits.

1.6 Overview of Chapter III

Chapter III presents the second article of this thesis, which encompasses two studies. The spending literature highlights the importance of considering the reasons that motivate individuals to spend money (Burroughs et al., 2013). Considering that only a very small number of studies have investigated such motives (e.g., Zhang et al., 2013), Study 1 (N = 312) uses the Motives for Spending Scale (an adapted version of the MMMS; Srivastava et al., 2001) to uncover whether a broader set of motives underlie every day purchases. Using structural equation modeling, Study 1 also explores how these motives influence psychological health through need satisfaction and frustration. By investigating the role of need frustration, this study addresses a major limitation of previous research as no study to date has examined whether spending motives can lead to the active thwarting of the psychological needs and consequently bring about greater ill-being. Moreover, Study 2 (N = 305) inspects the relative presence of the spending motives across three specific categories of purchases (i.e., material, experiential and

prosocial purchases) in order to gain additional insight into when and why these specific purchases provide happiness.

CHAPTER II

ARTICLE 1

Using Self-Determination Theory to understand when and how money buys
happiness: A cross-sectional and intervention study

2.1 Abstract

The objectives of this article were twofold: (1) understand what motivates people to make money and how this impacts psychological health and (2) explore whether it is possible to encourage the adoption of healthy reasons for making money. Research based on Self-Determination Theory (SDT) suggests that money buys happiness to the extent that it is used in ways that encourage the fulfillment of the three basic psychological needs (autonomy, competence, and relatedness). Using confirmatory factor analysis with a sample of 633 individuals, Study 1 replicated previous findings that support the idea that there are three broad categories of reasons for desiring money (assessed using the Motives for Making Money Scale; MMMS), namely Financial stability, Self-integrated and Non-integrated motives. The impact of these motives on psychological health was tested in Study 2 (N = 464) in which analyses suggest that when individuals desire money for Financial stability (Security and Family) and Self-integrated (Market worth, Pride, Charity, Leisure, Freedom) reasons, this encourages psychological need satisfaction and in turn leads to well-being. When money is pursued for Non-integrated reasons (Social comparison, Overcoming self-doubt, and Impulse), this leads to the active thwarting of the psychological needs and in turn greater ill-being. Using hierarchical regression and structural equation modeling, Study 2 also explored how the concept of materialism relates to the money motives and suggests that materialism may represent a set of unhealthy reasons for desiring money. Finally, Study 3 (N = 41) provided preliminary evidence for the effectiveness of an intervention aimed at helping individuals become aware of their own motivations for making money and thereby reducing the adoption of unhealthy money motives.

Keywords: Money, Motives, Self-Determination Theory, Need satisfaction, Need frustration, Materialism, Intervention

2.2 Introduction

Does money buy happiness? That is a question which different disciplines (e.g., economics, psychology, sociology) have tried to answer. Research is converging on the finding that money increases well-being to the extent that it allows individuals to extract themselves from poverty and acquire basic necessities, such as decent housing and food (Diener & Biswas-Diener, 2002; Diener, Ng, Harter, & Arora, 2010; Howell & Howell, 2008). Once these needs are met, additional increases in income have a negligible impact on well-being (Howell & Howell, 2008; Jebb, Tay, Diener, & Oishi, 2018). Research based on Self-Determination Theory (SDT; Deci & Ryan, 2000), however, suggests that if money is used to fulfill the three innate psychological needs for autonomy, competence and relatedness, money can potentially lead to greater happiness (Carver & Baird, 1998; Thibault Landry et al., 2016). In developing the Motivations for Making Money Scale, Srivastava, Locke and Bartol (2001) revealed that people are motivated to make money for ten main reasons and that these motives have important implications for well-being. Recently, Thibault Landry et al. (2016) found that the motives for making money are more suitably represented by three categories of motives (Self-integrated, Financial stability, and Non-integrated motives) depending on whether they encourage or impede psychological growth. Making money for Self-integrated reasons (e.g., giving to charity, enjoying leisure activities, etc.) encourages need satisfaction and well-being, whereas Non-integrated motives (e.g. spending impulsively and boasting to others) lead to the active thwarting of the psychological needs and, in turn, ill-being. Given that only a handful of studies have attempted to replicate the factor structure of the MMMS, Thibault Landry et al. (2016) urge researchers to replicate their classification of the money motives and their concomitant links with psychological health outcomes, particularly with a more diverse sample of participants.

In trying to understand what motivates people to make money, the vast amount of research on materialism cannot be ignored. Materialism has been conceptualized as the extent to which an individual ascribes importance to acquiring money and possessions relative to other life goals, particularly as a way to obtain external approval from others (Kasser, 2016). Despite the conceptual overlap, the research on money motives and materialism have evolved relatively independently. One exception is the study by Srivastava et al. (2001), which asserted that materialism's effects on well-being are accounted for by unhealthy motivations for desiring money. Scholars strongly encourage researchers to continue exploring how materialism relates to other psychological factors (Garðarsdóttir, Jankovic, & Dittmar, 2008; Karabati & Cemalcilar, 2010).

In line with the research presented above, the primary aim of this article is to develop a more thorough understanding of the reasons that motivate people to make money (by considering the research on money motives and materialism) and the effect these have on psychological health. To achieve this objective, a first study (Study 1) aims to replicate the factor structure of the MMMS found by Thibault Landry et al. (2016), while Study 2 tests the effects of the money motives on psychological health through the mediating role of need satisfaction and frustration. Moreover, Study 2 also explores materialism's associations with money motives, while addressing an important limitation of Srivastava et al.'s (2001) study. In their study, Srivastava et al. (2001) measured materialism through a measure of 'money importance' (the extent to which a person assigns importance to money in comparison to other life goals). Given that the definition of materialism also incorporates the tendency to use money to attain external social approval, this study will assess materialism directly using a widely used materialism scale (Material Values Scale; Richins & Dawson, 1992). Finally, a secondary objective of this article is to determine whether there is a way to help people become aware of their own reasons for desiring money and to encourage healthier motives for making money. To do so, Study 3 represents a first attempt at testing an

intervention designed to encourage individuals to become aware of what motivates them to make money and to help shift them away from unhealthy reasons for wanting money and towards motives that are more beneficial for their psychological health.

2.3 Literature review and hypotheses

2.3.1 Money and happiness

The literature on the association between money and happiness is vast and seemingly inconclusive (Kahneman & Deaton, 2010), with some studies finding a positive relationship between money and well-being (e.g., Blanchflower & Oswald, 2011; Diener, Tay, & Oishi, 2013; Sacks, Stevenson, & Wolfers, 2012; Stevenson & Wolfers, 2013) and others finding that income only weakly predicts daily happiness levels (e.g., Diener & Biswas-Diener, 2002; Diener et al., 2010; Diener, Kahneman, Arora, Harter, & Tov, 2009). Nonetheless, some general conclusions emerge that provide some insight into if and when money can procure happiness.

First, it appears that the intensity of income's effect on well-being depends on how well-being is measured. Subjective well-being typically involves an assessment of both an emotional and a cognitive component. Happiness refers to the frequency and intensity of experiences of positive (joy, fascination, affection) and negative (anxiety, sadness, anger) affect in daily life, whereas life satisfaction involves a more cognitive and enduring assessment of life as a whole (Diener, 2000; Kahneman & Deaton, 2010). Though many studies find that income has strong associations with life satisfaction (Diener, et al., 2010; Howell & Howell, 2008; Kahneman & Deaton, 2010), it is a much weaker predictor of daily happiness levels (Diener et al., 2010; Diener, et al., 2009; Kahneman, Krueger, Schkade, Schwarz & Stone, 2006). Some authors have gone a step further in suggesting that not only does income have little bearing on happiness, but also that it is only effective at decreasing negative emotions, such as sadness

(Kushlev, Dunn, & Lucas, 2015). What is more, income's effect on both life satisfaction - and particularly happiness - satiates once higher income levels are reached (Clingsmith, 2016; Jebb et al., 2018; Kahneman & Deaton, 2010). Jebb and colleagues (2018) gathered data from over 1.7 million people from 164 countries and revealed that income no longer increases life satisfaction after \$95 000 (these amounts are yearly household equivalized income in US dollars). Moreover, there are no appreciable increases in positive emotions above \$60 000 and negative emotions cease to decrease at approximately \$75 000. Finally, research finds that the association between income and well-being is significantly stronger among economically developing samples than among middle and upper class individuals in wealthier countries (Cummins, 2000; Diener & Biswas-Diener, 2002; Howell & Howell, 2008).

Most scholars agree that these findings point to the conclusion that money has the potential of buying well-being to the extent that it allows individuals to extract themselves from poverty and acquire basic life necessities, such as sufficient food, sanitation and shelter (Diener & Biswas-Diener, 2002; Diener et al., 2010; Howell & Howell, 2008; Jebb et al., 2018; Kahneman & Deaton, 2010). At low-income levels, additional wealth leads to substantial gains in well-being, but for wealthier individuals (who presumably have these needs met) earning additional income does little to improve happiness (Diener & Biswas-Diener, 2002). When it comes to happiness in particular, research suggests that the fulfillment of psychological needs is a better predictor of daily happiness than money (Arthaud-Day & Near, 2005; Diener et al., 2010; Diener, Oishi, & Lucas, 2003; Lever, Pinol, & Uralde, 2005; Tay & Diener, 2011). For instance, based on a sample of over forty thousand individuals across 123 countries, Tay and Diener (2011) found that the fulfillment of physiological needs (such as food and shelter) were more strongly related to life evaluation, whereas satisfaction of psychological needs were the strongest predictors of happiness. Psychological need satisfaction has been shown to be a strong predictor of happiness over and above the effect of environmental or financial safety needs (Chen, Van Assche,

Vansteenkiste, Soenens & Beyers, 2014), which stands in stark contrast to the outdated postulates of Maslow's hierarchical needs model (Maslow, 1943). Taken together, the findings suggest that income may buy happiness to the extent that, in addition to securing food and shelter, it is used to help individuals fulfill their psychological needs.

2.3.2 Self-determination theory and psychological need satisfaction

Self-determination theory (SDT) posits that for individuals to experience optimal functioning and well-being, their three innate and universal needs for autonomy, competence and relatedness must be satisfied (Deci & Ryan, 2000; Sheldon, Cheng, & Hilpert, 2011). Autonomy refers to the need to choose one's own life direction and to experience a sense of freedom in living according to one's true self and values (Chirkov, Sheldon, & Ryan, 2011; Deci & Ryan, 2000). Competence refers to the need to feel efficacious in carrying out daily activities and to use one's skills to overcome challenges and achieve one's goals (Deci and Ryan 2000; Hofer & Busch 2011). The need for relatedness is the desire to develop intimate and meaningful relationships with others and to feel a sense of belonging (Deci & Ryan, 2000; Lavigne, Vallerand, & Crevier-Braud, 2011). Diverse forms of research convincingly shows that the fulfillment of these psychological needs plays a central role in predicting well-being, vitality and positive affect as well as in predicting the absence of mental and physical ill health (Gagné et al. 2015; Gagné & Deci, 2005; Tay & Diener, 2011; Ryan & Deci, 2000; Stebbings, Taylor, Spray, & Ntoumanis, 2012; Vansteenkiste Niemiec, & Soenens, 2010). Furthermore, research suggests that negative health outcomes occur when the three needs are not only not satisfied but actively thwarted. Different from low need satisfaction or mere need insatisfaction, the concept of need frustration reflects instances when individuals experience actual feelings of rejection, incompetence and/or oppression (Bartholomew, Ntoumanis, Cuevas, & Lonsdale, 2014; Bartholomew, Ntoumanis, Ryan, Bosch & Thøgersen-Ntoumani, 2011a; Bartholomew, Ntoumanis, Ryan & Thøgersen-Ntoumani, 2011b). Compared to the

mere absence of satisfaction, need frustration is a better predictor of ill-being, such as depression, negative affect, burnout, disordered eating and physical symptoms (Bartholomew et al., 2011a, 2011b; Gunnell, Crocker, Wilson, Mack, & Zumbo, 2013; Vansteenkiste and Ryan 2013).

An important premise of SDT is that people engage in certain activities or behaviours for different reasons (Ryan & Deci 2000). These reasons fall along a continuum ranging from intrinsically or autonomously motivated (e.g., engaging in behaviours because they are enjoyable or interesting and/or because they are believed to be important) to behaviours that are extrinsically motivated or controlled (e.g., engaging in behaviours to receive rewards and/or to avoid punishment and feelings of guilt). SDT posits that behaviours that are autonomously motivated are more likely to lead to well-being because they encourage psychological need satisfaction, whereas behaviours that are pursued for controlled reasons lead to ill-being because they actively thwart psychological need satisfaction (Deci & Ryan, 2000; Niemec, Ryan, & Deci, 2008). Traditionally, some types of goals and behaviours, such as becoming involved in one's community and developing relationships with others were viewed as inherently intrinsically motivated. On the other hand, goals such as seeking fame and social status as well as pursuing money were commonly considered as being extrinsically motivated and thus detrimental to long term well-being (Kasser & Ryan, 1993). Over the years, authors have contested the notion that the pursuit of financial success is always detrimental to well-being by showing that money is actually a means through which people can pursue goals that can be intrinsically and/or extrinsically motivated (Carver & Baird, 1998). In the psychological literature, the concepts of 'values', 'goals' and 'aspirations' are often considered as broader level concepts that describe people's overall life objectives (Hogan & Hogan, 1996). In other words, these concepts refer to 'what' people believe to be important in life and what they choose to pursue. Concepts such as motivation and motives, on the other hand, refer to the 'why' or the reasons why people choose to pursue certain goals and aspirations (Carver & Baird, 1998;

Hogan & Hogan, 1996). Thus, aspiring to make money can be considered as a general life goal that people may choose to pursue. However, people can pursue this goal for very different reasons, or motives. In fact, research has revealed that the reasons that motivate individuals to want money are more predictive of well-being than money per se (Carver & Baird, 1998; Srivastava et al., 2001; Thibault Landry et al., 2016).

2.3.3 Motivations for making money

The study by Carver and Baird (1998) was one of the first to successfully demonstrate that the motives underlying people's aspirations for money have crucial implications for well-being. In their study, the term 'aspirations' refer to general life goals that people pursue and the term 'motives' is used to reflect the reasons people choose to pursue these goals. Based on a sample of 246 university students, the results of their study indicated that individuals placing greater importance on attaining wealth experienced less self-actualization (a measure of well-being emphasizing personal fulfillment) than those endorsing communal aspirations (e.g., helping others and passing knowledge onto the next generation). Most importantly, however, aspirations for wealth led to greater well-being when individuals desired money for intrinsic reasons/motives such as personal fun and satisfaction (e.g., "because it would be satisfying to have a job that pays well"). Conversely, the endorsement of financial aspirations was negatively related to well-being when individuals desired money for external reasons/motives such as social pressure and status (e.g., "because people will respect me if I'm financially successful"). Carver and Baird's (1998) study inspired a few researchers to explore the different reasons people have for wanting money and their effects on well-being.

In 2001, Srivastava et al. developed the Motives for Making Money Scale (MMMS) to determine whether there was a broader set of motives for making money. The authors reviewed existing money scales and generated a list of seventeen motives, for which they developed three items per motive. They then submitted the 51-item survey to a

sample of 240 business students. Through exploratory factor analysis (EFA), thirty items were retained and regrouped into ten meaningful factors representing individuals' primary motives for making money. The authors found that individuals are motivated to make money primarily for the following ten reasons: to support one's family (Family support), to ensure basic life requirements such as housing and food (Security), to earn a fair compensation for one's work and effort (Market worth), to donate money and time to those in need (Charity), to participate in enjoyable activities and hobbies (Leisure), to have the ability to live one's life independently (Freedom), to experience a sense of pride for life accomplishments (Pride), to attract the attention of others (Social comparison), to appease feelings of personal insecurity (Overcoming self-doubt) as well as to spend impulsively (Impulse). Through second-order factor analysis, the authors suggested that the ten motives could be categorized into three broader motive categories. The motives of Security, Family support, Market worth and Pride were labeled as positive motives as they reflect individuals' life achievements and competency in meeting life necessities. Negative motives included Social comparison and Overcoming self-doubt as they reflect an individual's desire to feel superior over others. Finally, the motives of Leisure, Freedom, Impulse and Charity were identified as freedom of action motives as they reflect the ability to spend money as one pleases. In a final study using a sample of 266 business students, the authors showed that the negative money motives were associated with lower levels of subjective well-being while positive motives and freedom of action motives were unrelated to well-being.

Since Srivastava et al. (2001), the handful of studies that have used the complete version of the MMMS have not been able to replicate the originally proposed factor structure of the scale (Lim & Sng 2006; Robak, Chiffreller, & Zappone, 2007; Thibault Landry et al., 2016) or have used a restricted set of items (Gardarsdóttir, Dittmar, & Aspinall, 2009). For instance, Burke (2014) found a two second-order factor structure underlying the MMMS with positive motives (i.e., Security, Family support, Market

worth, and Pride) and negative motives (Social comparison, Overcoming self-doubt, Impulse, Leisure, and Freedom). Recently, a study by Thibault Landry and colleagues (2016) attempted to replicate the factor structure of the MMMS and to delineate more precisely the processes through which money motives affect well-being. Using a sample of 538 employees in the United States, confirmatory factor analysis (CFA) revealed that the ten motives are more suitably represented by three broad categories that differed from Srivastava et al.'s (2001) classification. The motives of Charity, Leisure, Freedom, Pride, and Market worth were conceptualized as 'Self-integrated motives' as they represent individuals' desire to behave in line with their values and allow optimal social, emotional and physical development (Sheldon & Elliot, 1999). The motives of Social comparison, Overcoming self-doubt and Impulse represent 'Non-integrated motives' because they impede healthy personal development. Moreover, Family support and Security motives were labeled 'Financial stability' motives as they represent individuals' desire to support themselves and loved ones, especially during precarious financial times. In a second study with 748 employees, the authors found that need satisfaction and need frustration fully mediated the relationships between money motives and psychological health. Specifically, individuals endorsing Self-integrated motives were more likely to experience need satisfaction and in turn greater well-being (as well as lower ill-being). On the other hand, Non-integrated motives positively predicted need frustration (and negatively predicted need satisfaction), which in turn led to greater ill-being (and lower well-being). In this study, Stability motives were unrelated to need satisfaction or need frustration.

In line with SDT, the authors argued that the pursuit of Self-integrated motives encourages the satisfaction of the needs for competence, autonomy and relatedness. For instance, individuals motivated to make money to pursue leisure activities may experience feelings of autonomy in that they have the freedom to pursue activities they enjoy, while also increasing their feelings of personal competence as they become

better at performing the activity. If their activity is enjoyed with others, the need for relatedness is also likely to be fulfilled. Moreover, wanting money to help others may encourage the development of meaningful relationships with others (relatedness) and feelings of competence in having a positive impact in others' lives. The pursuit of Non-integrated motives (Social comparison, Impulse, and Overcoming self-doubt), on the other hand, are likely to thwart psychological needs. For instance, making money to attract attention and boast (Social comparison) may encourage feelings of isolation, incompetence and pressure over the long term (Van den Broeck, Vansteenkiste, & De Witte, 2008). Specifically, making money to appear better than others is likely to prevent the development of close and meaningful relationships with others. Moreover, using purchases as a way to appease feelings of insecurity is unlikely to promote positive self-development and may lead to feelings of pressure over the long term because more and more money is needed to maintain a compensatory sense of self-worth.

Thibault Landry et al.'s (2016) study is important as it implicates the role of psychological need satisfaction and frustration in explaining the relationship between money and happiness. One limitation of their study is that the sample was limited to individuals with a professional background in human resources, which may present issues with respect to the generalizability of the results. The authors advised future researchers to replicate their findings using a more diverse sample. In line with this recommendation, Study 1 attempts to replicate the first and second-order factor structure of the MMMS (and compare it to the factor structures found by Srivastava et al. (2001) and Burke (2014)) and Study 2 aims to test the associations between money motives and psychological health outcomes (well-being and ill-being) and determine if need satisfaction and frustration play a mediating role.

2.3.4 Materialism and the motives for making money

Any empirical investigation into the reasons that motivate people to make money must consider the vast literature on materialism. Materialism is generally defined as a value or goal that reflects the extent to which an individual ascribes importance to acquiring money and possessions relative to other life goals, particularly as a way to obtain external approval and recognition for an appealing image (Diener & Seligman, 2004; Kasser, 2016; Kasser & Ryan, 1993, 1996; Richins & Dawson, 1992). Research compellingly reveals that highly materialistic individuals experience lower levels of happiness, vitality, life satisfaction, mental health and physical health (Diener & Seligman, 2004; Dittmar, Bond, Hurst, & Kasser, 2014; Kasser, 2002; Unanue, Dittmar, Vignoles, & Vansteenkiste, 2014). Materialism has also been linked with an increased incidence of anxiety, depression, unpleasant emotions, as well as low self-esteem (Diener & Seligman, 2004; Dittmar et al., 2014; Kasser, 2002). These findings have been confirmed in a number of longitudinal studies ranging from 6 months to 12 years (Hope, Milyavskaya, Holding & Koestner, 2014, Kasser et al., 2014; Twenge et al., 2010). From a societal standpoint, materialism has been found to correlate positively with racial and ethnic prejudice (Duriez, Vansteenkiste, Soenens, & De Witte, 2007) and is negatively associated with pro - environmental attitudes and behaviors (Hurst, Dittmar, Bond, & Kasser, 2013; Moldes & Ku, 2020). It comes as no surprise that individuals high in materialism are less likely to fulfill their psychological needs and this, in turn, explains their lower well-being levels (Chen, Yao, & Yan, 2014; Dittmar et al., 2014; Kasser et al., 2014; Nagpaul & Pang, 2017; Tsang, Carpenter, Roberts, Frisch, & Carlisle, 2014; Wang, Liu, Jiang, & Song, 2017). Recently, need frustration has also been found to be a complete mediator of the relationship between materialism and indices of ill-being and well-being (Unanue et al., 2014; Unanue, Rempel, Gomez, & Van den Broeck, 2017). Materialism is thought to lead to need frustration because it prompts people to compare themselves with others, which can be

socially alienating and can create pressure and feelings of inadequacy in the long term if the comparisons are not in the person's favor (Unanue et al., 2014).

Despite the conceptual overlap, the money motives and materialism research has evolved relatively independently. One exception is Srivastava et al. (2001) which, in addition to developing the MMMS, explored materialism's associations with the different motives for making money. The results indicated that although materialism negatively predicted well-being, this association disappeared when negative money motives (Social comparison and Overcoming self-doubt) were controlled for. The authors asserted that desiring money to overcome feelings of personal insecurity, to attract attention and admiration from others actually drive materialism's effects on well-being, and that the concept of materialism is oversimplified. In their study, however, materialism was assessed using a measure of 'money importance', which refers to the degree to which a person assigns importance to money in comparison to other life goals. This is an important limitation as the concept of materialism also incorporates the notion of using money to attain external social recognition.

Given materialism's harmful repercussions for individuals and society, scholars urge for studies to continue exploring how the concept of materialism relates to other psychological constructs (Gardarsdottir et al., 2008; Karabati & Cemalcilar, 2010; Kasser, 2016). Given that Thibault Landry et al. (2016) found a different factor structure for the MMMS, it is useful to explore how materialism relates to the Self-integrated, Financial stability and particularly the Non-integrated motives for making money. When a person is labeled as materialistic, it follows that they consider the pursuit of money as an important life goal/value because it can be used as a way to obtain social approval and recognition (Kasser, 2016). However, if a broader approach is taken, as elucidated by Carver and Baird (1998) and Srivastava et al. (2001), the goal of acquiring money can be pursued for a variety of reasons (motives). This study tests the hypothesis that someone who is highly materialistic considers the pursuit of money

to be important because they want to use it for Non-integrated reasons. Thus, materialism should correlate strongly, and be encompassed by, the non-integrated motives for making money.

There is empirical evidence suggesting that materialism may be closely related to the non-integrated motives of Impulse, Social comparison and Overcoming self-doubt. First, a number of studies find that materialism is associated with spending substantial amounts of money impulsively, especially when it is used to build an image that will impress others (Kasser, 2016). Individuals high in materialism are more likely to have gambling (Carver & McCarty, 2013) and compulsive consumption problems (Dittmar et al., 2014). Moreover, they are less likely to save, to responsibly manage their money (Donnelly, Iyer, & Howell, 2012; Donnelly, Ksendzova, & Howell, 2013) and more likely to accumulate debt (Richins, 2011; Watson, 2003). With respect to Social comparison, materialism is associated with attitudes and behaviors focused on developing an appealing image that others will admire (Kasser, 2016). Specifically, people high in materialism are more likely to endorse intentions to get cosmetic surgery (Henderson-King & Brooks, 2009) and have stronger concerns for developing their image by acquiring clothing and fashion items (Kamal, Chu, & Pedram, 2013; Workman & Lee, 2011). Recent research finds that when individuals make unfavorable social comparisons, this increases the relative importance they place on achieving financial success (Kim, Callan, Gheorghiu, & Matthews, 2017). Finally, there is ample evidence that materialism is closely related to feelings of personal insecurity and self-doubt. Experimental and correlational research reveals that low self-esteem (Li, Lu, Xia, & Guo, 2018; Kasser et al., 2014; Park & John, 2011), feelings of uncertainty (Chang & Arkin, 2002), low sense of personal power (Rucker & Galinsky, 2008) as well as fear of negative evaluation or social disapproval (Christopher & Schlenker, 2004) lead individuals to adopt materialistic values and goals.

With respect to Self-integrated and Financial stability motives, materialism has been described as a goal that stands in relative contrast to values such as benevolence (helping others) as well as family and community support (Burroughs & Rindfleisch, 2002; Grouzet et al., 2005). People high in materialism engage in fewer prosocial behaviors, such as volunteering and helping others (Briggs, Landry & Wood, 2007; Sheldon & Kasser, 1995), score lower in empathy (Sheldon & Kasser, 1995) and tend to have shorter and lower quality interpersonal relationships (Kasser & Ryan, 2001; Solberg, Diener, & Robinson, 2004). Experimentally activating materialism causes people to be less likely to help others and to donate money (Vohs, Mead & Goode, 2006). Thus, it is reasonable to suggest that materialism would be unrelated or negatively related to money motives such as Family support, Security, and Charity. In addition, materialism has been found to correlate negatively with self-acceptance, self-direction and a desire for personal development (Kasser, 2016). Thus, it is unlikely that materialism is associated with money motives such as Pride, Market worth, Freedom and Leisure because these goals emphasize an individual's personal desire to develop him/herself socially, emotionally and physically.

In line with the research presented above, Study 1 attempts to replicate the first and second-order factor structure of the MMMS and Study 2 aims to test the mediating role of need satisfaction and frustration in the associations between money motives and psychological health outcomes (well-being and ill-being) among diverse samples of participants. In a similar vein as Srivastava et al.'s (2016) study, Study 2 also explores how materialism relates to the motives for making money, need satisfaction and frustration as well as well-being and ill-being. The current study, however, extends the work of Srivastava et al. (2001) by testing associations between materialism and the motive factors found by Thibault Landry et al. (2016). Moreover, Srivastava et al. (2001) assessed materialism through a measure of 'money importance', which refers to the degree to which a person assigns importance to money in comparison to other life goals. Given that the concept of materialism also incorporates elements related to

social approval and recognition, this study will assess materialism directly using a widely used materialism scale (Material Values Scale; Richins & Dawson, 1992). Study 2 will test the following hypotheses:

H1: Self-integrated motives positively predict need satisfaction and negatively predict need frustration;

H2: Non-integrated motives negatively predict need satisfaction and positively predict need frustration;

H3: Stability motives are unrelated to need satisfaction and need frustration;

H4: Need satisfaction positively predicts well-being and negatively predicts ill-being;

H5: Need frustration positively predicts ill-being and negatively predicts well-being;

H6: Need satisfaction and need frustration mediate the relationships between money motives and psychological health outcomes (well-being and ill-being).

H7: Materialism is positively associated with Non-integrated money motives;

H8: Materialism is negatively associated with Financial stability motives and Self-integrated motives;

H9: Materialism's effect on psychological health (well-being and ill-being) is mediated by need satisfaction and frustration and this association is fully accounted for by the motives for making money.

In addition to exploring what motivates people to make money, a secondary objective of this article is to determine whether it is possible to encourage the adoption of healthy

motives for making money. This will be accomplished by testing the effectiveness of an intervention (Study 3) designed to encourage individuals to become aware of their own motives as well as to help them shift away from unhealthy reasons for wanting money and guide them towards more beneficial ones.

2.3.5 Previous money interventions

To date, the majority of intervention studies focus on reducing materialism (Kasser, 2016). For instance, Kasser and colleagues (2014) tested an intervention in which participants were randomly assigned either to a no-treatment control group or an established three-session financial education program designed to reduce materialism. The main themes of the program were to aid adolescents (and their families) become more comfortable talking about money, to distinguish between their ‘needs’ and ‘wants’ and to become more critical of consumer culture and advertisement. The intervention also focused on encouraging adolescents to think about their own values, how these guide their money choices and the importance of sharing one’s money with others. Latent growth curve analyses showed that, compared to adolescents in the control group, those in the intervention group showed decreases in materialism over time, a trend that was still evident 10 months after the intervention.

In a similar vein, interventions that help people focus on values, such as community contribution and helping others, help them shift away from materialism. Lokes, Hope, Gouveia, Koestner and Philippe (2012) revealed that immediate and long term increases in well-being were experienced by participants who were asked to write brief essays about their two most important intrinsic values in their lives, relative to a control group (who simply wrote essays about every day topics, such as cooking and making dinner). What is more, studies suggest that when people are made to think back on fond life memories, especially when they involve interpersonal activities (Lasaleta, Sedikides, & Vohs, 2014) as well as on high quality interpersonal relationships (Clark et al., 2011; Sheldon & Kasser, 2008), this decreases their attachment to money.

Finally, research points to the fact that simply reflecting on one's materialistic values helps people shift away from materialism. For instance, Sheldon, Arndt, and Houser-Marko (2003) revealed that simply helping individuals become aware of their scores on the Aspiration Index (a measure of materialism) leads people to less strongly prioritize extrinsic goals and more strongly prioritize intrinsic goals.

Given materialism's many adverse effects on well-being, authors have suggested that interventions and policies aimed at reducing the endorsement of materialistic values are timely (Dittmar et al., 2014; Kasser, 2016). In line with previous research (Srivastava et al., 2001), materialism may actually represent a set of unhealthy motives for desiring money. Hence, when money is used to avoid feelings of personal insecurity (Overcoming self-doubt), to develop an image/status that others will envy (Social comparison) as well as to spend money impulsively (Impulse), this is likely to actively thwart psychological needs and leads to greater mental ill-health. Nevertheless, there are other, healthier reasons for desiring money (Financial stability and Self-integrated motives) that may countermand these negative effects. For instance, desiring money for reasons such as to help others, participate in leisure activities, invest in one's future and to feel accomplished in life, are more likely to encourage psychological need satisfaction and in turn increase happiness (Thibault Landry et al., 2016). In line with Thibault Landry and colleagues' (2016) call for research to discover practical ways to encourage the endorsement of beneficial money motives, the aim of Study 3 is to test an intervention designed to help individuals become aware of their own motivations for making money and to encourage a shift away from Non-integrated motives and toward Self-integrated and Financial stability motives. Thus, the following two hypotheses are tested in Study 3:

H10: After participating in the intervention, participants in the experimental group will exhibit significantly higher Self-integrated and Financial stability money motives than the no-treatment control group;

H11: After participating in the intervention, participants in the experimental group will exhibit significantly lower Non-integrative motives compared to the no-treatment control group.

2.4 Method: Study 1

2.4.1 Recruitment and study procedure

Participation involved completing the Motivations for Making Money Scale (MMMS; Srivastava et al., 2001). Participants were given the option of completing the MMMS in the language of their choice (English and French). Recruitment was accomplished through various data collection methods. A first sample (N = 143) was recruited through online ads posted on social media networks (Facebook and LinkedIn) as well as an online classifieds advertising service. Another round of recruitment (N = 99) was accomplished using the listserv of the professional order of Certified Human Resources Professionals (CHRP) in the province of Québec, Canada. Emails were sent to members of this professional order, which included an invitation to participate in the study. Undergraduate university students (N = 238) from the Université du Québec à Montréal (UQAM) were also recruited to participate in this study. The primary investigator recruited participants by attending three university classes as well as through a listserv that included students who were interested in participating in research studies. An email was sent to all individuals on the list with an invitation to participate in the study. Finally, Prolific Academic, an online crowdsourcing website was used to recruit participants (N = 153). Online crowdsourcing platforms, such as Prolific Academic and Amazon's Mechanical Turk (MTurk), are becoming a popular way to recruit participants as these platforms allow for large samples of demographically diverse participants to be recruited easily and cost effectively (Buhrmester, Kwang, & Gosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010). Participants voluntarily decide to participate in a study after seeing the baseline payment, estimated completion time

and study content. Prolific Academic recommends that participants receive \$10 per hour for any type of study completed. Given that this study took approximately 15 minutes to complete, participants received on average of 2.50\$ for their participation. Prolific Academic's 'country of origin' filter was used, such that only individuals born in Canada could participate.

2.4.2 Sample description and demographics

The total sample included 633 individuals, 33% men and 65.5% women, with an average age of 33.8 years; four participants identified their gender as "other" and one participant chose not to answer this question. With respect to educational attainment, 38.1% held a Bachelor's degree (or University certificate), 30.8% a graduate degree, 23.4% a general and/or vocational college degree, and 7.7% a high school degree or less. Moreover, a majority of the sample (51.2%) worked full-time (35 hours or more), 24.5% worked between 15 and 34 hours and 14.5% worked less than 15 hours. Approximately 10% did not work.

2.4.3 Measures

Motives for Making Money Scale (MMMS). The MMMS (Srivastava et al., 2001) includes 30 items measuring the ten motives for making money: Security (e.g., "to maintain a reasonable bank balance for emergencies"), Family support (e.g., "to take care of the college education of my children"), Market worth (e.g., "to receive fair compensation for my work"), Pride (e.g., "to know that I can deal with life's challenges"), Leisure (e.g., "to spend time and money on my hobbies"), Charity (e.g., "to donate money to those who need it"), Freedom (e.g., "to direct my own life with no interference from anybody"), Impulse (e.g., "to spend money on impulse"), Overcoming self-doubt (e.g., "to prove that I am not as dumb as people think") and Social comparison (e.g., "to have a nicer house and cars than my neighbors"). Participants indicate how important each statement is as a reason for earning money

using a 10-point Likert scale ranging from 1 (Totally unimportant) to 10 (Totally important). A French version of this scale was available (Thibault Landry et al., 2016). Reliability coefficients in the current study were adequate for the motives of Family support ($\alpha = .71$), Market worth ($\alpha = .81$), Pride ($\alpha = .70$), Charity ($\alpha = .75$), Leisure ($\alpha = .66$), Impulse ($\alpha = .75$), Overcoming self-doubt ($\alpha = .85$), and Social comparison ($\alpha = .82$). Motives of Security ($\alpha = .59$) and Freedom ($\alpha = .54$) revealed low reliability estimates. An analysis of item inter-correlations for the Security motive revealed that one item (item 1: “to acquire life’s basic necessities such as decent housing, food and clothes”) revealed low correlations with the other two items. Upon removal of the problematic item, the inter-item correlation between the two remaining Security items was $r = .64$. Similarly, one item for the Freedom motive (item 7: “so that I can put my personal ideas into action and develop my own projects”) revealed low correlations with the other two Freedom items. Removal of this problematic item revealed an inter-item correlation between the two remaining Freedom items of $r = .68$. Items 1 (Security) and 7 (Freedom) were thus removed in subsequent analyses.

2.4.4 Results

Preliminary analyses

In preliminary data screening, no impossible or invalid responses were found and missing data was less than 5% suggesting that data could be imputed without issue (Tabachnik & Fidell, 2013). Missing data for items of the MMMS were imputed using the mean score for each motive (if data was missing for a single item, the mean of the other two items for that motive were used). Table 1 presents the correlations between all MMMS items.

Control variables

A MANOVA was carried out to verify whether the study variables (all MMMS items) varied significantly with respect to the different data collection methods (i.e., online ads, CHRP order, university campus, and crowdsourcing website). Results revealed that the variables varied significantly across the different data collection methods ($F(90, 1796.46) = 4.75, p < .001$; Wilk's $\Lambda = .375$, partial $\eta^2 = .28$). Specifically, Security item 11 ($F(3, 629) = 5.46, p < .001$, partial $\eta^2 = .03$), Family item 12 ($F(3, 629) = 20.38, p < .001$, partial $\eta^2 = .09$), Pride items 14 ($F(3, 629) = 6.18, p = .001$, partial $\eta^2 = .03$) and 24 ($F(3, 629) = 10.39, p < .001$, partial $\eta^2 = .05$), Leisure items 15 ($F(3, 629) = 8.10, p < .001$, partial $\eta^2 = .04$) and 25 ($F(3, 629) = 6.14, p < .001$, partial $\eta^2 = .03$), Charity items 6 ($F(3, 629) = 6.62, p < .001$, partial $\eta^2 = .03$), 16 ($F(3, 629) = 23.40, p < .001$, partial $\eta^2 = .10$) and 26 ($F(3, 629) = 18.66, p < .001$, partial $\eta^2 = .08$), Freedom items 17 ($F(3, 629) = 6.73, p < .001$, partial $\eta^2 = .03$) and 27 ($F(3, 629) = 5.42, p < .001$, partial $\eta^2 = .03$), Impulse items 18 ($F(3, 629) = 6.01, p < .001$, partial $\eta^2 = .03$) and 28 ($F(3, 629) = 21.61, p < .001$, partial $\eta^2 = .09$), Overcoming self-doubt items 9 ($F(3, 629) = 22.74, p < .001$, partial $\eta^2 = .10$), 19 ($F(3, 629) = 56.01, p < .001$, partial $\eta^2 = .21$) and 29 ($F(3, 629) = 20.62, p < .001$, partial $\eta^2 = .09$) and Social comparison items 20 ($F(3, 629) = 9.07, p < .001$, partial $\eta^2 = .04$) and 30 ($F(3, 629) = 7.30, p < .001$, partial $\eta^2 = .03$) varied significantly with respect to data collection method. Given that multiple ANOVAs were run, a Bonferroni correction was applied and thus statistical significance was accepted at the $p < .002$ level ($p = .05$ divided by 30 tests).

Follow up analyses were conducted to explore these differences further. Table 2 presents the means for the items that differed according to data collection method. With respect to Security item 11, follow-up analyses indicated that there were significant differences between the online ads recruitment and the crowdsourcing website ($p = .012$) and between university campus recruitment and the CHRP order ($p = .006$). For Family item 12, there were significant differences between the crowdsourcing website and online ads ($p < .001$), between the crowdsourcing website and university campus

recruitment ($p < .001$) and between the crowdsourcing website and the CHRP order ($p < .001$). For Pride items 14 and 24, there were significant differences between the crowdsourcing website and online ads ($p < .001$), between the crowdsourcing website and university campus recruitment ($p = .028$ and $p = .003$ respectively) and between the crowdsourcing website and CHRP order ($p = .007$ and $p < .001$ respectively). For Leisure item 15, there were significant differences between the crowdsourcing website and online ads ($p < .001$), between the crowdsourcing website and university campus recruitment ($p = .016$) and between the crowdsourcing website and the CHRP order ($p < .001$). For Leisure item 25, there were significant differences between university campus recruitment and online ads ($p = .013$) and between university campus recruitment and the CHRP order ($p < .001$). For Charity item 6, there were significant differences between university campus and the CHRP order ($p < .001$) and between university campus and the crowdsourcing website ($p = .006$). For Charity item 16, there were significant differences between all data collection methods ($p < .05$). With respect to Charity item 26, there were significant differences between online ads and the crowdsourcing website ($p < .001$). There were also significant differences between university campus and the CHRP order ($p = .002$) and between university campus and the crowdsourcing website ($p < .001$). For Freedom item 17, there were significant differences between university campus and the crowdsourcing website ($p < .001$). For Freedom item 27, there were significant differences between online ads and university campus recruitment ($p = .034$) and between university campus and the crowdsourcing website ($p = .002$). For Impulse item 18, there were significant differences between the CHRP order and university campus recruitment ($p < .001$) and between the CHRP order and the crowdsourcing website ($p = .013$). For impulse item 28, there were significant differences between the crowdsourcing website and online ads ($p < .001$), between the crowdsourcing website and university campus ($p < .001$) and between the crowdsourcing website and the CHRP order ($p < .001$). There was also a significant difference between university campus recruitment and the CHRP order ($p = .031$). For Overcoming self-doubt item 9, there were significant differences between the

crowdsourcing website and online ads ($p < .001$), between the crowdsourcing website and university campus ($p < .001$) and between the crowdsourcing website and the CHRP order ($p < .001$). For Overcoming self-doubt item 19, there were significant differences between the crowdsourcing website and online ads ($p < .001$), between the crowdsourcing website and university campus ($p < .001$) and between the crowdsourcing website and the CHRP order ($p < .001$). There was also a significant difference between university campus and CHRP order ($p = .009$). For Overcoming self-doubt item 29, there were significant differences between the crowdsourcing website and online ads ($p < .001$), between the crowdsourcing website and university campus ($p < .001$) and between the crowdsourcing website and the CHRP order ($p < .001$). For Social comparison item 20, there were significant differences between the crowdsourcing website and online ads ($p < .001$), between the crowdsourcing website and university campus ($p = .034$) and between the crowdsourcing website and the CHRP order ($p < .001$). Finally, for Social comparison item 30, there were significant differences between the crowdsourcing website and online ads ($p = .002$), between the crowdsourcing website and university campus ($p < .001$) and between the crowdsourcing website and the CHRP order ($p = .002$).

Similarly, a MANOVA was also conducted to determine whether study variables varied according to language (English and French). Results revealed that the variables of interest varied significantly with respect to language ($F(30, 602) = 25.41, p < .001$; Wilk's $\Lambda = .441$; partial $\eta^2 = .56$). Specifically, the following items varied significantly with respect to language: Family item 12 ($F(1, 631) = 62.68, p < .001, \eta^2 = .09$), Market value item 13 ($F(1, 631) = 13.23, p < .001, \eta^2 = .02$), Pride items 14 ($F(1, 631) = 18.39, p < .001, \eta^2 = .03$) and 24 ($F(1, 631) = 25.89, p < .001, \eta^2 = .04$), Leisure item 15 ($F(1, 631) = 17.21, p < .001, \eta^2 = .03$), Charity items 16 ($F(1, 631) = 30.55, p < .001, \eta^2 = .05$) and 26 ($F(1, 631) = 35.14, p < .001, \eta^2 = .05$), Freedom items 17 ($F(1, 631) = 16.90, p < .001, \eta^2 = .03$) and 27 ($F(1, 631) = 11.16, p < .001, \eta^2 = .02$), Impulse item 28 ($F(1, 631) = 51.42, p < .001, \eta^2 = .08$), Overcoming self-doubt items 9 ($F(1, 631) =$

75.29, $p < .001$, $\eta^2 = .11$), 19 ($F(1, 631) = 157.90$, $p < .001$, $\eta^2 = .20$), and 29 ($F(1, 631) = 58.34$, $p < .001$, $\eta^2 = .09$) and finally Social comparison items 20 ($F(1, 631) = 20.41$, $p < .001$, $\eta^2 = .03$) and 30 ($F(1, 631) = 23.25$, $p < .001$, $\eta^2 = .04$). Table 3 presents the means of the items that differed according to language. Thus, in addition to the variables of age, gender, education, work hours, and salary, language and data collection method were also included as control variables in the analyses. Categorical control variables (i.e., gender, data collection method, and language) were dummy coded.

Confirmatory factor analysis

To confirm the first-order factor structure of the MMMS, Confirmatory Factor Analysis (CFA) was conducted using AMOS version 23 (Arbuckle, 2014). Five goodness-of-fit indices were used to assess model fit: the Minimum discrepancy per degree of freedom (CMIN/DF), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR). In general, threshold values of less than 0.08 for RMSEA are indicative of an acceptable fit (MacCallum, Browne & Sugawara, 1996). CMIN/DF values less than 5 indicate a reasonable fit (Marsh & Hocevar, 1985) and values less than 3 are considered acceptable (Kline, 1998). Generally, values higher than .90 for the CFI and TLI (Hoyle 1995; Schumacher & Lomax, 1996a, b) and lower than .08 for the SRMR (Browne & Cudeck, 1993; Hu and Bentler, 1999) indicate an acceptable fit. The Akaike Information Criterion (AIC) was used when comparing models as smaller values generally indicate a better fitting and parsimonious model (Akaike, 1987; Tabachnick & Fidell, 2013).

A first model (Model 1) representing the 10 factor structure found by Srivastava et al. (2001) and by Thibault Landry et al. (2016) was tested (using 28 items). The model revealed an acceptable fit to the data, CMIN/DF = 3.13, RMSEA = .06, CFI = .92, TLI

= .88, SRMR = .05, AIC = 1714.87. All items loaded significantly on their respective factors (Table 4). A second-order factor solution (Model 2) was subsequently tested containing three second order factors: (1) “Financial stability motives” comprised of two first-order factors (Security and Family), (2) “Self-Integrated motives” comprised of five first-order factors (Charity, Market worth, Freedom, Pride and Leisure) and (3) “Non-integrated motives” comprised of three first-order factors (Impulse, Overcoming self-doubt and Social comparison). The fit indices for Model 2 were CMIN/DF = 3.73, RMSEA = .07, CFI = .89, TLI = .84, SRMR = .07, AIC = 2007.43. Inspection of the model modification indices suggested that the inclusion of three covariances (between second-order factors of Family and Charity, Pride item 14 and Overcoming self-doubt item 9 as well as between Leisure item 25 and Social comparison item 20) would improve model fit. Correlations between error terms occur when there is common variance across two measures that is not explained by the theoretical constructs (Kenny, 2012). Inspection of the items for Family support and Charity reveals that these factors overlap conceptually. The Family support motive represents items that imply a desire to make money in order to financially support family members (e.g. “to be able to support the people who are important to me”), while the Charity motive represents items that imply desiring money in order to help others (e.g. “in order to donate to those in need”). In this case, the correlation between the error terms of these two factors may represent the variance that is associated with the notion of making money with the purpose of giving money to others more generally that is represented by both factors. Similarly, inspection of Pride item 14 (“in order to prove to myself that I am successful in life”) and Overcoming self-doubt item 9 (“in order to prove to myself that I am not a failure”) are conceptually very similar. Finally, Leisure item 25 (“so that I can enjoy luxurious things, e.g. cars, houses, art”) and Social comparison item 20 (“so that I can buy a nicer house or fancier car than my neighbours”) are also conceptually similar. Both items involve desiring money in order to purchase items such as houses and cars, however each with a different purpose. The covariance between the error terms of these two items may represent this common variance. Thus, given the conceptual overlap

described above, it was decided to modify the factorial model to include the covariances (Byrne, 2012). Model 3, consisting of Model 2 with the inclusion of the covariances, provided a better fit to the data, CMIN/DF = 3.33, RMSEA = .06, CFI = .91, TLI = .87, SRMR = .06, AIC = 1821.52).

The second order factor structure found by Thibault Landry et al. (2016) was then compared with Srivastava et al.'s (2001) original three factor structure and Burke's (2004) two factor structure. Model 3 was compared to Srivastava et al.'s (2001) second order factor structure (Model 4) containing the three second order factors of Positive (Security, Family, Market value and Pride), Freedom of action (Leisure, Charity, Freedom and Impulse) and Negative (Overcoming self-doubt and Social comparison) motives. Model 4 did not provide a better fit to the data, CMIN/DF = 3.42, RMSEA = .07, CFI = .90, TLI = .86, SRMR = .06, AIC = 1860.17. Model 3 was subsequently compared to Burke's (2004) second order factor structure (Model 5) containing the two second order factors of Positive (Security, Family, Market value, and Pride) and Negative (Leisure, Freedom, Impulse, Overcoming self-doubt and Social comparison) motives. Model 5 did not provide a better fit to the data, CMIN/DF = 3.60, RMSEA = .06, CFI = .89, TLI = .85, SRMR = .07, AIC = 1942.63. Thus, the second order factor structure proposed by Thibault Landry et al. (2016), Model 3, was retained.

2.4.5 Discussion: Study 1

The aim of Study 1 was to confirm the first and second-order factor structure of the MMMS. Results of a CFA revealed that a 10-factor structure adequately represented the MMMS, which is consistent with previous research (Srivastava et al., 2001). Moreover, the second-order factor structured proposed by Thibault Landry et al. (2016) provided a better fit than the factor structures proposed by Srivastava et al. (2001) and Burke (2004). This suggests that the ten motives are adequately represented by three broad second-order factors, namely Financial stability (Security and Family support),

Self-integrated (Market worth, Pride, Leisure, Charity, and Freedom) and Non-integrated motives (Impulse, Social comparison and Overcoming self-doubt).

2.5 Method: Study 2

2.5.1 Recruitment and study procedure

Participants were asked to complete a set of questionnaires in the language of their choice (English or French). Similarly to Study 1, recruitment for this study was accomplished through various data collection methods, including Prolific Academic (N = 305), ads posted on social media networks (N = 37) and the UQAM university campus (N = 122). Recruitment procedures were identical to those described in Study 1.¹

2.5.2 Sample description and demographics

The total sample consisted of 464 individuals with an average age of 31.2 years and included 254 women (54.7%) and 201 men (43.3%). Four participants identified their gender as “other” and five participants did not respond to this question. With respect to education, 47.4% held a Bachelor’s degree (or university certificate), 20.3% a graduate degree, 18.3% a general or vocational college degree, and 14% a high school degree or less. Approximately half of the sample worked full-time (49.4%), 24.4% worked between 15 and 34 hours, 12.7% worked less than 15 hours and 13.6% did not work. The salary breakdown was the following: no salary (2.8%), below \$10 000 (12.5%), \$10 000 – \$19 999 (19.4%), \$20 000 – \$29 999 (12.1%), \$30 000 – 39 999

¹ Note : part of the Prolific Academic sample (i.e., 153 participants) also participated in Study 1. It is important to note that statistical analyses on this data do not overlap.

(8.6%), \$40 000 – 49 999 (11%), \$50 000 – \$74 999 (15.5%), \$75 000 – \$99 999 (8.8%), \$100 000 – \$124 999 (6.5%), \$125 000 and above (2.8%).

2.5.3 Measures

Motives for Making Money Scale. The MMMS (Srivastava et al., 2001) was again used to assess the ten motivations for making money (see study 1 for a full description). For this study, 28 of the original 30 items were used as in Study 1 (Security item 1 and Freedom item 7 were removed from analyses). The ten money motive subscales revealed adequate reliability estimates: Security ($\alpha = .63$), Family ($\alpha = .73$), Market worth ($\alpha = .82$), Pride ($\alpha = .68$), Charity ($\alpha = .79$), Leisure ($\alpha = .67$), Freedom ($\alpha = .70$), Impulse ($\alpha = .84$), Overcoming self-doubt ($\alpha = .82$), and Social comparison ($\alpha = .84$).

Need satisfaction. The Balanced Measure of Psychological Needs Scale (Sheldon & Hilpert, 2012) is a 9-item scale, which assesses the satisfaction of the needs for autonomy (e.g., “I feel my choices express my true self”), relatedness (e.g., “I feel close and connected with other people who are important to me”) and competence (e.g., “I feel I can successfully complete difficult tasks”). Participants indicate their level of agreement with each item on a 5-point Likert scale, ranging from 1 (Completely disagree) to 5 (Completely agree). This scale was translated into French using the back-translation method (Vallerand, 1989). Specifically, the items were first translated into French and then retranslated into English. This retranslated version was then compared to the original English version. Any required modifications were made to the French version to ensure that it accurately represented the original English version. Reliability estimates for the three subscales were adequate (autonomy $\alpha = .78$; relatedness $\alpha = .84$, and competence $\alpha = .90$). The total need satisfaction scale had a reliability estimate of $\alpha = .84$. The mean score of the three subscales was used as an indicator of need satisfaction.

Need frustration. An adapted version of the Psychological Need Thwarting Scale (PNTS; Gillet, Fouquereau, Forest, Brunault, & Colombat, 2012) was used to assess psychological need frustration. Whereas the original PNTS scale is geared toward assessing psychological need frustration in a sport environment (Bartholomew et al., 2011), the items of this scale are adapted to assess general psychological need frustration. An already existing French version of this scale was used. Participants are asked to indicate their level of agreement to 12 items on a 5-point Likert scale, which assess the frustration of the needs for autonomy (e.g., “I feel prevented from making choices with regard to the way I do things”), relatedness (e.g., “I feel other people dislike me”) and competence (e.g., “There are situations in which I am made to feel inadequate”). Reliability estimates for the three subscales were adequate: autonomy ($\alpha = .86$), relatedness ($\alpha = .81$) and competence ($\alpha = .86$), total scale ($\alpha = .91$). The mean score of the three subscales was used as an indicator of need frustration.

Well-being. A shortened version of the Positive and Negative Affect Schedule (PANAS-SF; Thompson, 2007) was used to measure positive affect (translated into French using the back translation method; Vallerand, 1989). The scale contains a list of 5 different positive emotions (e.g., “inspired” and “active”) and participants are asked to indicate the frequency with which they generally experience these emotions on a 5-point scale ranging from 1 (never) to 5 (always). The reliability estimate for the positive affect subscale was adequate ($\alpha = .69$). General well-being was also assessed using the Measure of Psychological Well-being developed by Choi, DiNitto, and Kim (2014). Participants indicate their level of agreement to 7 items (e.g., “My life has meaning and purpose”) using a 3-point scale (1 = Don’t agree at all; 2 = Agree a little; 3 = Completely Agree). This scale was also translated into French using the back translation method (Vallerand, 1989). In the current study, the reliability estimate for this scale was within expected range ($\alpha = .72$). Mean scores of the positive affect subscale of the PANAS-SF and the Measure of Psychological Well-being were transformed into standardized scores (z-scores) and then combined and used as a

general indicator of well-being. The reliability estimate ($\alpha = .79$) for the global well-being score (all items) suggests that the combination of these two scales was appropriate.

Ill-being. The negative affect subscale of the Positive and Negative Affect Schedule (PANAS-SF, Thompson, 2007) was used as a measure of negative affect (translated into French using the back translation method; Vallerand, 1989). The scale contains a list of 5 different negative emotions (e.g., “upset”, “hostile”) and participants indicate the frequency with which they generally experience these emotions on a 5-point scale ranging from 1 (never) to 5 (always). Reliability for the negative affect subscale was deemed adequate ($\alpha = .76$). Moreover, depression symptoms were assessed using the Center for Epidemiologic Studies – Depression Scale (CES-D; Cole, Rabin, Smith, & Kaufman, 2004). This scale was also translated into French using the back translation method (Vallerand, 1989). Participants are asked to indicate the frequency (1 = none of the time; 4 = all of the time) with which they experience 8 different negative states (e.g., “I felt my life had been a failure”) over the last 12 weeks. The internal consistency of the CES-D short form was adequate ($\alpha = .85$). The mean scores of the PANAS-SF negative affect subscale and the CES-D (short form) were transformed into standardized scores (z-scores) and then combined and used as a general indicator of ill-being. The reliability estimate ($\alpha = .88$) for the global ill-being score (all items) suggests that the combination of these two scales was appropriate.

Materialism. The Materialistic Values Scale (Richins & Dawson, 1992) was used to assess individuals’ level of materialism (translated into French using the back translation method; Vallerand, 1989). Participants indicate their level of agreement to a set of 9 items (e.g., “I admire people who own expensive homes, cars, and clothes”) by using a 6-point Likert scale ranging from 1 (Strongly disagree) to 6 (Strongly agree). Internal consistency ($\alpha = .88$) for the Materialistic Values Scales was considered appropriate.

2.5.4 Results

Preliminary analyses

In preliminary data screening, no impossible or invalid responses were present and missing data was less than 5%. Missing data for items of the MMMS were imputed using the mean score for each motive (if data was missing for a single motive item, the mean of the other two items for that motive were used). Multiple imputation (25 iterations) was used to input missing data for the demographic variables of age, education, work status and salary as well as the dependent variables. All variables were normally distributed and no significant skew was present. Table 5 presents the correlations between all study variables.

Control variables

A MANOVA was carried out to verify whether the study variables varied significantly with respect to the different data collection methods (i.e., online ads, university campus, crowdsourcing website). Results revealed that the variables varied significantly across the different data collection methods ($F(16, 906) = 8.07, p < .001$; Wilk's $\Lambda = .766$, partial $\eta^2 = .13$). Specifically, well-being ($F(2, 460) = 14.52, p < .001$, partial $\eta^2 = .06$), Non-integrated motives ($F(2, 460) = 27.66, p < .001$, partial $\eta^2 = .11$), need satisfaction ($F(2, 460) = 7.24, p = .001$, partial $\eta^2 = .03$), need frustration ($F(2, 460) = 13.68, p < .001$, partial $\eta^2 = .06$) and materialism ($F(2, 460) = 22.51, p < .001$, partial $\eta^2 = .09$) varied significantly with respect to data collection method. Given that multiple ANOVAs were run, a Bonferroni correction was applied and thus statistical significance was accepted at the $p < .006$ level ($p = .05$ divided by 8 tests). With respect to Non-integrated motives, follow-up analyses indicated that there were significant differences between online ads recruitment and the crowdsourcing website ($p < .001$) and between university campus recruitment and the crowdsourcing website ($p < .001$). For need satisfaction, there were also significant differences between the

crowdsourcing website recruitment and online ads ($p = .015$) and between the crowdsourcing website and university campus recruitment ($p = .008$). For need frustration, there were significant differences between online ads and university campus recruitment ($p = .024$), between online ads and crowdsourcing recruitment ($p < .001$) and between university campus and crowdsourcing website recruitment ($p = .007$). With respect to well-being, there were significant differences between online ads and university campus recruitment ($p = .047$), between online ads and crowdsourcing recruitment ($p < .001$) and between university campus and crowdsourcing website recruitment ($p = .002$). Finally, for materialism, there were significant differences between online ads and crowdsourcing website recruitment ($p = .010$) and between university campus and crowdsourcing website recruitment ($p < .001$). Table 6 presents the means of the variables that differ according to data collection method.

Similarly, a MANOVA was also conducted to determine whether study variables varied according to language (English and French). Results revealed that the variables of interest varied significantly with respect to language ($F(8, 454) = 14.45, p < .001$; Wilk's $\Lambda = .797$; partial $\eta^2 = .20$). Specifically, well-being ($F(1, 461) = 27.16, p < .001, \eta^2 = .06$), Non-integrated motives ($F(1, 461) = 52.90, p < .001, \eta^2 = .10$), need satisfaction ($F(1, 461) = 18.52, p < .001, \eta^2 = .04$), need frustration ($F(1, 461) = 21.07, p < .001, \eta^2 = .04$) and materialism ($F(1, 461) = 44.81, p < .001, \eta^2 = .09$) varied significantly with respect to language. Table 7 presents the means of the variables that differ according to language. Thus, in addition to the variables of age, gender, education, work hours, and salary, language and data collection method were also included as control variables in the analyses. Categorical control variables (i.e., gender, data collection method, and language) were dummy coded.

Main analyses

Money motives and psychological health outcomes

The correlations found in Table 5 provide preliminary support for H1 through H6. Specifically, need satisfaction is positively correlated with well-being ($r = .71, p < .001$) and negatively correlated with ill-being ($r = -.55, p < .001$). Moreover, need frustration is negatively associated with well-being ($r = -.49, p < .001$) and positively correlated with ill-being ($r = .65, p < .001$). Self-integrated motives are positively associated with need satisfaction ($r = .24, p < .001$) and well-being ($r = .22, p < .001$). Non-integrated motives are negatively correlated with need satisfaction ($r = -.11, p = .018$) and well-being ($r = -.13, p = .011$) and positively associated with need frustration ($r = .37, p < .001$) and ill-being ($r = .19, p < .001$). Finally, Financial stability motives are positively correlated with need satisfaction ($r = .23, p < .001$) and well-being ($r = .22, p < .001$).

Before testing hypotheses H1 through H6 with Structural Equation Modeling using AMOS (Version 23; Arbuckle, 2014), a measurement model (Model 1) was tested in which indicators of the variables included in the structural model (Self-integrated, Financial stability, Non-integrated money motives, need satisfaction and frustration, well-being and ill-being) loaded on their respective latent factor. This model provided a satisfactory fit to the data (CMIN/DF = 2.52, RMSEA = .06, CFI = .90, TLI = .88, SRMR = .06) and all indicators had significant loadings on their corresponding latent factor. Given that all data were self-reported, Harman's single factor score (in which all items measuring the latent variables are loaded into one common factor) was calculated in order to test for common method bias (CMB; Harman, 1960). The results revealed that the total variance for a single factor was 18.91%, hence below the recommended value of 50%, suggesting that CMB was unlikely to distort the interpretation of the relationships among variables.

Structural equation modeling (SEM) was subsequently conducted to test the hypothesized model in which need satisfaction and frustration are the mediating variables in the associations between money motives and psychological health outcomes (well-being and ill-being). Hence, a first model (Model 2) was tested which

included indirect links from Self-integrated and Non-integrated motives to well-being and ill-being through need satisfaction and need frustration (full mediation). An analysis of the correlation table prior to testing the proposed model revealed that Financial stability motives were linked to need satisfaction. Thus, the model tested also included links from Financial stability motives to need satisfaction. Model 2 provided a good fit to the data, CMIN/DF = 1.50, CFI = .99, TLI = .98, RMSEA = .03, SRMR = .03, AIC = 222.42. In order to ascertain full mediation, the relationships between the motives and the dependent variables (well-being and ill-being) should become non-significant once the mediating variables (need satisfaction and need frustration) are introduced. In most cases, partial mediation is more common, in which case the mediator variables only mediate part of the effect of the independent variables on the outcome (Gunzler, Chen, Wu & Zhang, 2013). It is reasonable to assume that the money motives may have some residual direct effects even after the mediators have been introduced into the model. Thus, Model 2 (M2) was then compared to a partial mediation model (M3), which consisted of M2 with the addition of 4 direct paths from Self-integrated motives to well-being, from Stability to well-being, and from Non-integrated motives to well-being and ill-being. This model provided a slightly better fit to the data (CMIN/DF = 1.09, CFI = .99, TLI = .99, RMSEA = .01, SRMR = .03, AIC = 212.56) suggesting the presence of significant direct effects of the motives on well-being and/or ill-being. Figure 1 presents the final retained model (links from control variables are not shown for simplicity).

The results indicate that self-integrated motives positively predict need satisfaction ($\beta = .31, p < .001$) and negatively predict need frustration ($\beta = -.10, p = .041$), supporting H1. Non-integrated motives positively predict need frustration ($\beta = .40, p < .001$) and negatively predict need satisfaction ($\beta = -.27, p < .001$), in support for H2. Contrary to H3, Financial stability motives positively predict need satisfaction ($\beta = .14, p < .001$). The results also support H4 as need satisfaction is positively associated with well-being ($\beta = .54, p < .001$) and negatively associated with ill-being ($\beta = -.32, p < .001$). In

support for H5, need frustration positively predicts ill-being ($\beta = .49, p < .001$) and negatively predicts well-being ($\beta = -.18, p < .001$). Moreover, there was a significant direct effect of Self-integrated motives on well-being ($\beta = .10, p = .005$).

To formally test the mediating role of need satisfaction and need frustration in the relationship between money motives and psychological health, 95% confidence intervals were computed from 1000 bootstrap samples (MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2008). In general, mediation (i.e., indirect) effects are said to be significant when confidence intervals exclude zero. Results revealed a significant indirect effect of stability motives on well-being ($\beta = .08, CI [.03, .14], p = .002$) and ill-being ($\beta = -.05, CI [-.08, -.02], p = .001$) through need satisfaction. Moreover, results revealed significant indirect effects of self-integrated motives on well-being ($\beta = .19, CI [.11, .26], p = .002$) and ill-being ($\beta = -.15, CI [-.22, -.08], p = .002$) through need satisfaction and need frustration. There were also significant indirect effects of Non-integrated motives on well-being ($\beta = -.22, CI [-.28, -.14], p = .002$) and ill-being ($\beta = .28, CI [.21, .35], p = .002$) through need satisfaction and need frustration. PROCESS SPSS software (version 3.3; Hayes, 2012) was used to determine if both need satisfaction and need frustration were significant mediators in the relationships between money motives and well-being/ill-being. The results revealed that in the relationship between self-integrated motives and well-being, both need satisfaction ($\beta = .13, CI [.08, .19], p < .05$) and need frustration ($\beta = -.04, CI [-.07, -.02], p < .05$) played a significant mediating role. In the relationship between self-integrated motives and ill-being, both need satisfaction ($\beta = -.07, CI [-.10, -.04], p < .05$) and need frustration ($\beta = .11, CI [.07, .16], p < .05$) also play a unique mediating role. In addition, the results indicated that only need frustration ($\beta = -.05, CI [-.08, -.03], p < .05$) significantly mediated the relationship between non-integrated motives and well-being, and that the mediating role of need satisfaction in this relationship was not significant ($\beta = -.05, CI [-.11, .01]$). Similarly, in the relationship between Non-integrated motives and ill-being, only need frustration was a significant mediator ($\beta =$

.16, CI [.11, .21], $p < .05$), whereas need satisfaction did not significantly mediate this relationship ($\beta = .03$, CI [-.01, .06], $p < .05$). Taken together, the results provide partial support for H6. Although need satisfaction and need frustration mediate the relationship between Self-integrated motives and well-being/ill-being, only need frustration mediates the relationship between non-integrated motives and these outcomes (see Table 8 for a summary of the results for all hypotheses).

Materialism, money motives and psychological health

With respect to H7 and H8, correlations between the money motives and materialism were inspected. In general, materialism correlates positively with Non-integrated motives ($r = .60$, $p < .001$), Financial stability motives ($r = .15$, $p < .001$) and Self-integrated motives ($r = .33$, $p < .001$). With respect to individual money motives, as expected, materialism was strongly associated with non-integrated motives of Impulse ($r = .50$, $p < .001$), Overcoming self-doubt ($r = .47$, $p < .001$) and Social comparison ($r = .54$, $p < .001$). Contrary to expectation, materialism was also positively and significantly associated with Financial stability motives of Security ($r = .13$, $p = .005$), Family ($r = .16$, $p = .007$) as well as with the motives of Market worth ($r = .200$, $p < .001$), Pride ($r = .442$, $p < .001$), and Leisure ($r = .461$, $p < .001$) Materialism was unrelated to the motives of Charity ($r = -.031$, $p = .501$) and Freedom ($r = .045$, $p = .337$). These results provided support for H7 but not H8.

Materialism displays correlations with outcome variables (Table 5) that offer preliminary support for H9. Specifically, materialism is negatively correlated with well-being ($r = -.17$, $p < .001$) and positively correlated with ill-being ($r = .17$, $p < .001$). Moreover, materialism is negatively associated with need satisfaction ($r = -.12$, $p = .011$) and positively correlated with need frustration ($r = .28$, $p < .001$). SEM using AMOS (version 23, Arbuckle, 2014) was used to test H9 that need satisfaction and need frustration mediate the relationship between materialism and psychological health

(well-being and ill-being). First, a measurement model (M4) in which indicators of the variables included in the structural model (materialism, need satisfaction and frustration, well-being and ill-being) loaded on their respective latent factor, was tested. This model provided a good fit to the data (CMIN/DF = 3.21, RMSEA = .07, CFI = .93, TLI = .91, SRMR = .07) and all indicators had significant loadings on their corresponding latent factor. Moreover, Harman's single factor score indicated that the total variance for a single factor was 23.88% indicating that CMB is unlikely to affect the results. Subsequently, a full mediation model (M5) was tested with indirect paths drawn from materialism to well-being and ill-being through need satisfaction and need frustration. This model provided a good fit to the data, CMIN/DF = 1.21, CFI = .99, TLI = .99, RMSEA = .02, SRMR = .02, AIC = 171.00. A partial mediation model (M6) was compared to Model 5 with additional direct links from materialism to well-being and ill-being. This model did not provide a better fit to the data (CMIN/DF = 1.34, CFI = .99, TLI = .99, RMSEA = .03, SRMR = .02, AIC = 174.11), thus M5 was retained. Model 5 (Figure 2) indicates that materialism positively predicts need frustration ($\beta = .23, p < .001$) but does not significantly predict need satisfaction ($\beta = -.06, p = .219$). Moreover, need satisfaction positively predicts well-being ($\beta = .60, p < .001$) and negatively predicts ill-being ($\beta = -.29, p < .001$) whereas need frustration positively predicts ill-being ($\beta = .50, p < .001$) and negatively predicts well-being ($\beta = -.16, p < .001$). The 95% confidence intervals computed from 1000 bootstrap samples revealed that need frustration significantly mediated the relationship between materialism and well-being ($\beta = -.04, CI [-.06, -.01]$) and between materialism and ill-being ($\beta = .12, CI [.07, .17]$).

Finally, hierarchical regression analyses and SEM were used to determine the effect of materialism on need frustration after accounting for all the money motives. First, a hierarchical regression was conducted with control variables included in the first step, Financial stability motives in the second step, Self-integrated motives in the third step, Non-integrated motives in the fourth step and Materialism in the fifth step. The results

of the regression analysis (Table 9) indicate that when Non-integrated money motives are included in the regression, the effects of materialism on need frustration become non-significant. This finding is also supported by the results of SEM presented in Figure 3, which indicates that non-integrated motives are the common cause of both materialism and need frustration and that there is no direct residual relationship between materialism and need frustration. The model fit statistics revealed a good fit to the data, CMIN/DF = 1.16, CFI = .99, TLI = .99, RMSEA = .02, AIC = 192.27, SRMR = .03. The model shows that Non-integrated motives significantly predict materialism ($\beta = .50, p < .001$), but that Integrated ($\beta = .06, p = .195$) and Stability ($\beta = -.01, p = .795$) motives do not. Moreover, the effect of materialism on need frustration ($\beta = .08, p = .148$) is not significant. Thus, support was found for the hypothesis that the relationship between materialism and need frustration is accounted for by money motives (H9).

2.5.5 Discussion: Study 2

The objective of Study 2 was to confirm previous empirical associations between money motives and psychological health. Consistent with Thibault Landry et al. (2016), need satisfaction and frustration both significantly mediated the relationship between Self-integrated motives and psychological health (well-being and ill-being). Non-integrated motives had significant indirect effects on well-being and ill-being only through need frustration. Contrary to expectation, Financial stability motives also predicted greater need satisfaction and well-being (and less ill-being). Study 2 also explored materialism's associations with health outcomes and money motives. Although materialism was unrelated to need satisfaction, it positively predicted need frustration, which in turn predicted greater ill-being and less well-being (significant mediation). With respect to the money motives, materialism was strongly positively correlated with non-integrated motives of Impulse, Social comparison and Overcoming self-doubt. Contrary to expectation, materialism was positively associated with the

motives of Family, Security, Market worth, Pride and Leisure. Finally, the findings provided support for the notion that Non-integrated money motives account for the negative effects of materialism on need frustration and in turn on well-being and ill-being. Taken together, this study highlights that money can buy happiness if it is desired for reasons that encourage psychological need satisfaction (Self-integrated and Financial stability reasons), but it does not buy happiness when desired for reasons that actively thwart the psychological needs (Non-integrated reasons). In order to help individuals develop a psychologically healthier relationship with money, the objective of Study 3 was to test an intervention aimed at increasing beneficial motives for desiring money and decreasing detrimental ones.

2.6 Method: Study 3

2.6.1 Recruitment and study procedure

Recruitment for the experimental group was accomplished by posting an ad on an event management and ticketing website (Eventbrite) as well as on social media websites (Facebook and LinkedIn) inviting individuals to participate in a free 3-hour financial education workshop. The workshop was held at the UQAM campus in downtown Montréal (Canada) and was led by the second author. As part of the workshop, participants completed the MMMS as well as a demographic questionnaire. A full description of the intervention is provided below. All participants in the experimental group were contacted by email two weeks after the workshop and were asked to complete the same set of questionnaires. The no-treatment control group consisted of students recruited from an undergraduate course at UQAM. Participants in the control group completed the same set of questionnaires as the experimental group, at both time points. Upon completion of the first set of questionnaires, all participants were provided with a participant code in order to track responses over time. Participants did not receive financial compensation for participating in this study.

2.6.2 Sample description and demographics

The experimental group consisted of 19 participants (15 women; 4 men) with an average age of 40.8 years. Most participants were full time workers (78.9%; 35 hours or more), three participants (15.8%) did not work and one participant (5.3%) worked less than 15 hours per week. With respect to education, 78.9% held a graduate degree and 21.2% held a Bachelor's degree or University certificate. The control group consisted of 21 participants (12 women; 9 men) with an average age of 24.1 years. In terms of work hours, 19% did not work, 33.3% worked less than 15 hours, 38.1% worked between 15 and 34 hours and 19% worked 35 hours or more. A majority of participants had a vocational or general college degree (81%), 4.8% held a Bachelor's degree or university certificate and 14.3% held a high school degree or less. Given that the control group consisted of undergraduate students, it is not surprising that participants were relatively younger, worked fewer hours and had attained lower levels of education compared to the experimental group. Given the quasi-experimental design of this study (participants were not randomly assigned to the experimental and control groups) analyses were conducted to determine whether the control and experimental groups were significantly different in terms of socio-demographic variables.

2.6.3 Measures

Motivations for making money. The Motivation for Making Money Scale (MMMS; Srivastava et al., 2001) was used in order to assess the ten motivations for making money; see Study 1 for a full description of this scale. All 30 items of the MMMS were used in this study. The items for the motives of Security and Family support were combined (using the mean) in order to arrive at a global score for Financial Stability motives. The items representing the motives of Market Value, Pride, Leisure, Charity and Freedom were combined (using the mean) to arrive at a global score for Self-integrated Motives. Similarly, the items representing the motives of Impulse, Overcoming self-doubt and Social Comparison were combined (using the mean) to

arrive at a global score for Non-integrated motives. The reliability estimates for each global score (with all items) at both time points (before and after the intervention) were acceptable. Cronbach's alpha for Financial Stability motives at time 1 was .71 and .70 at time 2. Cronbach's alpha for Self-integrated motives was .76 at time 1 and .77 at time 2. Cronbach's alpha for Non-integrated motives at time 1 was .85 and .83 at time 2.

Description of the intervention. The intervention was developed with the purpose of helping individuals become aware of their own motives for making money and to shift them away from Non-integrated motives toward more positive motives (Self-integrated and Stability motives). The workshop is structured into three main parts. The first part aims to help people become familiar with the research on money and happiness and of the importance of pursuing goals that encourage psychological need satisfaction. The second part of the intervention consists of helping participants become aware of their own dominant reasons for making money by asking them to complete the MMMS and to score it themselves (Money motive scores from Study 1 were transformed into a percentile scoring sheet in which participants could determine whether they scored high/average/low compared to a sample on each motive). Discussions are facilitated to help individuals become aware of how the different motives influence psychological health. The final theme of the workshop is to encourage participants to make actual changes in the way they perceive and spend money by presenting strategies that are likely to encourage need satisfaction (e.g., spending money on others rather than on oneself, and on experiences rather than material things; Dunn, Gilbert, & Wilson, 2011). To increase the likelihood that participants integrate the notions presented during the workshop, each participant is asked to sign a "personal contract" to themselves, in which they commit to implementing the strategies within the upcoming weeks.

Manipulation check. To assess whether the intervention had the intended effects on participants, the experimental group was asked (after completing the second set of questionnaires two weeks after the intervention) to answer the following questions using a 5-point scale: (1) “Do you believe the workshop was useful in helping you identify the different motivations you have for making money?”, (2) “Since you participated in the workshop, have you made any changes regarding the way you spend money?” and (3) “Since you participated in the workshop, have you noticed any changes regarding the way you perceive and/or relate to money?”.

2.6.4 Results

Preliminary analyses

In preliminary data cleaning, no impossible or invalid responses were found and there was no missing data. All study variables were normally distributed and no outliers were found. Given that participants were not randomly assigned to the experimental and control groups, a MANOVA was conducted to verify if the groups differed significantly with respect to the variables of age, gender, education and work hours. The results revealed that there was a statistically significant difference between the experimental and control group with respect to the set of demographic variables, $F(4, 35) = 62.69, p < .001$; Wilk's $\Lambda = 0.122$; partial $\eta^2 = .88$. Follow-up analyses revealed that the intervention and control group were significantly different in terms of age ($F(1, 38) = 29.42, p < .001$; partial $\eta^2 = .44$), education ($F(1, 38) = 193.25; p < .001$; partial $\eta^2 = .84$) and work hours ($F(1, 38) = 9.86; p = .003$; partial $\eta^2 = .21$). Thus, age, education and work hours were controlled for in the main analyses.

Manipulation check

All participants agreed that the intervention was effective in helping them identify their motives for making money (52.6% agreed, 47.4% strongly agreed). With respect to

actual changes in spending, only 26.4% of participants agreed that the intervention helped them bring about a change in spending (42.1% neutral; 31.6% disagreed) and 36.8% agreed that they experienced a change in how they perceive their relationship with money (31.6% disagreed; 31.6% neutral). Hence, it appears the intervention was effective in helping individuals identify their money motives, but led to actual behavioral and attitudinal changes for approximately a third of participants.

Main analyses

A between and within subjects repeated measures ANOVA, with Time (Time 1, Time 2) as the within-subjects factor and Condition (Experimental, Control) as the between subjects factor was run separately for Self-integrated, Stability and Nonintegrated money motives. The variables of age, education and work hours were included as covariates in the analyses. In order to find support for hypotheses H10 and H11, significant interaction effects (Time by Condition) are expected. The results revealed no significant group by time interaction effect for Self-integrated ($F(1, 35) = .03; p = .856$) and Stability ($F(1, 35) = .50; p = .483$) motives. Levene's test of equality of variances was not statistically significant for both self-integrated and stability motives. This result indicates that compared to the control group, participants in the experimental group did not exhibit significantly higher Self-integrated and Financial stability motives after participating in the intervention (H10 not supported).

With respect to Non-integrated motives, the results revealed that there was a significant time by group interaction effect ($F(1, 35) = 8.91; p = .005; \eta^2 = .203$). Levene's test for equality of variances was not statistically significant. Figure 4 as well as the estimated marginal means in Table 10 reveal that participants in the experimental condition had significantly lower non-integrated motives after the intervention

compared to the control group, whereas non-integrated motives actually increased over time for participants in the control group. Simple main effect analyses revealed that the control group experienced a significant increase in Non-integrated money motives over time as there was a significant main effect of time for the control group ($F(1, 17) = 4.82; p = .042$). Although Non-integrated motives decreased in the intervention group after the intervention, the main effect of time was not statistically significant ($F(1, 15) = .09; p = .767$). Taken together, these results indicate that for participants in the control group, scores on Non-integrated motives increased significantly over time. Moreover, the presence of a significant interaction effect indicates that Non-integrated motives were significantly higher for the control group compared to the experimental group after the intervention (H11 partially supported).

2.6.5 Discussion: Study 3

The results of Study 3 provide preliminary evidence for the effectiveness of an intervention aiming to help individuals become aware of their motives for making money. Though Self-integrated and Financial stability motives did not increase, participants in the control group revealed significantly higher Non-integrated motives than the experimental group. Further analyses revealed that Non-integrated motives increased significantly for those in the control group. These findings suggest that the intervention may be useful in keeping Non-integrated motives at bay.

2.7 General discussion

This article had two main objectives: (1) understand what motivates people to make money and how this impacts psychological health (Studies 1 and 2) and (2) explore whether it is possible to encourage the adoption of healthy reasons for making money (Study 3). The results of Study 1 provided support for the existence of ten primary reasons that motivate individuals to make money: financial security (Security),

supporting loved ones (Family support), financial freedom (Freedom), fair work compensation (Market worth), pride for life accomplishments (Pride), participating in leisure activities (Leisure), helping others (Charity), attract attention and boast (Social comparison), overcome feelings of personal insecurity (Overcoming Self-doubt) as well as to spend impulsively (Impulse). In answer to Thibault Landry et al.'s (2016) call for a replication of the second-order factor structure of the MMMS, the results of Study 1 find support for the assertion that the ten motives are accurately represented by three broad categories of motives, namely Financial stability (Security and Family support), Self-integrated (Market worth, Pride, Leisure, Charity, and Freedom) and Non-integrated (Impulse, Social comparison, and Overcoming self-doubt) motives. The impact of these motives on psychological health is made clear by the results of Study 2. In line with previous research (Thibault Landry et al., 2016), when individuals desire money for Self-integrated reasons they are more likely to experience the satisfaction (and prevent the frustration) of their three psychological needs (autonomy, competence and relatedness) and consequently greater well-being (and less ill-being). Desiring money for Non-integrated reasons, on the other hand, leads individuals to actively thwart their psychological needs and in turn lead to greater ill-being. Contrary to Thibault Landry et al.'s (2016) study, Financial Stability motives also significantly predicted need satisfaction and in turn well-being. Given previous research revealing that money seems to lead to cognitive well-being (i.e., life satisfaction) when used to fulfill basic life necessities and extracting oneself from poverty (e.g., food, housing, etc.; Howell & Howell, 2008), it makes sense that individuals desiring money to ensure their own and their family's physical well-being would also encourage psychological need satisfaction. For instance, being able to afford decent housing is likely to encourage feelings of autonomy and competence. Moreover, supporting loved ones, especially during hard financial times, is also likely to contribute to feelings of relatedness as it strengthens relationships with significant others. This finding is consistent with the results of a study by Howell, Kurai and Tam (2013) which revealed that rises in economic standing lead to subsequent increases in life satisfaction and that

this association is mediated by feelings of financial security as well as psychological need satisfaction. Thus, in addition to highlighting the importance of Self-integrated and Non-integrated motives in predicting psychological health, this article contributes to the literature by suggesting that desiring money for Financial stability reasons is also likely to encourage psychological need satisfaction and consequently well-being.

In trying to understand what motivates people to make money, Study 2 also explored how materialism impacts psychological health and how it relates to the money motives. With respect to materialism's impact on well-being, results were consistent with previous research (Unanue et al., 2014, 2017). Specifically, need frustration (but not need satisfaction) explained materialism's adverse effects on psychological health (well-being and ill-being). Most interesting, materialism's effect on need frustration was fully accounted for by the Non-integrated motives for making money. Consistent with Srivastava et al. (2001), this finding suggests that materialism's adverse effects on mental health are most likely driven by the fact that individuals high in materialism are likely to desire money in order to spend impulsively, especially to compensate for feelings of self-doubt and insecurity as well as to boast, gain admiration and appear better than others. From this perspective, it may be more appropriate to conceptualize materialism more broadly and as a set of unhealthy reasons for desiring money that represent only some of the possible reasons for making money. As was made clear by Study 2, there are also beneficial motives for making money that may countermand the detrimental effects of materialism on mental health. In line with this, a distinction is sometimes made between instrumental (using material possessions as a means of fulfilling life goals) and terminal materialism (amassing wealth as a representation of social status; Csikszentmihalyi & Rochberg-Halton, 1981; Fournier & Richins, 1999; Rochberg-Halton, 1986). A number of scholars suggest that while terminal materialism is harmful to well-being, instrumental materialism is not (Ger & Belk, 1999; Rochberg-Halton, 1986; Scott, 2009). This perspective reiterates the assertion that money can also be pursued for beneficial and detrimental reasons and suggests that both may

coexist at once (Carver & Baird, 1998). For instance, Mathur (2013) found that materialism maintains both negative and positive associations with charitable behavior. Though it is contrary to expectation, it provides a potential explanation for the finding that materialism correlates positively, not only with Non-integrated motives, but also with Self-integrated and Financial stability motives.

In addition to exploring what motivates people to make money, a secondary objective of this article was to determine whether it is possible to encourage the adoption of healthy motives for making money. This was accomplished by testing the effectiveness of an intervention (Study 3) designed to encourage individuals to become aware of their own motives as well as to help them shift away from unhealthy reasons for wanting money and guide them towards more beneficial ones. The results of Study 3 provided preliminary evidence for the effectiveness of an intervention aimed at helping individuals become aware of their own money motives. Although no significant changes in beneficial motives (Financial stability and Self-integrated) were witnessed, participants in the experimental group revealed significantly lower Non-integrated motives than the control group two weeks after the intervention. Consistent with previous studies, this study finds some support for the fact that simply becoming aware of one's motivations may help to keep unhealthy motives for making money at bay (Sheldon et al., 2003).

2.7.1 Limitations and future research

The three studies of this article have several weaknesses that must be outlined. A limitation of Study 2 is the self-reported nature of the study as this increases the risk for common method bias. Nevertheless, Harman's single factor score (Harman, 1960) suggested that the results were unlikely affected by CMB. Moreover, many scholars argue that self-reports are appropriate for measuring subjective appraisals, such as the constructs in this study, that are not easily observable into behavior (e.g., Chan 2009; Conway & Lance, 2010; Podsakoff, MacKenzie, & Podsakoff, 2012). The correlational

design of Study 2 represents another limitation, as it does not allow for inferring causality between variables. For instance, this article proposes that money motives influence psychological health through the mediating role of need satisfaction and frustration. Without longitudinal data however, it is impossible to rule out the alternative possibility that psychological health influences need satisfaction and in turn the money motives. However, previous research using longitudinal designs provides support for the direction of the relationships proposed in this study (Olafsen, Deci, & Halvari, 2018).

With respect to the intervention study (Study 3), a number of important limitations must be described. First, the small sample size decreases the odds of achieving adequate statistical power and causes significant difficulties in terms of generalizability of the results. It is crucial for future research to test the intervention with a larger and more diverse sample of participants. Second, the quasi-experimental design increases the possibility that other unaccounted factors may influence the results of the study. Nonetheless, care was taken to control for several socio-demographic variables that were known to have potentially biased the results. Specifically, analyses were conducted in order to determine whether the experimental and control groups differed with respect to the demographic variables (i.e. age, gender, education and work hours). It was found that the experimental group was significantly older, more educated and worked more hours than participants in the control group. Thus, these variables were controlled for in the main analyses, increasing the likelihood that differences in money motives were related to the intervention and not to demographic differences between the groups.

Relatedly, it is also important to note that participants in the experimental group voluntarily decided to participate in the workshop and were also highly educated (a majority of participants completed graduate level studies). Having participants who are both highly educated and motivated to participate in a financial workshop makes

generalizing the results difficult and might have biased the results in several ways. First, any differences between the experimental and control groups in terms of money motives may be the result of these factors. Participants who are highly educated and/or motivated to learn about the psychological aspects of money, may be individuals who are more likely and willing to make changes to their money and spending habits. On the other hand, this issue may also provide a potential explanation as to why the intervention was not as effective as expected (no significant increases in beneficial motives and decreases in detrimental motives). It is possible that the experimental group consisted of individuals who were already motivated to understand their relationship with money and may already make active efforts in their lives to improve this relationship. Thus, the intervention may have presented information that they were already aware of and may not have been strong enough to cause any changes in their money motives. This further reiterates the need for future research to test the intervention among a more diverse sample (with a variety of other demographic variables) that includes participants who are not necessarily inclined to respond positively to the messages of the intervention.

Another limitation is that the control group in this study did not participate in a placebo intervention (the control group was simply asked to complete questionnaires at two time points). Not only did participants in the experimental group get exposed to an intervention, but they also received more attention and contact from the experimenters and from each other given the dynamic nature of the workshop. This leaves open the possibility that the mere fact of participating in the intervention may have affected the outcomes that were observed. Ideally, future studies could test the effectiveness of the intervention using an experimental design (with a placebo treatment group) in which participants are randomly assigned to both conditions. Future studies can provide the control group a placebo intervention that mimics the format of the experimental intervention without the targeted money motive content. For instance, participants in

the control group could be invited to participate in a workshop dealing with subjects such as financial literacy and budgeting.

Another factor that may have potentially biased the results relates to social desirability. Evidently, participants in the experimental group were presented with information that indicated that some motives for making money are beneficial, whereas others are detrimental for well-being and happiness. Money and personal finances remain very taboo topics and many people experience shame and embarrassment when talking about money (Whysel, 2020). It is possible that participants in the experimental group reported significantly lower Non-integrated motives after the intervention compared to the control group because they consciously decided not to report these motives. If participants were motivated to appear socially desirable however, it would be expected that they would also overreport the beneficial motives of Self-integrated and Financial stability motives. Thus, it is unlikely that social desirability was at play. Nevertheless, future studies could incorporate social desirability scales into the study design in order to rule out this issue more definitely. Moreover, future studies could find different ways of operationalizing the primary study variables (motives) by using other types of measures such as peer reports or more implicit measures of the money motives.

Finally, the intervention tested in Study 3 can benefit from methodological and structural improvements in future studies. First, the effect of the intervention on variables other than the money motives (i.e., need satisfaction/frustration, well-being/ill-being) was not assessed. It is possible that the intervention may have had direct effects on these outcomes. Moreover, the two-week timeframe may not have been sufficient to allow individuals to make any real changes in their motives and spending behavior. It may be fruitful for future research to assess different outcome variables over multiple periods to determine how they evolve over time.

The intervention itself may also be improved in several ways in order to encourage concrete changes in the money motives. According to Prochaska and DiClemente's (1983) change framework, individuals move through five different stages before implementing real and sustained changes in behaviour. In the first stage, precontemplation, people are unaware or do not acknowledge any problems in their behaviour. Getting individuals to move to the second stage, contemplation, requires that they become conscious of the problem behaviours. At this stage, however, they are aware but not necessarily ready to commit to changing the behaviour. The next stage, preparation, occurs when individuals are ready to change the behaviour and plan to do so in the following weeks. At this stage, individuals need regular support in order to move onto the next phase, the action phase, in which they begin to engage in change activities. In the final stage, maintenance, the new behaviour changes are witnessed and actions are taken to reinforce the change.

The results of Study 3 revealed that, at the very least, the intervention was effective at helping individuals become aware of their own motives for making money. When considering Prochaska and DiClemente's (1983) framework, it can be argued that the intervention allowed individuals to enter the contemplation stage and perhaps for some individuals, the preparation phase (given that participants were asked to make commitments to make certain beneficial purchases in the following weeks). More concrete motive changes might be witnessed if elements were added to the intervention to help participants move from the preparation phase to the action and maintenance phases (which are known to take months and sometimes years to achieve). For instance, during the workshop participants can be asked to review their actual previous purchases and to reflect individually (or as a group) as to what motivated them to make such purchases. This could help them gain an understanding of how their money motives play out concretely in their purchases. Moreover, individuals can be asked to reflect (either verbally or in written form) about how their different motives (beneficial or detrimental) impact their feelings of autonomy, competency and relatedness over the

long term. Finally, to get participants to move from the preparation to the action phase specifically, the intervention can be structured over a longer period of time and include several follow ups with participants. For instance, the workshop could be structured as one-hour sessions every week over several weeks and have concrete actions and reflective exercises that must be completed every week. Moreover, after the end of the workshop, follow ups can be provided to participants to help track their progress and to increase the likelihood that the notions and recommendations of the workshop are maintained over time. New application technologies can be used that could allow researchers to reach participants easily and track their progress quickly and frequently over time.

2.8 Conclusion

This article provides a more precise answer to the question of whether money buys happiness or not. In line with SDT, money can and does buy some or all components of happiness to the extent that it is used to pursue goals that encourage psychological need satisfaction (e.g., helping others, enjoying leisure activities, achieving financial freedom), but it does not buy happiness (and actually increases ill-being) when it is desired for reasons that actively thwart the psychological needs (i.e., alleviate feelings of self-doubt, boast, and spend impulsively). Moreover, this article bridges two relatively independent research fields by suggesting that materialism may be better conceptualized as a set of unhealthy reasons for desiring money and that these represent only some of the possible reasons for desiring financial success. Finally, preliminary evidence was found for the effectiveness of an intervention in allowing individuals to become aware of their own motivations for making money and keeping unhealthy money motives at bay.

2.9 References

- Akaike, H. (1987). Factor analysis and AIC. In *Selected papers of Hirotugu Akaike*
- Arbuckle, J. L. (2014). *Amos (Version 23.0) [Computer Program]*. Chicago: IBM SPSS.
- Arthaud-Day, M. L., & Near, J. P. (2005). The wealth of nations and the happiness of nations: Why “accounting” matters. *Social Indicators Research*, 74, 511–548.
- Bartholomew, K. J., Ntoumanis, N., Cuevas, R., & Lonsdale, C. (2014). Job pressure and ill-health in physical education teachers: The mediating role of psychological need thwarting. *Teaching and Teacher Education*, 37, 101–107. doi:10.1016/j.tate.2013.10.006.
- Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., Bosch, J. A., & Thøgersen-Ntoumani, C. (2011a). Self-determination theory and diminished functioning: The role of interpersonal control and psychological need thwarting. *Personality and Social Psychology Bulletin*, 37, 1459–1473. doi:10.1177/0146167211413125.
- Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., & Thøgersen-Ntoumani, C. (2011b). Psychological need thwarting in the sport context: Assessing the darker side of athletic experience. *Journal of Sport & Exercise Psychology*, 33, 75–102. doi:10.1037/t00804-000.
- Blanchflower, D. G., & Oswald, A. J. (2011). International happiness: A new view on the measure of performance. *The Academy of Management Perspectives*, 25(1), 6–22.

- Briggs, E., Landry, T., & Wood, C. (2007). Beyond just being there: An examination of the impact of attitudes, materialism, and self-esteem on the quality of helping behavior in youth volunteers. *Journal of Nonprofit & Public Sector Marketing*, 18(2), 27-45.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Newbury Park, CA: Sage.
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data?. *Perspectives on psychological science*, 6(1), 3-5.
- Burke, R. J. (2004). Workaholism, self-esteem, and motives for money. *Psychological Reports*, 94, 457–463. doi:10.2466/PR0.94.2.457-463.
- Burroughs, J. E., & Rindfleisch, A. (2002). Materialism and well-being: A conflicting values perspective. *Journal of Consumer research*, 29(3), 348-370.
- Byrne, B. M. (2012). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. New York: Routledge Academic.
- Carver, C. S., & Baird, E. (1998). The American dream revisited: Is it what you want or why you want it that matters? *Psychological Science*, 9, 289–292. doi:10.1111/1467-9280.00057.
- Carver, A. B., & McCarty, J. A. (2013). Personality and psychographics of three types of gamblers in the United States. *International Gambling Studies*, 13(3), 338-355.

- Chan, D. (2009). So why ask me? Are self-report data really that bad? In C. E. Lance & R. J. Vandenberg (Eds.), *Statistical and methodological myths and urban legends: Doctrine, verity and fable in the organizational and social sciences* (pp. 309–336). New York, NY: Routledge.
- Chang, L., & Arkin, R. M. (2002). Materialism as an attempt to cope with uncertainty. *Psychology & Marketing*, 19(5), 389-406.
- Chen, B., Van Assche, J., Vansteenkiste, M., Soenens, B., & Beyers, W. (2014). Does psychological need satisfaction matter when environmental or financial safety are at risk? *Journal of Happiness Studies*, 16:745-766. DOI 10.1007/s10902-014-9532-5
- Chen, Y., Yao, M., & Yan, W. (2014). Materialism and well-being among Chinese college students: The mediating role of basic psychological need satisfaction. *Journal of Health Psychology*, 19(10), 1232–1240.
- Chirkov, V. I., Sheldon, K. M., & Ryan, R. M. (2011). Introduction: The struggle for happiness and autonomy in cultural and personal contexts: An overview. In *Human autonomy in cross-cultural context* (pp. 1-30). Springer, Dordrecht.
- Choi, N. G., DiNitto, D. M., & Kim, J. (2014). Discrepancy between chronological age and felt age: Age group difference in objective and subjective health as correlates. *Journal of Aging and Health*, 26(3), 458-473.
- Christopher, A. N., & Schlenker, B. R. (2004). Materialism and affect: The role of self-presentational concerns. *Journal of Social and Clinical Psychology*, 23(2), 260-272.

- Clark, M. S., Greenberg, A., Hill, E., Lemay, E. P., Clark-Polner, E., & Roosth, D. (2011). Heightened interpersonal security diminishes the monetary value of possessions. *Journal of Experimental Social Psychology*, 47(2), 359-364.
- Clingingsmith, D. (2016). Negative emotions, income, and welfare: Causal estimates from the PSID. *Journal of Economic Behavior & Organization*, 130, 1-19.
- Cole, J. C., Rabin, A. S., Smith, T. L., & Kaufman, A. S. (2004). Development and validation of a Rasch-derived CES-D short form. *Psychological Assessment*, 16, 360–372. doi:10.1037/1040-3590.16.4.360.
- Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology*, 25(3), 325–334. doi:10.1007/s10869-010-9181-6.
- Csikszentmihalyi, M., & Rochberg-Halton, E. (1981). *The meaning of things: Domestic symbols and the self*. Cambridge, England: Cambridge University Press.
- Cummins, R. A. (2000). Personal income and subjective well-being: A review. *Journal of Happiness Studies*, 1, 133–158.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227–268. doi:10.1207/S15327965PLI1104_01.
- Deci, E. L. & Ryan, R. M. (2000). Self-Determination Theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.

- Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist*, 55, 34–43.
- Diener, E., & Biswas-Diener, R. (2002). Will money increase subjective well-being? A literature review and guide to needed research. *Social Indicators Research*, 57, 119-169.
- Diener, E., Kahneman, D., Arora, R., Harter, J., & Tov, W. (2009). Income's Differential Influence on Judgments of Life Versus Affective Well-Being. In *Assessing well-being* (pp. 233-246). Springer, Dordrecht.
- Diener, E., Ng, W., Harter, J., & Arora, R. (2010). Wealth and happiness across the world: Material prosperity predicts life evaluation, whereas psychosocial prosperity predicts positive feeling. *Journal of personality and social psychology*, 99(1), 52.
- Diener, E., Oishi, S., & Lucas, R. E. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual Reviews of Psychology*, 54, 403–425.
- Diener, E. & Seligman, M. E. P. (2004). Beyond money: Toward an economy of well-being. *Psychological Science in the Public Interest*, 5(1), 1-31.
- Diener, E., Tay, L., & Oishi, S. (2013). Rising income and the subjective well-being of nations. *Journal of Personality and Social Psychology*, 104(2), 267. doi:10.1037/a0030487.

- Dittmar, H., Bond, R., Hurst, M., & Kasser, T. (2014). The relationship between materialism and personal well-being: A meta-analysis. *Journal of personality and social psychology*, 107(5), 879.
- Donnelly, G., Iyer, R., & Howell, R. T. (2012). The big five personality traits, material values, and financial well-being of self-described money managers. *Journal of Economic Psychology*, 33(6), 1129-1142.
- Donnelly, G., Ksendzova, M., & Howell, R. T. (2013). Sadness, identity, and plastic in over-shopping: The interplay of materialism, poor credit management, and emotional buying motives in predicting compulsive buying. *Journal of Economic Psychology*, 39, 113-125.
- Dunn, E. W., Gilbert, D. T., & Wilson, T. D. (2011). If money doesn't make you happy, then you probably aren't spending it right. *Journal of Consumer Psychology*, 21(2), 115-125.
- Duriez, B., Vansteenkiste, M., Soenens, B., & De Witte, H. (2007). The social costs of extrinsic relative to intrinsic goal pursuits: Their relation with social dominance and racial and ethnic prejudice. *Journal of Personality*, 75(4), 757–782. <https://doi.org/10.1111/j.1467-6494.2007.00456.x>
- Fournier, S., & Richins, M. L. (1991). Some theoretical and popular notions concerning materialism. *Journal of Social Behavior and Personality*, 6(6), 403–414.
- Gagné, M., & Deci, E. L. (2005). Self - determination theory and work motivation. *Journal of Organizational behavior*, 26(4), 331-362.

- Gagné, M., Forest, J., Vansteenkiste, M., Crevier-Braud, L., Van den Broeck, A., Aspeli, A. K., et al. (2015). The Multidimensional Work Motivation Scale: Validation evidence in seven languages and nine countries. *European Journal of Work and Organizational Psychology, 24*(2), 178–196. doi:10.1080/1359432x.2013. 877892.
- Gardarsdóttir, R. B., Dittmar, H., & Aspinall, C. (2009). It's not the money, it's the quest for a happier self: The role of happiness and success motives in the link between financial goals and subjective well-being. *Journal of Social and Clinical Psychology, 28*, 1100–1127. doi:10.1521/jscp.2009.28.9.1100.
- Gardarsdóttir, R., Jankovic, J., & Dittmar, H. (2008). Is this as good as it gets? Materialistic values and well-being. In H. Dittmar (Ed.), *Consumer culture, identity and well-being: The search for the 'good life' and the 'body perfect'* (pp. 71–94). Hove and New York: Psychology Press.
- Ger, G., & Belk, R. W. (1999). Accounting for materialism in four cultures. *Journal of Material Culture, 4*(2), 183-204.
- Gillet, N., Fouquereau, E., Forest, J., Brunault, P., & Colombat, P. (2012). The impact of organizational factors on psychological needs and their relations with well-being. *Journal of Business Psychology, 27*, 437-450.
- Grouzet, F. M., Kasser, T., Ahuvia, A., Dols, J. M. F., Kim, Y., Lau, S., ... & Sheldon, K. M. (2005). The structure of goal contents across 15 cultures. *Journal of personality and social psychology, 89*(5), 800.
- Gunnell, K. E., Crocker, P. R. E., Wilson, P. M., Mack, D. E., & Zumbo, B. D. (2013). Psychological need satisfaction and thwarting: A test of basic psychological

needs theory in physical activity contexts. *Psychology of Sport and Exercise*, 14, 599–607.

Gunzler, D., Chen, T., Wu, P., & Zhang, H. (2013). Introduction to mediation analysis with structural equation modeling. *Shanghai archives of psychiatry*, 25(6), 390–394. <https://doi.org/10.3969/j.issn.1002-0829.2013.06.009>

Harman, H. H. (1960). *Modern factor analysis*. Oxford, England: Univ. of Chicago Press.

Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]. Retrieved from <http://www.afhayes.com/public/process2012.pdf>

Henderson-King, D., & Brooks, K. D. (2009). Materialism, sociocultural appearance messages, and paternal attitudes predict college women's attitudes about cosmetic surgery. *Psychology of Women Quarterly*, 33(1), 133-142. doi:10.1016/j.psychsport.2013.03.007.

Hofer, J., & Busch, H. (2011). Satisfying one's needs for competence and relatedness consequent domain-specific well-being depends on strength of implicit motives. *Personality and Social Psychology Bulletin*, 37(9), 1147–1158. doi:10.1177/0146167211408329.

Hogan, J., & Hogan, R. (1996). *Motives, values, preferences inventory manual*. Tulsa, OK: Hogan Assessment Systems

Hope, N. H., Milyavskaya, M., Holding, A. C., & Koestner, R. (2014). Self-growth in the college years: Increased importance of intrinsic values predicts resolution of

identity and intimacy stages. *Social psychological and personality science*, 5(6), 705-712.

Howell, R. T., & Howell, C. J. (2008). The relation of economic status to subjective well-being in developing countries: a meta-analysis. *Psychological bulletin*, 134(4), 536.

Howell, R. T., Kurai, M., & Tam, L. (2013). Money buys financial security and psychological need satisfaction: Testing need theory in affluence. *Social Indicators Research*, 110(1), 17-29.

Hoyle, R. H. (1995). *Structural equation modeling: Concepts, issues, and applications*. Thousand Oaks, CA: Sage Publications.

Hu, L.-T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. doi:10.1080/10705519909540118.

Hurst, M., Dittmar, H., Bond, R., & Kasser, T. (2013). The relationship between materialistic values and environmental attitudes and behaviors: A meta-analysis. *Journal of Environmental Psychology*, 36, 257 – 269. <https://doi.org/10.1016/j.jenvp.2013.09.003>

Jebb, A. T., Tay, L., Diener, E., & Oishi, S. (2018). Happiness, income satiation and turning points around the world. *Nature Human Behaviour*, 2(1), 33.

Kahneman, D., & Deaton, A. (2010). High income improves evaluation of life but not emotional well-being. *Proceedings of the national academy of sciences*, 107(38), 16489-16493.

- Kahneman, D., Krueger, A. B., Schkade, D., Schwarz, N., & Stone, A. A. (2006). Would you be happier if you were richer? A focusing illusion. *Science*, 312, 1908–1910. doi:10.1126/science.1129688
- Kamal, S., Chu, S. C., & Pedram, M. (2013). Materialism, attitudes, and social media usage and their impact on purchase intention of luxury fashion goods among American and Arab young generations. *Journal of Interactive Advertising*, 13(1), 27-40.
- Karabati, S., & Cemalcilar, Z. (2010). Values, materialism, and well-being: A study with Turkish university students. *Journal of Economic Psychology*, 31(4), 624-633.
- Kasser, T. (2002). Sketches for a self-determination theory of values. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 123-140). Rochester, NY: University Of Rochester Press.
- Kasser, T. (2016). Materialistic values and goals. *Annual review of psychology*, 67, 489-514.
- Kasser, T., Rosenblum, K. L., Sameroff, A. J., Deci, E. L., Niemiec, C. P., Ryan, R. M., ... & Hawks, S. (2014). Changes in materialism, changes in psychological well-being: Evidence from three longitudinal studies and an intervention experiment. *Motivation and Emotion*, 38(1), 1-22.
- Kasser, T., & Ryan, R. M. (1993). A dark side of the American dream: Correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology*, 65, 410–422. doi:10.1037//0022-3514.65.2.410.

- Kasser, T., & Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin*, 22, 280–287. doi:10.1177/0146167296223006.
- Kasser, T., & Ryan, R. M. (2001). Be careful what you wish for: Optimal functioning and the relative attainment of intrinsic and extrinsic goals. *Life goals and well-being: Towards a positive psychology of human striving*, 1, 116-131.
- Kenny, D. A. (2012). *Multiple latent variable models: Confirmatory factor analysis*. Davidakenny.net Retrieved August 1, 2020.
- Kim, H., Callan, M. J., Gheorghiu, A. I., & Matthews, W. J. (2017). Social comparison, personal relative deprivation, and materialism. *British Journal of Social Psychology*, 56(2), 373-392.
- Kline R. (1998). *Principles and Practice of Structural Equation Modeling*. New York, NY: Guilford Press.
- Kushlev, K., Dunn, E. W., & Lucas, R. E. (2015). Higher income is associated with less daily sadness but not more daily happiness. *Social Psychological and Personality Science*, 6(5), 483-489.
- Lasaleta, J. D., Sedikides, C., & Vohs, K. D. (2014). Nostalgia weakens the desire for money. *Journal of Consumer Research*, 41(3), 713-729.
- Lavigne, G. L., Vallerand, R. J., & Crevier-Braud, L. (2011). The fundamental need to belong: On the distinction between growth and deficit-reduction orientations. *Personality and Social Psychology Bulletin*, 37(9), 1185–1201. doi:10.1177/0146167211405995.

- Lekes, N., Hope, N. H., Gouveia, L., Koestner, R., & Philippe, F. L. (2012). Influencing value priorities and increasing well-being: The effects of reflecting on intrinsic values. *The Journal of Positive Psychology*, 7(3), 249-261.
- Li, J., Lu, M., Xia, T., & Guo, Y. (2018). Materialism as compensation for self-esteem among lower-class students. *Personality and Individual Differences*, 131, 191-196.
- Lim, V. K., & Sng, Q. S. (2006). Does parental job insecurity matter? Money anxiety, money motives, and work motivation. *Journal of Applied Psychology*, 91(5), 1078–1087. doi:10.1037/0021-9010.91.5.1078.
- Lever, J. P., Pinol, N. L., & Uralde, J. H. (2005). Poverty, psychological resources and subjective well-being. *Social Indicators Research*, 73(3), 375-408.
- MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological methods*, 1(2), 130.
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*, 39(1), 99–128. doi:10.1207/s15327906mbr3901_4.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50, 370–396.
- Mathur, A. (2013). Materialism and charitable giving: Can they co - exist?. *Journal of Consumer Behaviour*, 12(3), 149-158.

- Moldes, O., & Ku, L. (2020). Materialistic cues makes us miserable: A meta - analysis of the experimental evidence for the effects of materialism on individual and societal well - being. *Psychology & Marketing*.
- Nagpaul, T., & Pang, J. S. (2017). Materialism lowers well - being: The mediating role of the need for autonomy - correlational and experimental evidence. *Asian Journal of Social Psychology*, 20(1), 11-21.
- Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2009). The path taken: Consequences of attaining intrinsic and extrinsic aspirations in post-college life. *Journal of research in personality*, 43(3), 291-306. doi: 10.1016/j.jrp.2008.09.001.
- Olafsen, A. H., Deci, E. L., & Halvari, H. (2018). Basic psychological needs and work motivation: A longitudinal test of directionality. *Motivation and Emotion*, 42(2), 178-189.
- Paolacci, G., Chandler, J., & Ipeirotis, P. G. (2010). Running experiments on amazon mechanical turk. *Judgment and Decision making*, 5(5), 411-419.
- Park, J. K., & John, D. R. (2011). More than meets the eye: The influence of implicit and explicit self-esteem on materialism. *Journal of consumer psychology*, 21(1), 73-87.
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539-569. doi:10.1146/annurev-psych-120710-100452.

- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. doi:10.3758/BRM.40.3.879.
- Prochaska, J. O., & DiClemente, C. C. (1983). Stages and processes of self-change of smoking: toward an integrative model of change. *Journal of consulting and clinical psychology*, 51(3), 390.
- Richins, M. L. (2011). Materialism, transformation expectations, and spending: Implications for credit use. *Journal of Public Policy & Marketing*, 30(2), 141-156.
- Richins, M., & Dawson, S. (1992). A consumer values orientation for materialism and its measurement—Scale development and validation. *Journal of Consumer Research*, 19, 303–316. DOI:10.1086/209304.
- Robak, R. W., Chiffrieller, S. H., & Zappone, M. C. (2007). College students' motivations for money and subjective well-being. *Psychological reports*, 100(1), 147-156.
- Rochberg-Halton, E. (1986). *Meaning and modernity: Social theory in the pragmatic attitude*. Chicago, IL: University of Chicago Press.
- Rucker, D. D., & Galinsky, A. D. (2008). Desire to acquire: Powerlessness and compensatory consumption. *Journal of Consumer Research*, 35(2), 257-267.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68–78. DOI: 10.1037/ 0003-066X.55.1.68.

- Sacks, D. W., Stevenson, B., & Wolfers, J. (2012). The new stylized facts about income and subjective well-being. *Emotion*, 12(6), 1181. doi:10.1037/a0029873.
- Schumacher, R. E., & Lomax, R. G. (1996a). *A beginner's guide to SEM*. New Jersey: Mahwah.
- Schumacher, R. E., & Lomax, R. G. (1996b). *A beginner's guide to structural equation modeling*. New Jersey: Lawrence Erlbaum Associates, Publishers.
- Scott, K. (2009). *Terminal materialism vs. instrumental materialism: Can materialism be beneficial?* (Doctoral dissertation, Oklahoma State University).
- Sheldon, K. M., Arndt, J., & Houser - Marko, L. (2003). In search of the organismic valuing process: The human tendency to move towards beneficial goal choices. *Journal of Personality*, 71(5), 835-869.
- Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology*, 76(3), 482–497. doi:10.1037/0022-3514.76.3.482.
- Sheldon, K. M., Cheng, C., & Hilpert, J. (2011). Understanding wellbeing and optimal functioning: Applying the Multilevel Personality in Context (MPIC) model. *Psychological Inquiry*, 22(1), 1–16. doi:10.1080/1047840x.2011.532477.
- Sheldon, K. M., & Hilpert, J. C. (2012). The Balanced Measure of Psychological Needs (BMPN) scale: An alternative domain general measure of need satisfaction. *Motivation and Emotion*, 36, 439–451. doi:10.1007/s11031-012-9279-4.

- Sheldon, K. M., & Kasser, T. (1995). Coherence and congruence: Two aspects of personality integration. *Journal of personality and social psychology*, 68(3), 531.
- Sheldon, K. M., & Kasser, T. (2008). Psychological threat and extrinsic goal striving. *Motivation and Emotion*, 32(1), 37-45.
- Sheldon, K. M., Turban, D. B., Brown, K. G., Barrick, M., & Judge, T. A. (2003). Applying self-determination theory to organizational research. In: Martocchio, J. J., Ferris, G. R. (eds). *Research in Personnel and Human Resource Management*, 22, 357-394.
- Shrum, L. J., Lowrey, T. M., Pandelaere, M., Ruvio, A. A., Gentina, E., Furchheim, P., . . . Steinfeld, L. (2014). Materialism: The good, the bad, and the ugly. *Journal of Marketing Management*, 30, 1858–1881. doi:10.1080/0267257X.2014.959985
- Solberg, E. C., Diener E., & Robinson M. D.(2004). Why are materialists less satisfied? In *Psychology and Consumer Culture: The Struggle for a Good Life in a Materialistic World*, ed. T Kasser, AD Kanner, pp. 29–48. Washington, DC: Am. Psychol. Assoc.
- Srivastava, A., Locke, E. A., & Bartol, K. M. (2001). Money and subjective well-being: It's not the money, it's the motives. *Journal of Personality and Social Psychology*, 80, 959–971. doi:10.1037//0022-3514.80.6.959.
- Stebbing, J., Taylor, I. M., Spray, C. M., & Ntoumanis, N. (2012). Antecedents of perceived coach interpersonal behaviors: The coaching environment and coach psychological well-and illbeing. *Journal of Sport & Exercise Psychology*, 34, 481–502.

- Stevenson, B., & Wolfers, J. (2013). Subjective well-being and income: Is there any evidence of satiation?. *American Economic Review*, 103(3), 598-604.
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics*, 6th edn Boston, Ma: Pearson.
- Tay, L., & Diener, E. (2011). Needs and subjective well-being around the world. *Journal of personality and social psychology*, 101(2), 354.
- Thibault Landry, A. T., Kindlein, J., Trépanier, S. G., Forest, J., Zigarmi, D., Houson, D., & Brodbeck, F. C. (2016). Why individuals want money is what matters: Using self-determination theory to explain the differential relationship between motives for making money and employee psychological health. *Motivation and Emotion*, 40(2), 226-242.
- Thompson, E. R. (2007). Development and validation of an internationally reliable short-form of the Positive and Negative Affect Schedule (PANAS). *Journal of Cross-Cultural Psychology*, 38(2), 227-242. doi:10.1177/0022022106297301.
- Tsang, J. A., Carpenter, T. P., Roberts, J. A., Frisch, M. B., & Carlisle, R. D. (2014). Why are materialists less happy? The role of gratitude and need satisfaction in the relationship between materialism and life satisfaction. *Personality and Individual Differences*, 64, 62-66.
- Twenge, J. M., Gentile, B., DeWall, C. N., Ma, D., Lacefield, K., & Schurtz, D. R. (2010). Birth cohort increases in psychopathology among young Americans, 1938–2007: A cross-temporal meta-analysis of the MMPI. *Clinical psychology review*, 30(2), 145-154.

- Unanue, W., Dittmar, H., Vignoles, V. L., & Vansteenkiste, M. (2014). Materialism and well - being in the UK and Chile: Basic need satisfaction and basic need frustration as underlying psychological processes. *European Journal of Personality*, 28(6), 569-585.
- Unanue, W., Rempel, K., Gómez, M. E., & Van den Broeck, A. (2017). When and why does materialism relate to employees' attitudes and well-being: the mediational role of need satisfaction and need frustration. *Frontiers in psychology*, 8, 1755.
- Vallerand, R. J. (1989). Vers une méthodologie de validation trans-culturelle de questionnaires psychologiques : Implications pour la recherche en langue française. *Canadian Psychology/Psychologie Canadienne*, 30(4), 662-680. DOI : 10.1037/h0079856.
- Van den Broeck, A., Vansteenkiste, M., & De Witte, H. (2008). Selfdetermination theory: A theoretical and empirical overview in occupational health psychology. In J. Houdmont & S. Leka (Eds.), *Occupational health psychology* (Vol. 3, pp. 63–88). European perspectives on research, education, and practice. Nottingham: University Press.
- Vansteenkiste, M., Niemiec, C. P., & Soenens, B. (2010). The development of the five minitheories of self-determination theory: A historical overview, emerging trends and future directions. In T. Urden, & S. Karabenick (Eds.), *Advances in motivation and achievement*, vol. 16: The decade ahead (pp. 105–166). UK:
- Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, 23, 263–280. doi:10.1037/a0032359.

- Vohs, K. D., Mead, N. L., & Goode, M. R. (2006). The psychological consequences of money. *science*, 314(5802), 1154-1156.
- Wang, R., Liu, H., Jiang, J., & Song, Y. (2017). Will materialism lead to happiness? A longitudinal analysis of the mediating role of psychological needs satisfaction. *Personality and Individual Differences*, 105, 312-317.
- Watson, J. J. (2003). The relationship of materialism to spending tendencies, saving, and debt. *Journal of economic psychology*, 24(6), 723-739.
- Whysel, B. (2020). The money taboo: what can we do about it? Talk! Forbes. Retrieved from
<https://www.forbes.com/sites/brettwhysel/2020/02/18/the-money-taboo-what-can-we-do-about-it-talk/#7446962964af>
- Workman, J. E., & Lee, S. H. (2011). Materialism, fashion consumers and gender: A cross - cultural study. *International Journal of Consumer Studies*, 35(1), 50-57.

Table 1

Study 1 – Intercorrelations between items of the MMMS (Srivastava et al., 2001)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30							
Security																																					
1. Item 1	-																																				
2. Item 11	.21**	-																																			
3. Item 21	.29**	.47**	-																																		
Family support																																					
4. Item 2	.19**	.11**	-.01	-																																	
5. Item 12	.11**	.26**	.09*	.44**	-																																
6. Item 22	.08	.26**	.23**	.44**	.48**	-																															
Market worth																																					
7. Item 3	.21**	.22**	.24**	.22**	.21**	.22**	-																														
8. Item 13	.11**	.27**	.32**	.12**	.27**	.28**	.51**	-																													
9. Item 23	.19**	.26**	.39**	.07	.19**	.26**	.60**	.65**	-																												
Pride																																					
10. Item 4	.10*	.22**	.25**	.13**	.15**	.20**	.38**	.42**	.38**	-																											
11. Item 14	.02	.22**	.30**	.09*	.13**	.24**	.23**	.45**	.36**	.57**	-																										
12. Item 24	.12**	.27**	.40**	.12**	.27**	.24**	.32**	.42**	.45**	.39**	.37**	-																									
Leisure																																					
13. Item 5	.20**	.26**	.28**	.03	.10*	.13**	.26**	.29**	.27**	.26**	.21**	.21**	-																								
14. Item 15	.15**	.24**	.38**	-.03	-.001	.08	.18**	.28**	.26**	.23**	.33**	.21**	.55**	-																							
15. Item 25	.09*	.19**	.27**	.03	.13**	.16**	.12**	.26**	.23**	.30**	.36**	.29**	.32**	.41**	-																						
Charity																																					
16. Item 6	.08*	.09*	-.07	.35**	.26**	.33**	.13**	.15**	.11**	.15**	.06	.05	.16**	-.01	.05	-																					
17. Item 16	.04	.11**	-.07	.27**	.16**	.29**	.08*	.11**	.05	.14**	.17**	-.01	.10**	.08*	.11**	.67**	-																				
18. Item 26	.08*	.17**	.05	.26**	.24**	.23**	.13**	.25**	.17**	.08	.06	.18**	.14**	.11**	.11**	.44**	.39**	-																			
Freedom																																					
19. Item 7	.04	.10**	-.04	.26**	.14**	.24**	.17**	.21**	.12**	.18**	.23**	.04	.15**	.08*	.09*	.28**	.50**	.28**	-																		
20. Item 17	.11**	.18**	.19**	-.04	.08	.06	.15**	.25**	.22**	.15**	.19**	.21**	.16**	.21**	.16**	.04	.03	.13**	.14**	-																	
21. Item 27	.16**	.15**	.28**	-.01	.09*	.11**	.22**	.28**	.26**	.15**	.18**	.28**	.23**	.23**	.21**	.002	.03	.18**	.24**	.52**	-																
Impulse																																					
22. Item 8	.04	.12**	.14**	.02	.05	.08*	.15**	.23**	.17**	.28**	.29**	.12**	.21**	.37**	.46**	.09*	.13**	.12**	.08*	.21**	.15**	-															
23. Item 18	-.06	.03	.04	-.02	.04	.07	.03	.06	.00	.14**	.21**	.04	.09*	.18**	.28**	.15**	.22**	.09*	.07	.14**	.05	.38**	-														
24. Item 28	.02	.06	.17**	-.01	-.12**	.09*	.13**	.09*	.09*	.22**	.30**	.07	.15**	.33**	.43**	.01	.12**	.03	.07	.18**	.15**	.70**	.44**	-													
Overcoming Self-doubt																																					
25. Item 9	.06	.19**	.20**	.07	.01	.16**	.16**	.25**	.20**	.45**	.67**	.20**	.16**	.26**	.25**	.04	.15**	.01	.27**	.15**	.12**	.33**	.24**	.38**	-												
26. Item 19	.08*	.13**	.12**	.11**	-.06	.17**	.10*	.15**	.12**	.30**	.55**	.13**	.16**	.23**	.27**	.04	.20**	.05	.23**	.12**	.11**	.25**	.28**	.40**	.65**	-											
27. Item 29	.05	.10**	.11**	.05	-.02	.16**	.01*	.16**	.08*	.29**	.49**	.14**	.09*	.17**	.26**	.01	.12**	.05	.22**	.15**	.14**	.26**	.35**	.40**	.59**	.74**	-										
Social comparison																																					
28. Item 10	-.11**	.06	.04	-.05	.04	.10**	.05	.18**	.06	.31**	.48**	.12**	.08*	.17**	.32**	.001	.09*	-.04	.11**	.17**	.13**	.29**	.36**	.34**	.50**	.42**	.46**	-									
29. Item 20	-.08*	.06	.09*	.06	.08*	.22**	.05	.14**	.07	.25**	.41**	.09*	.05	.17**	.37**	.02	.14**	.02	.12**	.09*	.10*	.31**	.42**	.39**	.40**	.41**	.49**	.62**	-								
30. Item 30	-.09*	.06	.07	.03	.002	.14**	.06	.13**	.08*	.28**	.48**	.12**	.05	.18**	.31**	-.04	.08*	.01	.14**	.10**	.12**	.26**	.34**	.39**	.50**	.48**	.56**	.64**	.56**	-							

**. Correlation is significant at the 0.001 level

*. Correlations is significant at the 0.05 level

Table 2

Study 1 – Means and standard deviations for MMMS items that differ according to data collection method

Variables	Online ads	University campus	CHRP order	Crowdsourcing website
Security item 11	7.75 (2)	8.39 (1.91)	7.62 (2.18)	80.22 (1.90)
Family item 12	7.84 (2.49)	7.77 (2.73)	7.40 (2.74)	5.67 (3.41)
Pride item 14	5.20 (2.72)	5.64 (2.74)	5.30 (2.82)	6.44 (2.64)
Pride item 24	7.99 (1.79)	7.52 (2.31)	8.00 (2.05)	6.74 (2.39)
Leisure item 15	6.98 (2.36)	7.43 (2.16)	7.03 (2.66)	8.12 (1.72)
Leisure item 25	5.47 (2.69)	6.38 (2.82)	5.10 (2.82)	5.94 (2.87)
Charity item 6	5.17 (2.31)	5.66 (2.52)	4.55 (2.12)	4.85 (2.40)
Charity item 16	3.49 (2.44)	4.40 (2.67)	2.42 (1.86)	4.83 (2.50)
Charity item 26	5.79 (2.39)	6.40 (2.53)	5.31 (2.55)	4.50 (2.52)
Freedom item 17	6.71 (2.92)	7.37 (2.59)	6.83 (2.85)	6.10 (2.96)
Freedom item 27	7.41 (2.45)	8.11 (2.19)	7.44 (2.70)	7.20 (2.39)
Impulse item 18	1.68 (1.27)	2.08 (1.78)	1.35 (.80)	1.97 (1.75)
Impulse item 28	2.85 (2.16)	3.30 (2.49)	2.51 (2.07)	4.65 (2.57)
Self-doubt item 9	3.75 (2.68)	4.21 (2.77)	3.80 (2.91)	6.07 (2.80)
Self-doubt item 19	2.59 (2.38)	3.03 (2.63)	2.07 (1.87)	5.63 (2.80)
Self-doubt item 29	2.10 (2.16)	2.49 (2.25)	1.88 (1.74)	3.86 (2.78)
Social comparison item 20	2.03 (1.65)	2.44 (2.10)	1.84 (1.58)	3.02 (2.40)
Social comparison item 30	2.43 (1.99)	2.41 (2.03)	2.34 (1.98)	3.33 (2.55)

Table 3

Study 1 – Means and standard deviations for MMMS items that differ according to language

Variables	English	French
Family item 12	5.73 (3.43)	7.76 (2.61)
Market value item 13	6.54 (2.40)	7.28 (2.18)
Pride item 14	6.45 (2.67)	5.40 (2.73)
Pride item 24	6.78 (2.41)	7.78 (2.10)
Leisure item 15	8.04 (1.85)	7.21 (2.32)
Charity item 16	4.91 (2.52)	3.65 (2.54)
Charity item 26	4.64 (2.52)	6.00 (2.54)
Freedom item 17	6.09 (2.77)	7.10 (2.72)
Freedom item 27	7.10 (2.48)	7.82 (2.35)
Impulse item 28	4.53 (2.56)	2.99 (2.33)
Self-doubt item 9	6.07 (2.85)	3.92 (2.73)
Self-doubt item 19	5.50 (2.82)	2.64 (2.41)
Self-doubt item 29	3.80 (2.75)	2.22 (2.12)
Social comparison item 20	2.99 (2.38)	2.17 (1.87)
Social comparison item 30	3.31 (2.54)	2.38 (1.98)

Table 4

Study 1 – Results of First-order Confirmatory Factor Analysis of the MMMS

Factor and items	Factor loading	Critical ratio
Security		
Item 11 “to ensure that I have a decent emergency fund saved up.”	.57**	-
Item 21 “so that I can feel secure.”	.82**	10.83
Family		
Item 2 “to be able to support the people who are important to me (e.g. friends and family).”	.63**	-
Item 12 “so that I can pay my children's (or future children's) college tuition.”	.66**	12.42
Item 22 “so that I can leave money to my family (or friends) when I am no longer around.”	.74**	12.79
Market worth		
Item 3 “to know that I am being fairly compensation for the work that I do.”	.68**	-
Item 13 “because it ensures that I receive what I deserve for my ideas and effort.”	.80**	16.63
Item 23 “to ensure that I am compensated fairly for my work achievements.”	.83**	16.93
Pride		
Item 4 “because it allows me to feel proud of myself.”	.67**	-
Item 14 “In order to prove to myself that I am successful in life.”	.81**	17.21
Item 24 “to prove to myself that I can deal with life's challenges.”	.56**	12.77
Leisure		
Item 5 “in order to have time to pursue leisure activities that I enjoy.”	.63**	-
Item 15 “so that I can spend my time and money on my hobbies.”	.74**	13.13
Item 25 “so that I can enjoy luxurious things (e.g. cars, houses, art).”	.56**	11.24
Charity		
Item 6 “in order to donate to those in need.”	.84**	-
Item 16 “to be able to donate to a cause that is important to me.”	.77**	17.18
Item 26 “so that I can have free time to pursue volunteer activities.”	.50**	12.39
Freedom		
Item 17 “to ensure that I am not accountable to anyone for what I do or how I do it.”	.67**	-
Item 27 “so that I can lead my life with no interference from anyone.”	.73**	9.41
Impulse		
Item 8 “so that I can let my mood guide me at times to spend impulsively on shopping just for the thrill of it.”	.79**	-
Item 18 “so that I can gamble and participate in betting games.”	.49**	12.09
Item 28 “so that I can then spend it on impulsive purchases.”	.83**	18.82
Overcoming self-doubt		
Item 9 “in order to prove to myself that I am not a failure.”	.72**	-
Item 19 “to prove that I am not incompetent.”	.72**	19.74
Item 29 “to prove that I am not as dumb as people may think.”	.75**	19.35
Social comparison		
Item 10 “so that I can prove to others (friends/siblings/relatives) that I am better than them.”	.82**	-
Item 20 “so that I can buy a nicer house or fancier car than my neighbours.”	.71**	18.22
Item 30 “so that others will pay attention to me and admire me.”	.77**	19.68

** . Correlations significant at the 0.001 level

Table 5

Study 2 – Descriptive statistics and intercorrelations between study variables

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Financial stability motives	22.79	4.46																	
2. Self-integrated motives	19.45	4.07	.49**																
3. Non-integrated motives	10.90	5.42	.23**	.52**															
4. Need satisfaction	3.97	.56	.23**	.24**	-.11*														
5. Autonomy satisfaction	3.74	.75	.13**	.21**	-.02														
6. Competence satisfaction	4.02	.73	.09*	.19**	-.11*	.48**													
7. Relatedness satisfaction	4.15	.74	.29**	.15**	-.11*	.35**	.24**												
8. Need frustration	3.44	1.19	.03	.10*	.37**	-.50**	-.43**	-.41**	-.30**										
9. Autonomy frustration	3.65	1.35	.03	.10*	.32**	-.43**	-.42**	-.30**	-.26**										
10. Competence frustration	3.73	1.49	.07	.10*	.28**	-.44**	-.40**	-.41**	-.19**	.65**									
11. Relatedness frustration	2.94	1.36	-.03	.05	.33**	-.40**	-.27**	-.32**	-.31**	.51**	.58**								
12. Well-being		.86	.22**	.22**	-.13*	.71**	.56**	.60**	.44**	-.49**	-.45**	-.45**	-.36**						
13. General well-being	3.67	.57	.13**	.09	-.19**	.66**	.55**	.54**	.41**	-.58**	-.51**	-.52**	-.45**						
14. Positive affect	2.43	.41	.25**	.29**	-.04	.56**	.42**	.50**	.35**	-.27**	-.26**	-.25**	-.18**	.49**					
15. Ill-being		.91	-.03	.001	.19**	-.55**	-.44**	-.49**	-.31**	.65**	.48**	.60**	.56**	-.60**	-.66**	-.37**			
16. Negative affect	2.55	.62	-.03	.02	.15**	-.43**	-.37**	-.39**	-.22**	.54**	.40**	.51**	.47**	-.46**	-.52**	-.28**			
17. Depression	2.08	.52	-.03	-.02	.20**	-.56**	-.43**	-.50**	-.34**	.64**	.48**	.58**	.56**	-.62**	-.68**	-.40**	.65**		
18. Materialism	3.23	1.02	.15**	.33**	.60**	-.12*	-.06	-.11*	-.11*	.28**	.31**	.21**	.20**	-.17**	-.25**	-.04	.17**	.15**	.17**

*. Correlations are significant at the 0.05 level

**. Correlations are significant at the 0.001 level

Table 6

Study 2 – Means and standard deviations for study variables that differ according to data collection method

Variables	Online ads	University campus	Crowdsourcing website
Non-integrated motives	8.90 (4.27)	8.30 (4.87)	12.17 (5.33)
Need satisfaction	4.17 (.62)	4.08 (.54)	3.90 (.55)
Need frustration	2.66 (1.10)	3.24 (1.15)	3.62 (1.16)
Well-being	.56 (.77)	.17 (.80)	-.14 (.86)
Materialism	2.94 (.90)	2.78 (1.02)	3.45 (.97)

Table 7

Study 2 – Means and standard deviations for study variables that differ according to language

Variables	English	French
Non-integrated motives	12.08 (5.35)	8.34 (4.65)
Need satisfaction	3.89 (.56)	4.13 (.52)
Need frustration	3.61 (1.16)	3.08 (1.16)
Well-being	-.14 (.86)	.30 (.79)
Materialism	3.44 (.98)	2.79 (.98)

Table 8

Summary of hypothesis testing across Studies 2 and 3

Study 2 - Hypotheses	Results
H1: Self-integrated motives positively predict need satisfaction and negatively predict need frustration.	Supported
H2: Non-integrated motives negatively predict need satisfaction and positively predict need frustration.	Supported
H3: Stability motives are unrelated to need satisfaction and need frustration.	Not supported
H4: Need satisfaction positively predicts well-being and negatively predicts ill-being.	Supported
H5: Need frustration positively predicts ill-being and negatively predicts well-being.	Supported
H6: Need satisfaction and need frustration mediate the relationships between money motives and psychological health outcomes (well-being and ill-being).	Partially supported
H7: Materialism is positively associated with Non-integrated money motives.	Supported
H8: Materialism is negatively associated with Financial stability motives and Self-integrated motives.	Not supported
H9: The association between materialism and psychological health (well-being and ill-being) is mediated by need satisfaction and frustration and this association is fully accounted for by the motives for making money.	Supported
Study 3 - Hypotheses	
H10: After participating in the intervention, participants in the experimental group will exhibit significantly higher Self-integrated and Financial stability money motives than the no-treatment control group.	Not supported
H11: After participating in the intervention, participants in the experimental group will exhibit significantly lower Non-integrative motives compared to the no-treatment control group.	Supported

Table 9

Study 2 – Results of Hierarchical Regression Analyses for Need frustration

Independent variables	Regression 1	Regression 2	Regression 3	Regression 4	Regression 5
Recruitment (Online)	-.09	-.10	-.10	-.10	-.10
Recruitment (Prolific)	.02	.01	.003	-.05	-.06
Language (English)	.21	.21	.22	.16	.15
Gender (male)	-.01	-.01	-.01	-.02	-.02
Age	-.07	-.07	-.06	.02	.03
Education	-.02	-.02	-.02	-.01	.00
Work hours	-.09	-.09	-.10	-.09	-.10
Salary	-.06	-.06	-.05	-.12	-.13
Financial stability		.02	-.04	-.004	-.003
Self-integrated			.12	-.11	-.11
Non-integrated				.42**	.38**
Materialism					.09
R ²	.09	.09	.11	.21	.21
Adjusted R ²	.08	.08	.09	.19	.19
R ² change	.09	.00	.01*	.10**	.004

** . Coefficients significant at the 0.001 level

* . Coefficients significant at the 0.05 level

Table 10

Study 3 – Estimated marginal means for Integrated, Financial stability and Non-integrated Money Motives

Condition		Integrated	Stability	Non-integrated
Experimental	Time 1	19.77	20.21	9.27
	Time 2	19.67	21.12	5.73
Control	Time 1	23.20	28.34	8.25
	Time 2	22.73	27.03	11.39

Figure 1

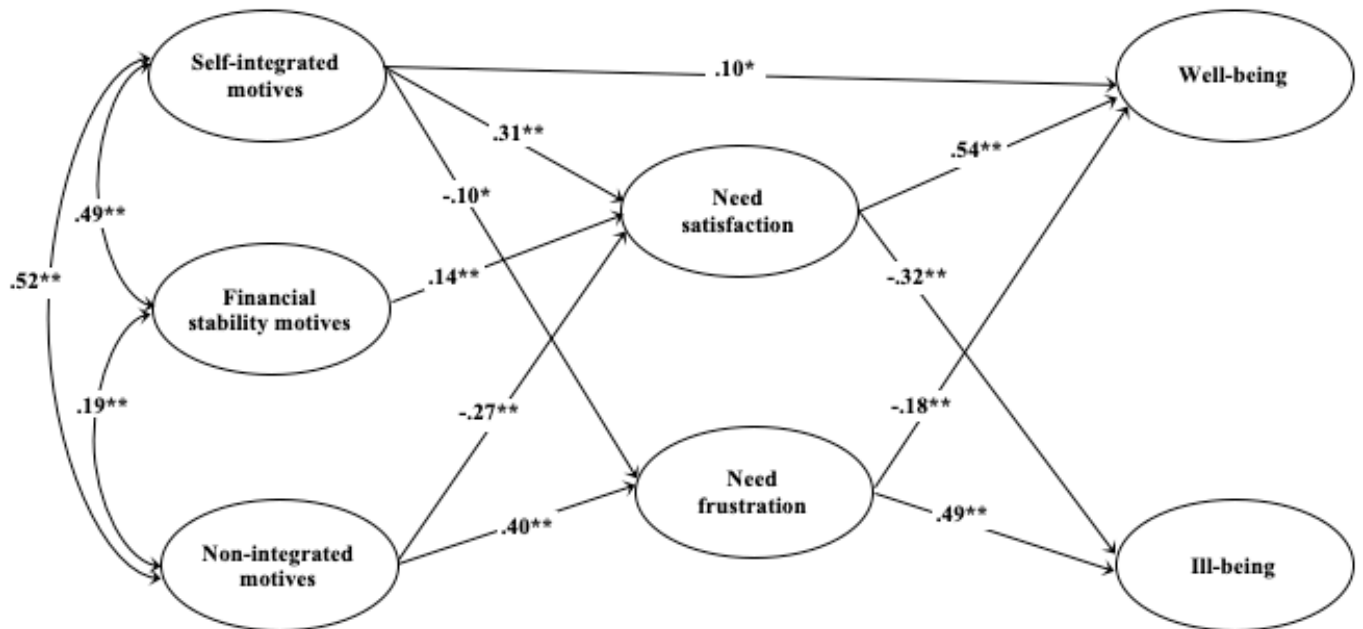


Figure 1: The final model tested in Study 2 depicting the standardized path coefficients between motives for making money, need satisfaction/frustration and psychological health outcomes (well-being and ill-being). The paths from control variables have not been shown for simplicity of presentation. (**. Coefficients are significant at the 0.001 level; *. Coefficients are significant at the 0.05 level)

Figure 2

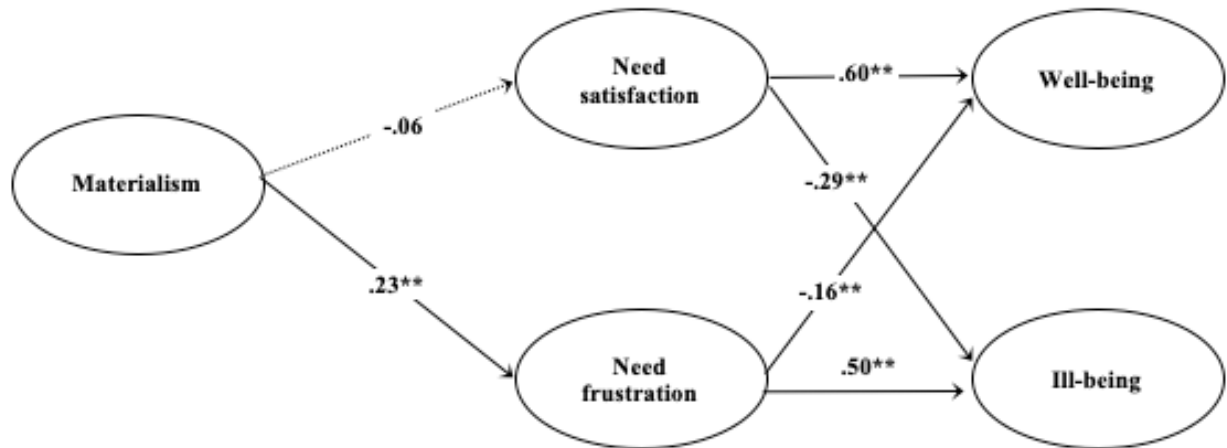


Figure 2: The final model tested in Study 2 depicting the standardized path coefficients between materialism, need satisfaction/frustration and well-being/ill-being. The paths from control variables have not been shown for simplicity of presentation. (**. Coefficients are significant at the 0.001 level)

Figure 3

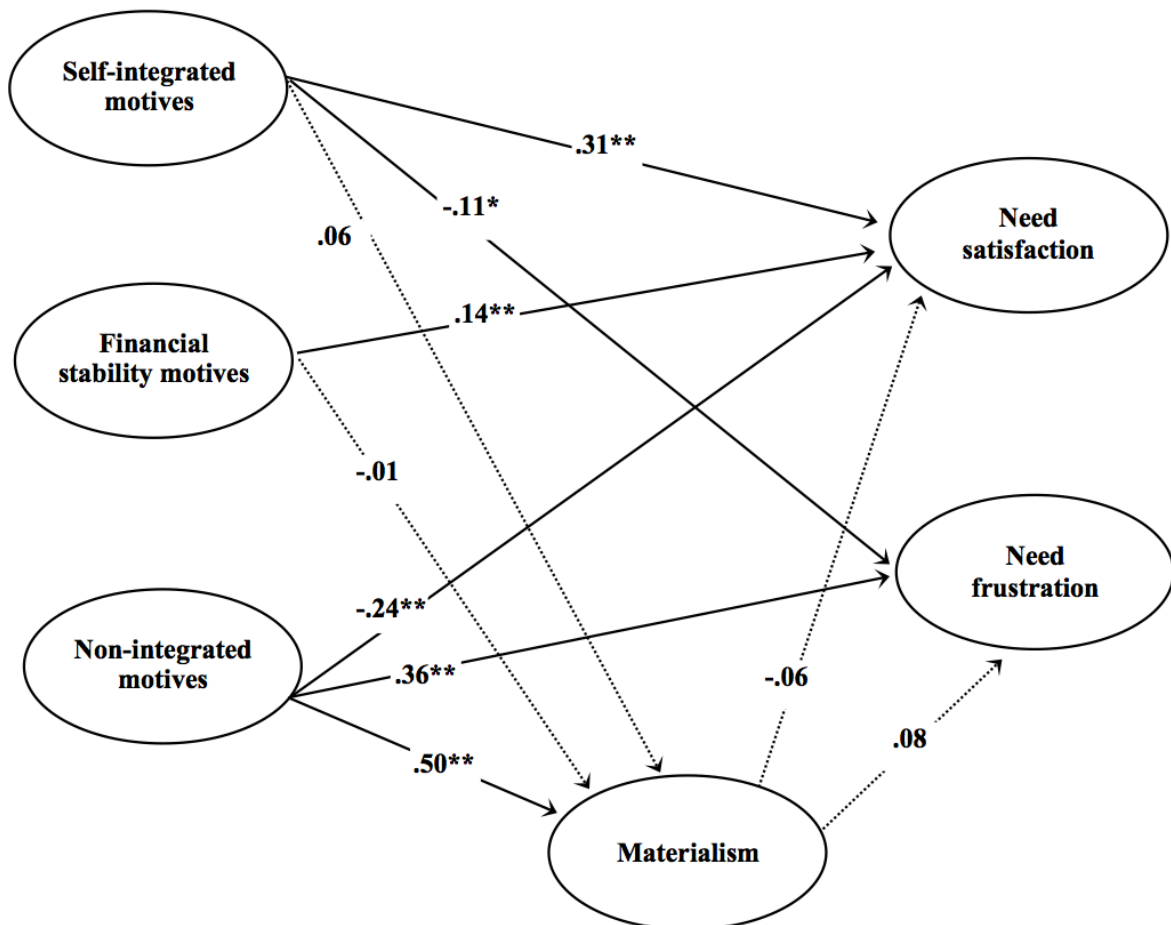


Figure 3: The model tested in Study 2 depicting the relationships (with standardized path coefficients) between money motives, materialism and need satisfaction and frustration. The paths from control variables have not been shown for simplicity of presentation. (**.Coefficients are significant at the 0.001 level)

Figure 4

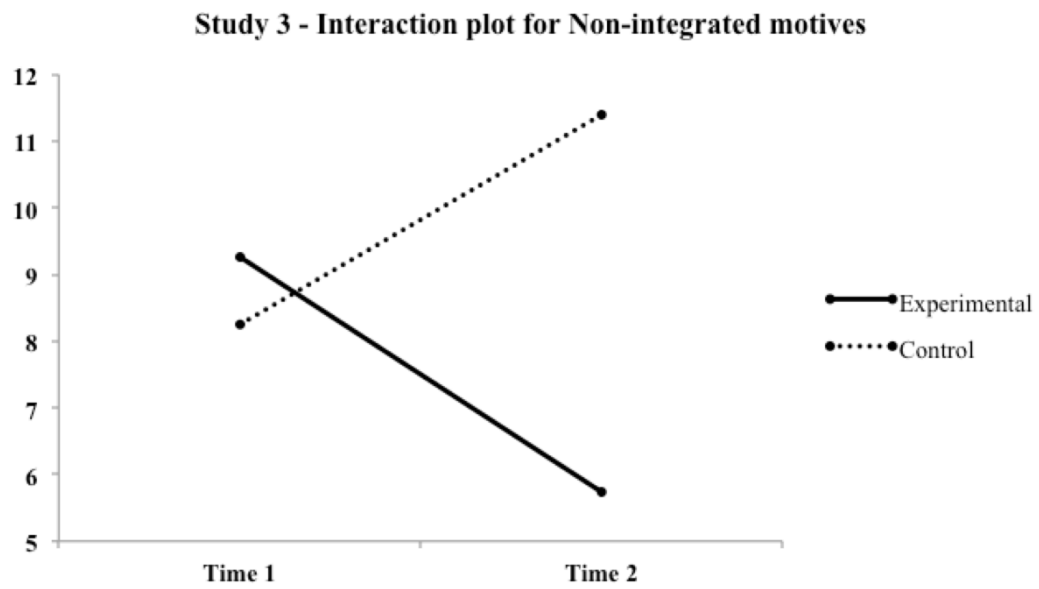


Figure 4: The plot depicts the significant Time by Condition interaction effect for Non-integrated motives found in Study 3.

CHAPTER III

ARTICLE 2

Spending motives matter: Using Self-determination theory to explore the effects of motives for spending on psychological health

3.1 Abstract

A small number of studies based on Self-determination theory reveal that the reasons that motivate people to spend money have an influence on psychological need satisfaction and well-being (e.g. Zhang, Howell & Caprariello, 2013). This article sought to add to this literature through two overarching objectives, namely to (1) identify a broader set of reasons that motivate people to spend money and determine their effect on psychological health and (2) explore the relative presence of these spending motives across three categories of purchases (prosocial, experiential and material purchases). Using exploratory factor analysis with a sample of 312 individuals, Study 1 identified five motives that may underlie everyday spending decisions, namely Stability (to ascertain one's own and one's family's physical well-being), Self-development (to invest in one's current and/or future goals), Helping others (to help others in need), Fun (to participate in an enjoyable leisure activity), and Personal insecurity (to overcome feelings of self-doubt and appear better than others). Using structural equation modeling, the results of Study 1 also revealed that when individuals spend money with the intent of helping others, enjoying a leisure activity, and investing in self-development, this encourages the satisfaction of the psychological needs and in turn relates to well-being. When money is spent with the intent of overcoming feelings of insecurity, this leads to the active thwarting of the psychological needs and in turn, greater ill-being. Study 2 (N = 305) explored the relative presence of the spending motives across three specific categories of purchases and revealed that individuals are motivated to make material, prosocial and experiential purchases for different reasons. The results of Study 2 provide additional insight into what motivates people to make these specific purchases and their consequent effects on psychological health.

Keywords: Spending, Motives, Self-determination theory, Need satisfaction, Need frustration, Prosocial spending, Experiential purchases, Material purchases, Well-being, Ill-being

3.2 Introduction

Money buys happiness to the extent that it allows us to acquire the basic necessities to live, such as decent housing and proper nutrition (Howell & Howell, 2008). Once these needs are met, increases in income have a negligible impact on well-being (Howell & Howell, 2008; Jebb, Tay, Diener, & Oishi, 2018) primarily because the fulfillment of psychological needs becomes a better predictor of happiness once extracted from poverty (Tay & Diener, 2011). Research based on Self-determination theory (SDT; Deci & Ryan, 2000), suggests that money can buy happiness if it is used in ways that allow for the fulfillment of the three psychological needs for autonomy (i.e., having the freedom to live according to one's values), competence (i.e., feeling efficacious in overcoming daily challenges) and relatedness (i.e., developing meaningful relationships with others; Carver & Baird, 1998; Thibault Landry et al., 2016). Specifically, some studies have shown that people are motivated to make money for a variety of reasons and these have different effects on well-being depending on whether they encourage or actively thwart psychological need satisfaction (Thibault Landry et al., 2016). In developing the Motivations for Making Money Scale, Srivastava, Locke and Bartol (2001) revealed that people are motivated to make money for ten main reasons and these motives have important implications for well-being. Recently, Thibault Landry et al. (2016) found that making money for Self-integrated reasons (e.g., giving to charity, enjoying leisure activities, etc.) encourages need satisfaction and well-being, whereas Non-integrated motives (e.g. spending impulsively and boasting to others) lead to the active thwarting of the psychological needs and, in turn, ill-being. In addition to exploring the reasons why people make money, a substantial amount of research has focused on discovering the types of purchases that make people happiest (Aknin, Whillans, Norton & Dunn, 2019). There is much evidence supporting the recommendation that spending money on others (as opposed to oneself) and investing in experiences (rather than material goods) lead to greater happiness (Aknin et al., 2019;

Gilovich & Gallo, 2019). Nevertheless, a very small but growing number of studies have highlighted the importance of considering the motives people have when they make particular purchases because these can influence psychological need satisfaction and consequently the level of well-being derived from the purchase (e.g. Hill & Howell, 2014). For instance, some studies find that when people spend money on others and on experiences for reasons such as seeking social status and recognition, rather than for reasons such as helping others, the anticipated increases in well-being are not witnessed (Hill & Howell, 2014; Zhang, Howell & Caprariello, 2013).

Given the very limited number of studies on spending motives, scholars urge researchers to explore more exhaustively the reasons that motivate people to spend money (Gilovich & Gallo, 2019). Thus, the primary objective of this article is to uncover whether a broader set of motives underlie everyday spending choices and to explore their impact on psychological well-being. Specifically, Study 1 uses the Motives for Spending Scale (an adapted version of the Motives for Making Money Scale; Srivastava, Locke & Bartol, 2001), to uncover individuals' motives for spending and explores how these motives influence psychological health through need satisfaction and frustration. By investigating the role of need frustration, this study addresses a major gap in the literature as no study to date has examined whether spending motives can lead to the active thwarting of the psychological needs (not just the mere absence of satisfaction) and consequently bring about greater ill-being. A secondary objective of this article (Study 2) is to inspect the relative presence of the different spending motives across three common categories of purchases, namely material, experiential and prosocial purchases. This analysis may provide additional insight about the pathways through which specific purchases provide happiness (or not).

3.3 Literature review

3.3.1 Money and happiness

A great amount of scientific effort has been devoted to understanding the association between money and subjective well-being, which typically includes an assessment of both emotional well-being (i.e., happiness) and life satisfaction (Kahneman & Deaton, 2010). While life satisfaction involves a cognitive assessment of a person's life as a whole, happiness refers to the frequency and intensity of experiences of positive (e.g., joy, fascination, affection) and negative (e.g., anxiety, sadness, anger) affect (Diener, 2000; Kahneman & Deaton, 2010). Research suggests that while income has strong associations with life satisfaction (Diener, Ng, Hart & Arora, 2010; Howell & Howell, 2008; Kahneman & Deaton, 2010), its ability to predict daily happiness is particularly weak (Diener & Biswas-Diener, 2002; Diener et al., 2010; Diener, Kahneman, Arora, Harter & Tov, 2009; Frey & Stutzer, 2000; Howell & Howell, 2008; Kahneman, Krueger, Schkade, Schwarz & Stone, 2006). Moreover, while the link between income and happiness is weakest among individuals with high socio-economic standing living in relatively affluent countries, it is far more pronounced at lower income levels (Cummins, 2000; Diener & Biswas-Diener, 2002; Howell & Howell, 2008). Nevertheless, both life satisfaction and particularly happiness do not increase indefinitely with income (Clingsmith, 2016; Jebb et al., 2018; Kahneman & Deaton, 2010). Evidence gathered from over 1.7 million people from 164 countries revealed that there are no appreciable increases in life satisfaction after \$95 000 and in happiness above \$60 000 while negative emotions cease to decrease at approximately \$75 000 (Jebb et al., 2018).

Taken together, the findings suggest that at low-income levels, money leads to substantial gains in well-being because it allows people to extract themselves from poverty and acquire basic life necessities, such as sufficient food, sanitation and shelter

(Diener & Biswas-Diener, 2002; Diener et al., 2010; Howell & Howell, 2008; Jebb et al., 2018; Kahneman & Deaton, 2010). For wealthier individuals (who presumably have these needs met), earning additional income does very little to improve happiness (Diener & Biswas-Diener, 2002; Diener & Seligman, 2004). In fact, when it comes to happiness in particular, research finds that the fulfillment of psychological needs is a much better predictor of daily positive emotions than money (Arthaud-Day & Near, 2005; Diener et al., 2010; Diener, Oishi, & Lucas, 2003; Lever, Pinol, & Uralde, 2005; Tay & Diener, 2011). For instance, Tay and Deiner (2011) surveyed a sample of over forty thousand individuals across 123 countries and found that the fulfillment of physiological needs (such as food and shelter) was more strongly related to life evaluation, but that the satisfaction of psychological needs was the strongest predictor of happiness. Psychological need satisfaction has been shown to be a strong predictor of happiness over and above the effect of environmental or financial safety needs (Chen, Van Assche, Vansteenkiste, Soenens & Beyers, 2014), which stands in stark contrast to the outdated postulates of Maslow's hierarchical needs model (Maslow, 1943). Thus, money may buy happiness to the extent that, in addition to securing food and shelter, it is used to help individuals fulfill their psychological needs (Howell & Hill, 2009).

3.3.2 Self-Determination Theory and psychological need satisfaction

Self-determination theory (SDT) posits that the fulfillment of the three innate psychological needs for autonomy, competence and relatedness is crucial for optimal psychological health (Deci & Ryan, 2000; Sheldon, Cheng, & Hilpert, 2011). Autonomy refers to the need to experience a sense of freedom (within specific rules and limits) and living according to one's true self and values (Chirkov, Sheldon & Ryan, 2011; Deci & Ryan, 2000), while competence refers to the need to feel efficacious in overcoming daily challenges and achieving one's goals (Deci & Ryan, 2000; Hofer & Busch, 2011). The need for relatedness is the desire to develop intimate and meaningful relationships with others (Deci & Ryan, 2000; Lavigne, Vallerand, &

Crevier-Braud, 2011). A large body of research has shown that the fulfillment of these psychological needs has numerous positive consequences, such as well-being, vitality and positive affect (Gagné & Deci, 2005; Gagné et al. 2015; Ryan & Deci, 2000; Stebbings, Taylor, Spray, & Ntoumanis, 2012; Tay & Diener, 2011; Vansteenkiste Niemiec, & Soenens, 2010). This finding has been replicated cross-culturally (Chen et al., 2015) and across a variety of domains as individuals with greater need satisfaction display higher achievement (Adie, Duda & Ntoumanis, 2008), better job performance (Vansteenkiste et al., 2007) and report better overall physical health (Ng et al., 2012). Moreover, negative health outcomes occur when the three needs are actively thwarted. Different from low need satisfaction, the concept of need frustration reflects instances when individuals experience actual feelings of rejection, incompetence and/or oppression (Bartholomew, Ntoumanis, Cuevas, & Lonsdale, 2014; Bartholomew, Ntoumanis, Ryan, Bosch & Thøgersen-Ntoumani, 2011a; Bartholomew, Ntoumanis, Ryan & Thøgersen-Ntoumani, 2011b). Compared to the mere absence of satisfaction, need frustration is a better predictor of ill-being, such as depression, negative affect, burnout, disordered eating and physical symptoms (Bartholomew et al., 2011a, 2011b; Gunnell, Crocker, Wilson, Mack, & Zumbo, 2013; Vansteenkiste & Ryan, 2013).

3.3.3 SDT and motives for making money

An important premise of SDT is that people engage in certain activities or behaviours for different reasons (Ryan & Deci 2000). These reasons fall along a continuum ranging from intrinsically or autonomously motivated (e.g., engaging in behaviours because they are enjoyable or interesting and/or because they are believed to be important) to behaviours that are extrinsically motivated or controlled (e.g. engaging in behaviours to receive rewards and/or to avoid punishment and feelings of guilt). SDT posits that behaviours that are autonomously motivated are more likely to lead to well-being because they encourage psychological need satisfaction, whereas behaviours that are pursued for controlled reasons lead to ill-being because they actively thwart

psychological need satisfaction (Deci & Ryan, 2000; Niemec, Ryan, & Deci, 2008). Traditionally, some types of behaviours, such as becoming involved in one's community and developing relationships with others were viewed as inherently intrinsic. On the other hand, behaviours such as seeking fame and social status as well as pursuing money were commonly considered as being extrinsically motivated and thus detrimental to long term well-being (Kasser & Ryan, 1993). Over the years, authors have contested the notion that the pursuit of financial success is always detrimental to well-being by showing that the pursuit of money can be intrinsically and/or extrinsically motivated (Carver & Baird, 1998).

A number of studies have shown that people are in fact motivated to make money for a variety of reasons and these reasons have different effects on well-being (Srivastava et al., 2001; Thibault Landry et al., 2016). In developing the Motivations for Making Money Scale, Srivastava et al. (2001) revealed that people are motivated to make money for ten main reasons: to support a family (Family support), to ensure basic life requirements such as housing and food (Security), to earn a fair compensation for one's work and effort (Market worth), to donate money and time to those in need (Charity), to participate in enjoyable activities and hobbies (Leisure), to have the ability to live life independently (Freedom), to experience a sense of pride for life accomplishments (Pride), to attract the attention of others (Social comparison), to appease feelings of personal insecurity (Overcoming self-doubt) as well as to spend impulsively (Impulse). Recently, a study by Thibault Landry et al. (2016) revealed that Srivastava et al.'s (2001) original ten motives are suitably represented by three broad categories of motives. The motives of Charity, Leisure, Freedom, Pride, and Market worth were conceptualized as 'Self-integrated motives' as they represent individuals' desire to behave in line with their values and allow optimal social, emotional and physical development (Sheldon & Elliot, 1999). The motives of Social comparison, Overcoming self-doubt and Impulse represent 'Non-integrated motives' because they impede healthy personal development. Moreover, Family support and Security motives were

labeled ‘Financial stability’ motives as they represent individuals’ desire to support themselves and loved ones, especially during precarious financial times. Their study also revealed that need satisfaction and need frustration mediated the relationships between money motives and psychological health. Specifically, individuals endorsing Self-integrated motives were more likely to experience need satisfaction and in turn greater well-being (as well as lower ill-being). On the other hand, Non-integrated motives positively predicted need frustration (and negatively predicted need satisfaction), which in turn led to greater ill-being (and lower well-being). In this study, Stability motives were unrelated to need satisfaction or need frustration. This study is important as it highlights the importance of considering that the reasons why people want money have an impact on psychological health because they can either encourage or impede need satisfaction. In trying to understand if and when money facilitates need satisfaction, research has also focused on people’s spending behaviour and their motives for buying.

3.3.4 Spending motives and psychological health

A majority of the research on spending focuses on understanding how different purchases affect happiness and well-being (Aknin et al., 2019). A substantial number of studies find that spending money on others (e.g., gifts, donations to charity, etc.), typically called prosocial spending, has positive consequences on well-being (Aknin, Barrinton-Leigh et al., 2013; Aknin, Dunn & Norton, 2012; Aknin, Hamlin & Dunn, 2012; Aknin, Whillans, Norton & Dunn, 2019; Dunn, Aknin & Norton, 2008) and is associated with better physical health (Dunn, Ashton-James, Hanson & Aknin, 2010; Whillans, Dunn, Sandstrom, Dickerson, & Madden, 2016). In their seminal article, Dunn, Aknin and Norton (2008) asked a sample of American adults (N = 632) to report how much money they spent on themselves (e.g., bills, expenses and gifts for themselves) and on others (e.g., gifts for others and donations to charity) in a typical month. The results indicated that personal spending was unrelated to happiness, but

spending money on others led to significant increases in happiness, regardless of income level. This finding has been replicated in a large scale survey by the Gallup World Poll, which found that donating money to charity was associated with higher life satisfaction across a sample of more than one million people in 130 countries (Helliwell, Huang & Wang, 2017).

In addition to prosocial spending, research reveals that buying experiences, compared to material things, provide greater well-being (Gilovich & Gallo, 2019; Gilovich, Kumar & Jampol, 2015). An experiential purchase is typically defined as a purchase made with the primary intention of acquiring a life experience, which is an event or series of events that people live through, such as going on a trip, attending a concert or seeing a movie (Van Boven & Gilovich, 2003). In contrast, a material purchase is usually a tangible object that people keep in their possession, such as a laptop, jewelry or clothing (Van Boven & Gilovich, 2003). In one of the earliest studies on experiential spending, Van Boven and Gilovich (2003) asked a sample of over one thousand American adults ($N = 1279$) to reflect on an experiential or material purchase they had made in their life. The findings revealed that participants were significantly more likely to report that their experiential purchase made them happier than the material one (57%) than to report that the material purchase made them happier than the experiential one (34%). The authors replicated this finding in a subsequent experiment, which revealed that participants who were randomly assigned to reflect on a past experiential purchase were significantly happier than those assigned to reflect on a past material purchase (Van Boven & Gilovich, 2003). Since this initial study, the finding that experiential purchases provide more enduring happiness compared to material purchases has been replicated many times across a variety of designs (Caprariello & Reis, 2013; Carter & Gilovich, 2010, 2012; Chan & Mogilner, 2017; Howell & Hill, 2009; Kumar, Killingsworth & Gilovich, 2014; Millar & Thomas, 2009; Nicolao, Irwin & Goodman, 2009; Rosenzweig & Gilovich, 2012; Thomas & Millar, 2013; Van Boven, 2005).

Despite the known benefits of prosocial and experiential spending, several researchers now emphasize that people may be motivated to make such purchases for different reasons and these can influence the level of well-being experienced (Burroughs et al., 2013). For instance, Harbaugh, Mayr and Burghart (2007) provided neural evidence that people can be motivated to give to charity for different reasons and that these two motives each activate sections of the brain associated with processing rewards. Specifically, the results of their experiment revealed that people can be motivated to give to charity for purely altruistic reasons (i.e. giving in order to gain satisfaction simply from the act of helping others in need) and/or giving to others because it provides the giver a sense of agency and freedom (i.e., the Warm glow motive). Similarly, Wiwad and Aknin (2017) conducted an experiment in order to explore whether people's motivations behind spending money on someone else influence happiness. In their study, the authors asked a sample of adults ($N = 86$) to think back about a time when they spent approximately twenty dollars on someone else. Moreover, half of the participants were asked to think of a prosocial purchase they had made with the intention of helping someone else and the other half of the participants were asked to reflect on a prosocial purchase in which they intended primarily to help themselves gain some benefit. The results revealed that participants who recalled a prosocial purchase in which they were motivated to help someone else experienced greater happiness than those who made a prosocial purchase with the intent of helping themselves. The authors suggest that the emotional rewards of recalling a previous prosocial purchase depend on the motives of the behaviour. These studies highlight that it might not be sufficient to simply consider the types of purchases that people make, but also what motivates them to do so, as this may have an impact on well-being.

A couple of studies have gone a step further in suggesting that the different motives for making purchases are linked to psychological health through their effect on psychological need satisfaction. Hill and Howell (2014) explored the impact of values, as defined as the guiding principles in the life of a person, on the well-being

experienced after making prosocial purchases. Specifically, the study explored the role of self-transcendent values (i.e., a set of values that represent a concern for others, such as social justice and protecting the environment), self-enhancement values (i.e., a set of values that represent a desire for self-promotion, such as attaining social status and influence) and psychological need satisfaction in the association between prosocial spending and well-being. It is important to note that in the psychological literature, the concepts of values and motives are often used interchangeably and are considered to overlap conceptually (Hogan & Blake, 1996; Hogan & Hogan, 1996). Nevertheless, values can be considered as a broader concept that encompasses people's broad life objectives, whereas motives are used to refer to what a person intends by a specific course of action or behaviour (Hogan & Hogan, 2010). A sample of 167 adults were recruited through Amazon's MTurk and were asked to report how much money they spent in a typical month on purchases for themselves (i.e., bills, expenses and gifts for themselves) and for others (i.e., gifts for others and donations to charity). The results revealed that prosocial spending led to happiness only for individuals who endorsed a concern for others (high self-transcendence) and that psychological need satisfaction mediated this association. Individuals low in self-transcendence experienced neither increased well-being nor psychological need satisfaction and self-enhancement values did not influence the relationship between prosocial spending and well-being. The authors argue that prosocial purchases allow individuals to satisfy their psychological needs only when individuals have a desire to help others.

With respect to experiential purchases, Zhang and colleagues (2013) developed the Motivation for Experiential Buying Scale (MEBS) to explore how individuals' motivations for making experiential purchases influence psychological need satisfaction and well-being. In a first study, a sample of 233 university students were asked to describe their last three experiential purchases and answer 43 items that were developed by the authors to represent the motivational dimensions proposed by SDT. Exploratory factor analyses revealed the presence of three main reasons for making

experiential purchases (20 items retained), namely autonomous motivation (purchasing experiences because they align with one's core values and because they provide genuine pleasure), controlled motivation (purchasing experiences in order to receive external approval or recognition from others) and amotivation (i.e., not knowing why one buys experiences). In four subsequent studies, the factor structure of the MEBS was confirmed using confirmatory factor analysis and the construct validity of the scale was assessed by exploring its associations with theoretically related constructs (e.g., psychological need satisfaction). Across all four studies, the results indicated that individuals who spend money on life experiences for autonomous reasons experienced significantly higher need satisfaction, flourishing, vitality as well as less loneliness. On the other hand, individuals who spend money on life experiences for controlled and amotivated reasons reported less psychological need satisfaction. Thus, the authors argue that it is possible for people to purchase life experiences for extrinsic reasons and that the benefits of experiential purchases depend on the reasons why people buy them. These studies highlight the importance of considering people's motives for spending, as these may be more important for well-being than the actual purchase itself (Gilovich & Gallo, 2019). Evidently, more studies are needed to reach a more comprehensive understanding of the motives that underlie everyday spending behavior and how these affect psychological health. As elucidated by Gilovich and Gallo (2019), "The consumer's motives matter".

3.4 The current research

Compared to the vast literature on the effect of specific purchases on well-being, the research on the reasons that motivate people to spend money is limited. As presented above, there are only a handful of studies exploring the possible motives that people have when making purchases and only two studies that explored whether these motives affect well-being through psychological need satisfaction. Moreover, these studies have focused primarily on a limited set of motives (i.e., self-transcendent vs self-

enhancement values and autonomous vs controlled motives). In order to extend this literature, the primary aim of this article is to uncover whether a broader set of motives underlie everyday spending choices and determine how these influence well-being (Study 1). Thus, a first objective of Study 1 is to explore whether a set of ten potential motives underlie general spending behavior by using the Motives for Spending Scale, which was adapted from the Motivations for Making Money Scale developed by Srivastava et al. (2001). In their study, Srivastava and colleagues (2001) revealed that people are motivated to make money for ten main reasons and that these motives have important implications for well-being. Given that individuals make money in order to eventually spend it, it is likely that these ten motives are also present when individuals make purchases. Thus, the ten motives identified by Srivastava et al. (2001) may also represent the motives people have when they spend money.

Study 1 will also explore how these spending motives influence psychological health (well-being and ill-being) through their effects on need satisfaction and frustration. Thibault Landry et al. (2016) uncovered that the motives for making money are best represented by three categories of motives, namely Financial stability, Self-integrated and Non-integrated motives, depending on whether they promote or impede psychological growth. In line with their findings, it is hypothesized that if these motives are present when people make actual purchases, they are likely to have similar effects on psychological need satisfaction and consequently well-being. For instance, the Self-integrated motives of market value, leisure, charity, pride and freedom led to greater well-being (and decreased ill-being) because these motives allow people to satisfy their psychological needs (Thibault Landry et al., 2016). It follows that if individuals spend money in line with these motives, they are actively engaging in behaviours that will satisfy their needs for autonomy, competence and relatedness. For instance, a person could make a purchase, such as a computer, because it represents a way for them to develop their own business projects (Freedom), to invest in their knowledge and skills (Market value) and/or because it represents the accomplishments that they have

experienced in their life (Pride). Spending money for these reasons are likely to increase feelings of autonomy in that they allow the person the opportunity and the freedom to pursue the projects that they choose. They may also promote feelings of competence because such purchases may help the person develop their skills and abilities. In a similar way, when people make a purchase with the intent of making someone else happy or helping someone in need (Charity), this is likely to encourage need satisfaction. Spending money with the desire to help others may encourage the development of meaningful relationships with others (relatedness) and feelings of competence and autonomy in having a positive impact in others' lives. Finally, being motivated to make a purchase in order to pursue a hobby (Leisure) is likely to encourage feelings of autonomy in having the freedom to pursue activities that one enjoys while also increasing feelings of personal competence as people become better skilled at the activity. Moreover, if the leisure activity is enjoyed with others, the need for relatedness is also likely to be fulfilled. In line with SDT and with the findings of Thibault Landry et al. (2016), Study 1 will test the hypothesis that people who are motivated to spend money for these reasons are likely to experience need satisfaction and well-being because these motives promote personal growth and development (Deci & Ryan, 2000; Thibault Landry et al., 2016).

H1: The spending motives of market value, pride, leisure, charity and freedom positively predict need satisfaction, which in turn predicts well-being.

According to Thibault Landry et al. (2016), people who endorse Non-integrated motives for making money (Impulse, Overcoming self-doubt and Social comparison) are more likely to experience elevated need frustration and greater ill-being. If individuals spend their money on purchases primarily for these reasons, it is likely that they will experience the active thwarting of their psychological needs. For instance, buying a new car with the primary intention of attracting attention to oneself and boasting to others (Social comparison) or as a way to compensate for feelings of

inferiority (Overcoming self-doubt) may lead to feelings of isolation, incompetence and pressure over the long term. Specifically, spending money to appear better than others is likely to prevent the development of close and meaningful relationships with others. Moreover, using purchases as a way to appease feelings of insecurity is unlikely to promote positive self-development and may lead to feelings of pressure over the long term because more and more purchases are needed to maintain a compensatory sense of self-worth. Thus, Study 1 also tests the hypothesis that people motivated to spend money for these reasons are likely to experience need frustration and ill-being because these reasons do not promote personal growth (Thibault Landry et al., 2016). By investigating the role of need frustration, this study addresses a gap in the research on motives for spending as no study to date has examined whether people's motivations for making purchases can lead to the active thwarting of the psychological needs (not just the mere absence of satisfaction) and consequently bring about greater ill-being. Considering that when individuals endorse Non-integrated motives for making money they experience greater need frustration, it is likely that making purchases for similar reasons may not only prevent increases in well-being, but may also lead to detrimental psychological health consequences through need frustration.

H2: The spending motives of impulse, overcoming self-doubt and social comparison positively predict need frustration, which in turn predicts ill-being.

With respect to the Financial stability motives (Security and Family support), these motives are conceptualized as separate from the other motives as they reflect a person's general desire to ensure a stable financial situation for themselves and their family members (Thibault Landry et al., 2016). Moreover, in Thibault Landry et al.'s (2016) study, Financial stability motives were found to be unrelated to both need satisfaction and need frustration. Thus, spending money with the intent of acquiring basic life necessities and financial security may represent a basic sense of responsibility that may be independent from psychological need satisfaction.

H3: The spending motives of security and family support are unrelated to need satisfaction and need frustration.

Finally, a secondary objective of this article (Study 2) is to explore whether people endorse different motives when making specific purchases. As previously described, a vast amount of research has been devoted to exploring the types of purchases that provide the greatest amount of well-being (Aknin et al., 2019). Many studies support the recommendation that spending money on others, as opposed to on oneself and on experiences (rather than material things) have greater positive effects on well-being (Aknin et al., 2019; Gilovich & Gallo, 2019). Nevertheless, a few studies have highlighted the importance of considering that people can make these purchases for different reasons and this can influence the level of well-being provided by the purchase (e.g., Zhang et al., 2013). For instance, going on a trip to Italy to learn more about the culture certainly presents an opportunity for personal growth and enrichment, but such a trip is likely to be very expensive and not accessible to everyone. Thus, even an experience may be undertaken for reasons such as boasting to friends about the expensive vacations one can afford (Zhang et al., 2013). Similarly, donating to charity for reasons such as gaining prestige and social status is unlikely to provide enduring psychological benefits (Hill & Howell, 2014; Wiwad & Aknin, 2017). In answer to researchers' call to explore individuals' motives when making specific purchases (Howell & Hill, 2009), Study 2 explores the relative presence of the spending motives (identified in Study 1) across three common categories of purchases, namely material, experiential and prosocial purchases. In line with the research on motives (e.g., Hill & Howell, 2014; Zhang et al., 2013), it is hypothesized that people make prosocial, experiential and material purchases for different reasons. This analysis may provide additional insight into the pathways through which specific purchases provide happiness (or not).

H4: There are significant differences between prosocial, experiential and material purchases with respect to the spending motives.

3.5 Method: Study 1

3.5.1 Recruitment and study procedure

Recruitment was accomplished through various data collection methods. A first sample (N = 106) was recruited through online ads posted on the professional social media network LinkedIn. Another round of recruitment (N = 99) was accomplished using the listserv of the professional order of Certified Human Resources Professionals (CHRP) in the province of Québec, Canada. Emails were sent to members of the CHRP, which included an invitation to participate in the study. Finally, Prolific Academic, an online crowdsourcing website was used to recruit participants (N = 107). Participants voluntarily decided to participate in the study after seeing the baseline payment, estimated completion time and study content. Prolific Academic recommends that participants receive \$10 per hour for any type of study completed. Given that this study took approximately 15 minutes to complete, participants received on average of 2.50\$ for their participation. Prolific Academic's 'country of origin' filter was used, such that only individuals born in Canada could participate. Participation involved completing a survey in which participants were asked to think about and describe their most recent purchase that cost more than \$50 and answer a series of questions assessing their motives for making that particular purchase. Participants then completed measures assessing the variables of interest of the study (i.e., psychological need satisfaction/frustration and well-being/ill-being). Participants had the option of completing the study in the language of their choice (English or French).

3.5.2 Sample description and demographics

The total sample included 312 individuals with an average age of 38.2 years and included 218 women (69.9%) and 94 men (30.1%). With respect to education, 44.2% held a graduate degree, 41% held a Bachelor's degree (or university certificate), 7.7% a general or vocational college degree, and 7.1% a high school degree or less. A majority of the sample worked full-time (72.4%), 14.8% worked between 15 and 34 hours, 8% worked less than 15 hours and 4.8% did not work. The salary breakdown was the following: below \$10 000 (6.7%), \$10 000 – \$19 999 (4.5%), \$20 000 – \$29 999 (7.1%), \$30 000 – 39 999 (5.8%), \$40 000 – 49 999 (9.9%), \$50 000 – \$74 999 (20.2%), \$75 000 – \$99 999 (21.8%), \$100 000 – \$124 999 (11.9%), \$125 000 - \$149 999 (3.8%) and \$150 000 and above (8.3%).

3.5.3 Measures

Motives for Spending. The Motives for Spending Scale was developed by adapting the items of the Motivations for Making Money Scale (MMMS; Srivastava et al., 2001). In the MMMS, three items are used to assess each of the ten motivations for making money. To create the Motives for Spending Scale, one item per motive was created (which integrated elements of all three items) to assess ten motives for spending (10 items in total): Security (“ I made this purchase because it allowed me to acquire the basic necessities to live (e.g., decent housing, food, security”), Family support (“I made this purchase because it allowed me to provide for my family/friends/loved ones and ensure their well-being”), Market worth (“I made this purchase because it allows me to ensure that I will be fairly compensated for the knowledge, skills, and effort I put into my job and to ensure that my value in the market is fair”), Pride (“I made this purchase because it represents the success I have experienced in my life; I made this purchase because it allows me to feel proud of my accomplishments”), Leisure (“I made this purchase because it represents a leisure activity that I enjoy; It allows me to spend time participating in a hobby of mine”), Charity (“I made this purchase because it allowed

me to make somebody else happy or to help someone in need”), Freedom (“I made this purchase because it allows me (or will allow me in the future”) to have more freedom and time to develop my own projects, businesses, or activities”), Impulse (“I made this purchase impulsively because I enjoy the thrill of buying things in an impulse way without giving them much forethought”), Social comparison (“I made this purchase because it allows me to show others that I am better than them and/or because others will admire me for it”) and Overcoming self-doubt (“I made this purchase because it reassures me that I am not a failure in life and/or because it allowed me reduce my sense of self-doubt or insecurity”). Participants were asked to think about the purchase they had described and to rate the extent to which they were motivated by these ten reasons when making the purchase. Participants rated each item using a 7-point Likert scale ranging from 1 (Strongly disagree) to 7 (Strongly agree). The MSS was translated into French using the back translation method (Vallerand, 1989). It is important to note that the decision to use only one item per motive was taken with participant responding in mind. This scale was developed with the intention to first explore how the different motives relate to psychological health (current study) and subsequently to explore the motives across different purchases (Study 2). Having more than one item per motive would require the completion of a lengthy questionnaire and would place a great burden on participants. For instance, having three items per motive (similarly to the MMMS) would require participants to complete a thirty item scale three times (90 questions) to assess motives for three purchase types.

Need satisfaction. The Balanced Measure of Psychological Needs Scale (Sheldon & Hilpert, 2012) is a 9-item scale, which assesses the satisfaction of the needs for autonomy (e.g., “I feel my choices express my true self”), relatedness (e.g., “I feel close and connected with other people who are important to me”) and competence (e.g., “I feel I can successfully complete difficult tasks”) in life in general. Participants indicate their level of agreement with each item on a 5-point Likert scale, ranging from 1 (Completely disagree) to 5 (Completely agree). This scale was translated into French

using the back translation method (Vallerand, 1989). Reliability estimates for the three subscales were adequate (autonomy $\alpha = .79$; relatedness $\alpha = .84$, and competence $\alpha = .90$)

Need frustration. An adapted version of the Psychological Need Thwarting Scale (PNTS; Gillet, Fouquereau, Forest, Brunault, & Colombat, 2012) was used to assess psychological need frustration (an already existing French version of this scale was used). Participants are asked to indicate their level of agreement to 12 items on a 5-point Likert scale, which assess the frustration of the needs for autonomy (e.g., “I feel prevented from making choices with regard to the way I do things”), relatedness (e.g., “I feel other people dislike me”) and competence (e.g., “There are situations in which I am made to feel inadequate”) in life in general. Reliability estimates for the three subscales were adequate: autonomy ($\alpha = .86$), relatedness ($\alpha = .82$) and competence ($\alpha = .86$).

Well-being. A shortened version of the Positive and Negative Affect Schedule (PANAS-SF; Thompson, 2007) was used to measure positive affect (translated into French using the back translation method; Vallerand, 1989). The scale contains a list of 5 different positive emotions (e.g., “inspired” and “active”) and participants indicate the frequency with which they generally experience these emotions on a 5-point scale ranging from 1 (never) to 5 (always). The reliability estimate for the positive affect subscale was $\alpha = .69$. General well-being was also assessed using the Measure of Psychological Well-being developed by Choi, DiNitto, and Kim (2014). This scale was also translated into French using the back translation method (Vallerand, 1989). Participants indicate their level of agreement to 7 items (e.g., “My life has meaning and purpose”) using a 3-point scale (1 = Don’t agree at all; 2 = Agree a little; 3 = Completely Agree). In the current study, the reliability estimate for this scale was $\alpha = .80$. Mean scores of the positive affect subscale of the PANAS-SF and the Measure of Psychological Well-being were transformed into standardized scores (z-scores) and

then combined to be used as a general indicator of well-being. The reliability estimate ($\alpha = .82$) for the global well-being score (all items) suggests that the combination of these two scales was appropriate.

Ill-being. The negative affect subscale of the Positive and Negative Affect Schedule (PANAS-SF, Thompson, 2007) was used as a measure of negative affect (translated into French using the back translation method; Vallerand, 1989). The scale contains a list of 5 different negative emotions (e.g., “upset”, “hostile”) and participants indicate the frequency with which they generally experience these emotions on a 5-point scale ranging from 1 (never) to 5 (always). Reliability for the negative affect subscale was $\alpha = .76$. Moreover, depression symptoms were assessed using the Center for Epidemiologic Studies – Depression Scale (CES-D; Cole, Rabin, Smith, & Kaufman, 2004). This scale was also translated into French using the back translation method (Vallerand, 1989). Participants indicate the frequency (1 = none of the time; 4 = all of the time) with which they experience 8 different negative states (e.g., “I felt my life had been a failure”) over the last 12 weeks. The internal consistency of the CES-D short form was $\alpha = .88$. The mean scores of the PANAS-SF negative affect subscale and the CES-D (short form) were transformed into standardized scores (z-scores) and then combined to be used as a general indicator of ill-being. The reliability estimate ($\alpha = .90$) for the global ill-being score (all items) suggests that the combination of these two scales was appropriate.

Socio-demographic questionnaire. Participants were asked to provide information regarding their gender (male, female, other), age, education level (1 = High school degree or less, 2 = General or vocational college degree, 3 = Bachelor’s degree or University certificate, 4 = Graduate degree), number of hours worked per week (1 = Do not work, 2 = Less than 15 hours, 3 = Between 15 and 24 hours, 4 = Between 25 and 34 hours, 5 = 35 hours or more) and salary (1 = no salary, 2 = below \$10 000, 3 = between \$10 000 - \$19 999, 4 = \$20 000 – \$29 999, 5 = \$30 000 – \$39 999, 6 = \$40

000 – \$49 999, 7 = \$50 000 – \$74 999, 8 = \$75 000 – \$99 999, 9 = \$100 000 – \$124 999; 10 = \$125 000 - \$149 999; 11 = \$150 000 and above).

3.5.4 Results

Preliminary analyses

In preliminary data screening, no impossible/invalid responses were found and missing data was less than 5% suggesting that data could be imputed without issue (Tabachnik & Fidell, 2013). Multiple imputation (25 iterations) was used to input missing data for the demographic variables of age, education and salary as well as the dependent variables. One spending motive item (Item 9 – Social comparison) was significantly skewed (skew = 2.229). The generally accepted range for skewness is below 2 and above -2 (George & Mallery, 2010; Tabachnik & Fidell, 2007). Thus, a square root transformation was carried out for this item (new skew value = 1.874).

Exploratory factor analysis

Initially, the factorability of the 10 item Motives for Spending Scale was examined using several well-recognized criteria (Tabachnik & Fidell, 2013). Firstly, six of the 10 items correlated at least .3 with at least one other item, suggesting reasonable factorability (Table 1). Secondly, the Kaiser-Meyer-Olkin measure of sampling adequacy was .64, above the recommended value of .6 and Bartlett's test of sphericity was significant ($\chi^2(45) = 736.76, p < .001$). Moreover, no issue of multicollinearity between items was present as all tolerances were above .20. Exploratory factor analysis (EFA) using maximum likelihood estimation and varimax rotation revealed the presence of four factors with eigenvalues greater than 1. However, inspection of the scree plot suggested that a 5-factor solution would be appropriate. Thus, five factors were extracted explaining 77.67% of the variance. All items had primary loadings above .5 (except Impulse item 8 = .39) and all communalities were above .3 (except

Impulse item 8 = .22). Although two items had cross loadings above .3 (Family support item 2 = .50 and Pride item 4 = .33), these items had strong primary loadings (Family support item 2 = .62 and Pride item 4 = .60) with their associated factor. The residual correlation matrix revealed 0% of nonredundant residuals with absolute values greater than 0.05, which indicates that the number of factors extracted fit the data well. The five factors extracted are presented in Table 2. It is important to note that two factors are represented by only one item. This indicates that either the items are not adequately loading on their appropriate factors or that these two items represent different factors (and more items are needed to represent the factor). It was chosen to proceed in the extraction of five factors because this provided the most appropriate conceptual understanding of the motives. The first factor extracted was labeled “Stability” because it represents expenses made to ensure one’s own and one’s family physical and financial well-being. The second factor extracted was labeled “Self-development” because it represents expenses made with the purpose of investing in one’s current and/or future professional endeavors. The third factor extracted was labeled “Personal insecurity” because it encompasses purchases made (often impulsively) with the intent of overcoming self-doubt by developing an image that others will envy. The final two factors extracted represent the motives of “Helping others” and “Fun”. The motive “Helping others” encompasses purchases made with the intent of providing help to others and the “Fun” motive represents purchases made with the intent of participating in an enjoyable leisure activity.

Main analyses

Control variables

A MANOVA was carried out to verify whether the study variables (Spending motive factors, need satisfaction/frustration, and well-being/ill-being) varied significantly with respect to the different data collection methods (i.e., online ads, CHRP professional

order, crowdsourcing website). Results revealed that the variables varied significantly across the different data collection methods ($F(18, 602) = 9.50, p < .000$; Wilk's $\Lambda = .606$, partial $\eta^2 = .22$). Specifically, well-being ($F(2, 309) = 57.92, p < .001$, partial $\eta^2 = .27$), ill-being ($F(2, 309) = 23.28, p < .001$, partial $\eta^2 = .13$), need satisfaction ($F(2, 309) = 21.41, p < .001$, partial $\eta^2 = .12$), need frustration ($F(2, 309) = 36.28, p < .001$, partial $\eta^2 = .19$), fun ($F(2, 309) = 7.28, p = .001$, partial $\eta^2 = .05$), self-development ($F(2, 309) = 8.49, p < .001$, partial $\eta^2 = .05$), and personal insecurity ($F(2, 309) = 22.53, p < .001$, partial $\eta^2 = .13$) varied significantly with respect to data collection method. Given that multiple ANOVAs were run, a Bonferroni correction was applied and thus statistical significance was accepted at the $p < .005$ level ($p = .05$ divided by nine tests). Table 3 presents the means of the variables that differ according to data collection method. With respect to well-being, follow-up analyses indicated that there were significant differences between crowdsourcing website and CHRP recruitment ($p < .001$) and between crowdsourcing website and online ads recruitment ($p < .001$). For ill-being, there were significant differences between crowdsourcing website and CHRP recruitment ($p < .001$) and between crowdsourcing website and online ads recruitment ($p < .001$). For need satisfaction, there were significant differences between crowdsourcing website and CHRP recruitment ($p < .001$) and between crowdsourcing website and online ads recruitment ($p < .001$). For need frustration, there were significant differences between crowdsourcing website and CHRP recruitment ($p < .001$) and between crowdsourcing website and online ads recruitment ($p < .001$). For the fun motive, there were significant differences between crowdsourcing website and CHRP recruitment ($p = .008$) and between crowdsourcing website and online ads recruitment ($p = .002$). For the self-development motive, there were significant differences between crowdsourcing website and CHRP recruitment ($p < .001$) and between crowdsourcing website and online ads recruitment ($p = .013$). Finally, for the personal insecurity motive, there were significant differences between crowdsourcing website and CHRP recruitment ($p < .001$) and between crowdsourcing website and online ads recruitment ($p < .001$).

Similarly, a MANOVA was also conducted to determine whether study variables varied according to language (English and French). Results revealed that the variables of interest varied significantly with respect to language ($F(9, 302) = 19.41, p < .001$; Wilk's $\Lambda = .63$; partial $\eta^2 = .37$). Specifically, well-being ($F(1, 310) = 106.27, p < .001$, partial $\eta^2 = .26$), ill-being ($F(1, 310) = 46.28, p < .001$, partial $\eta^2 = .13$), need satisfaction ($F(1, 310) = 38.30, p < .001$, partial $\eta^2 = .11$), need frustration ($F(1, 310) = 66.24, p < .001$, partial $\eta^2 = .18$), fun ($F(1, 310) = 12.52, p < .001$, partial $\eta^2 = .04$), self-development ($F(1, 310) = 20.76, p < .001$, partial $\eta^2 = .06$) and personal insecurity ($F(1, 310) = 41.04, p < .001$, partial $\eta^2 = .12$) varied significantly with respect to language. Table 4 presents the means of the variables that differ according to language. Thus, in addition to the variables of age, gender, education, work hours, and salary, language and data collection method were also included as control variables in the analyses. Categorical control variables (i.e., gender, data collection method, and language) were dummy coded.

Spending motives and psychological health outcomes

An initial review of the correlations between all study variables (Table 5) reveals that autonomy ($r = .54, p < .001$), competence ($r = .61, p < .001$) and relatedness ($r = .56, p < .001$) need satisfaction are positively correlated with well-being and negatively correlated with ill-being ($r = -.50, p < .001$; $r = -.47, p < .001$; $r = -.49, p < .001$ respectively). Moreover, autonomy ($r = -.52, p < .001$), competence ($r = -.50, p < .001$) and relatedness ($r = -.52, p < .001$) need frustration are negatively associated with well-being and positively correlated with ill-being ($r = .58, p < .001$; $r = .62, p < .001$; $r = .66, p < .001$ respectively). The stability motive was unrelated to autonomy ($r = -.04, p = .454$), competency ($r = .04, p = .481$) and relatedness ($r = .08, p = .169$) need satisfaction as well as autonomy ($r = .004, p = .950$), competence ($r = -.02, p = .703$) and relatedness ($r = -.08, p = .167$) need frustration. Self-development was positively associated with competence ($r = .17, p = .003$) and relatedness ($r = .13, p = .026$) need

frustration. The fun motive was positively correlated with relatedness need frustration ($r = .12, p = .032$). The Helping others motive was positively associated with autonomy ($r = .16, p = .004$) and relatedness need satisfaction ($r = .23, p < .001$) and well-being ($r = .18, p = .002$). Personal insecurity was negatively associated with autonomy ($r = -.15, p = .010$), competence ($r = -.25, p < .001$) and relatedness ($r = -.20, p < .001$) need satisfaction and well-being ($r = -.24, p < .001$). Moreover, personal insecurity was positively associated with autonomy ($r = .28, p < .001$), competence ($r = .29, p < .001$) and relatedness ($r = .40, p < .001$) need frustration and ill-being ($r = .33, p < .001$).

Consistent with most studies in the spending literature (e.g., Zhang et al., 2013; Guevarra & Howell, 2015), this study explored how the five spending motives relate to the satisfaction and frustration of the three psychological needs separately. A measurement model (Model 1) was first tested in which indicators of the variables included in the structural model (stability, self-development, and personal insecurity motives, autonomy satisfaction, relatedness satisfaction, competence satisfaction, autonomy frustration, competence frustration, relatedness frustration, well-being and ill-being) loaded on their respective latent factor. Five goodness-of-fit indices were used to assess model fit: the Minimum discrepancy per degree of freedom (CMIN/DF), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR). In general, threshold values of less than 0.08 for RMSEA are indicative of an acceptable fit (MacCallum, Browne & Sugawara, 1996) and CMIN/DF values less than 3 are considered acceptable (Kline, 1998). Generally, values higher than .90 for the CFI and TLI (Hoyle 1995; Schumacher & Lomax, 1996a, b) and lower than .08 for the SRMR (Browne & Cudeck, 1993; Hu and Bentler, 1999) indicate an acceptable fit. The Akaike Information Criterion (AIC) was used when comparing models as smaller values generally indicate a better fitting and parsimonious model (Akaike, 1987; Tabachnick & Fidell, 2013). Model 1 provided a good fit to the data (CMIN/DF = 1.80, RMSEA = .05, CFI = .94, TLI = .92, SRMR = .05) and all indicators had significant loadings on

their corresponding latent factor. The motives of Helping others and Fun were included in the model as observed variables. Given that all data were self-reported, Harman's single factor score (in which all items measuring the latent variables are loaded into one common factor) was calculated in order to test for common method bias (CMB; Harman, 1960). The results revealed that the total variance for a single factor was 32.73% below the recommended value of 50%, suggesting that CMB was unlikely to distort the interpretation of the relationships among variables.

Structural equation modeling (SEM) using AMOS (Version 23; Arbuckle, 2014) was subsequently conducted to explore associations between spending motives and psychological health (well-being and ill-being) and to test whether need satisfaction and frustration mediate these relationships (H1 to H3). Hence, a first model (Model 2) was tested which included indirect links from the spending motives to well-being and ill-being through autonomy satisfaction, relatedness satisfaction, competence satisfaction as well as autonomy frustration, relatedness frustration and competence frustration (full mediation). Model 2 provided a good fit to the data, CMIN/DF = 1.47, CFI = .99, TLI = .97, RMSEA = .04, SRMR = .04, AIC = 437.65. Model 2 was then compared to a partial mediation model (Model 3), which consisted of Model 2 with the addition of direct paths from the spending motives to well-being and ill-being. This model did not provide a better fit to the data, CMIN/DF = 1.52, CFI = .99, TLI = .96, RMSEA = .04, SRMR = .04, AIC = 444.60. Thus, Model 2 was retained and is presented separately for need satisfaction and need frustration, in Figures 1 and 2 respectively, to facilitate interpretation (links from control variables are not shown for simplicity of presentation).

In preliminary support for H1 and H2, the results indicate that the Fun motive positively predicts relatedness need satisfaction ($\beta = .16, p = .005$) and that the Self-development motive positively predicts autonomy need satisfaction ($\beta = .11, p = .047$). Moreover, the Helping others motive positively predicts relatedness ($\beta = .21, p < .001$) and

autonomy ($\beta = .17, p = .004$) need satisfaction. The Personal insecurity motive negatively predicts autonomy satisfaction ($\beta = -.18, p = .003$), competence satisfaction ($\beta = -.16, p = .005$), and relatedness satisfaction ($\beta = -.12, p = .033$). The Personal insecurity motive also positively predicts autonomy frustration ($\beta = .20, p < .001$), competence frustration ($\beta = .19, p < .001$) and relatedness frustration ($\beta = .29, p < .001$). The Stability motive was unrelated to the satisfaction or frustration of the psychological needs (supporting H3). Moreover, relatedness need satisfaction positively predicts well-being ($\beta = .26, p < .001$) and negatively predicts ill-being ($\beta = -.15, p < .001$). Similarly, autonomy need satisfaction positively predicts well-being ($\beta = .25, p < .001$) and negatively predicts ill-being ($\beta = -.17, p < .001$). Competence need satisfaction positively predicts well-being ($\beta = .23, p < .001$) but was not significantly related to ill-being ($\beta = -.07, p = .153$). Competence need frustration positively predicts ill-being ($\beta = .26, p < .001$) but is unrelated to well-being ($\beta = -.08, p = .102$). Similarly, relatedness need frustration is positively related to ill-being ($\beta = .30, p < .001$) but unrelated to well-being ($\beta = -.01, p = .770$). Finally autonomy need frustration was unrelated to well-being ($\beta = -.05, p = .298$) and ill-being ($\beta = .05, p = .373$).

To formally test the mediating role of need satisfaction and need frustration in the relationship between spending motives and psychological health, 95% confidence intervals were computed from 1000 bootstrap samples (MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2008). In general, mediation (i.e., indirect) effects are said to be significant when confidence intervals exclude zero. The results revealed that there was a significant indirect effect of the Helping others motive on well-being ($\beta = .06, CI [.03, .10], p < .05$) and ill-being ($\beta = -.07, CI [-.11, -.03], p < .05$) through relatedness need satisfaction. Moreover, relatedness need satisfaction also significantly mediated the relationship between the Fun motive and well-being ($\beta = .04, CI [.01, .08], p < .05$) and between the Fun motive and ill-being ($\beta = -.04, CI [-.08, -.01], p < .05$). Finally, there was a significant indirect effect of the Personal insecurity motive on well-being through relatedness need frustration ($\beta = -.04, CI [-.08, -.01], p < .05$). In the

relationship between the Personal insecurity motive and ill-being, autonomy frustration ($\beta = .02$, CI [.00, .06], $p < .05$), competence frustration ($\beta = .02$, CI [.00, .05], $p < .05$), and relatedness frustration ($\beta = .07$, CI [.03, .12], $p < .05$) were all significant mediators. Although the self-development motive positively predicted autonomy satisfaction, there was no significant indirect effect on well-being or ill-being.

Taken together, the results partially support H1, in that the original motives of charity and leisure lead to well-being through need satisfaction. Although the motives of market value and freedom were associated with need satisfaction, there was no subsequent effects on well-being. Moreover, the original pride motive from Thibault Landry et al.'s (2016) study loaded on the Personal insecurity factor and was negatively associated with need satisfaction. Finally, H2 was supported in that the motives of social comparison, impulse and overcoming self-doubt were significantly associated with ill-being through the mediating role of need frustration.

3.5.5 Discussion: Study 1

The results of Study 1 suggest the existence of five main motives that may play a role in everyday spending decisions. Specifically, the reasons people spend money include (but may not be limited to): to ensure their own and their loved one's physical well-being (Stability motive), to invest in their self-development (Self-development motive), to help others in need (Helping others motive), to participate in an enjoyable leisure activity (Fun motive) and to overcome feelings of self-doubt by appearing better than others, often in an impulsive way (Personal insecurity motive). Furthermore, the results revealed that these five motives have important consequences for psychological health. Specifically, when people said that they spent money with the intent of helping someone in need (Helping others motive), they were likely to experience increased well-being (as well as less ill-being) because it allowed them to satisfy their needs for relatedness and autonomy. Moreover, when people spent money with the intent to enjoy a leisure activity (Fun motive) they experienced greater well-being (and less ill-

being) because it allowed them to satisfy their need for relatedness. Spending money with the intent to invest in self-development (Self-development motive) allowed people to experience autonomy need satisfaction, but was not related to well-being. Consistent with previous research (Thibault Landry et al., 2016), when people said they spent money to ensure their financial stability (Stability motive), this had no effect on need satisfaction or need frustration. Finally, when people mentioned that they made a purchase primarily because they wanted to overcome feelings of insecurity and appear better than others, this led to decreased well-being because they were less likely to experience need satisfaction. What is more, people spending money for these reasons experienced greater ill-being because these motives led to the active thwarting of all three psychological needs.

3.6 Method: Study 2

3.6.1 Recruitment and study procedure

Recruitment was accomplished through Prolific Academic, an online crowdsourcing website (N = 305).² Participants voluntarily decided to participate in the study after seeing the baseline payment, estimated completion time and study content. Prolific Academic recommends that participants receive \$10 per hour for any type of study completed. Given that this study took approximately 15 minutes to complete, participants received on average of 2.50\$ for their participation. Prolific Academic's 'country of origin' filter was used, such that only individuals born in Canada could participate. Participation involved completing a survey in which participants were asked to reflect upon three recent purchases that cost more than \$20 and to complete

²Note : This consists of a subsample of the participants recruited for Study 2 of Article 1 of this thesis. It is important to note that statistical analyses on this data do not overlap.

the Motives for Spending Scale with respect to each purchase. Specifically, participants were asked to think about and describe their most recent material purchase (defined as “a purchase in which a material good is acquired, which is usually a tangible object that is kept in your possession”), prosocial purchase (defined as “a purchase that is made to help or benefit another person”) and experiential purchase (defined as “a purchase for an event or series of events that you have lived through”). Immediately after describing each purchase, participants completed the MSS with respect to each purchase.

3.6.2 Sample description and demographics

The total sample included 305 individuals with an average age of 31.6 years and included 138 women (45.2%) and 167 men (54.8%). With respect to education, 49.8% held a Bachelor’s degree (or university certificate), 19.3% held a graduate degree, 12.8% a general or vocational college degree, and 18% a high school degree or less. The salary breakdown was the following: no salary (2.6%), below \$10 000 (10.5%), \$10 000 – \$19 999 (12.1%), \$20 000 – \$29 999 (9.8%), \$30 000 – 39 999 (9.5%), \$40 000 – 49 999 (14.8%), \$50 000 – \$74 999 (18.7%), \$75 000 – \$99 999 (11.5%), \$100 000 – \$124 999 (7.9%), and \$125 000 and above (2.6%).

3.6.3 Measures

Motives for spending. Participants’ motives for making material, prosocial and experiential purchases were assessed using the Motives for Spending Scale (MSS). See study 1 for a full description of the MSS. For each purchase, the items for Security (item 1) and Family support (item 2) were combined (using the mean) in order to arrive at a global score for the Stability motive. The items representing the motives of Market Value (item 3) and Freedom (item 7) were combined (using the mean) to arrive at a global score for the Self-development motive. Similarly, the items representing the motives of Pride (item 4) Impulse (item 8), Overcoming self-doubt (item 9) and Social

Comparison (item 10) were combined (using the mean) to arrive at a global score for the Personal insecurity motive. In line with the results of Study 1, it is important to note that the motives of Helping others and Fun are represented by only one item. For material purchases, the reliability estimates for the Stability ($\alpha = .66$), Self-development ($\alpha = .64$) and Personal insecurity ($\alpha = .73$) motives were acceptable. For prosocial purchases, the reliability estimates for the Self-development ($\alpha = .66$) and Personal insecurity ($\alpha = .75$) motives were acceptable, but the Stability motive revealed a low reliability estimate ($\alpha = .42$). For experimental purchases, the reliability estimates for the Stability ($\alpha = .65$), Self-development ($\alpha = .74$) and Personal insecurity ($\alpha = .75$) motives were acceptable.

Socio demographic questionnaire. Participants were asked to provide information regarding their gender (male, female, other), age, education level (1 = High school degree or less, 2 = General or vocational college degree, 3 = Bachelor's degree or University certificate, 4 = Graduate degree), and salary (1 = no salary, 2 = below \$10 000, 3 = between \$10 000 - \$19 999, 4 = \$20 000 – \$29 999, 5 = \$30 000 – \$39 999, 6 = \$40 000 – \$49 999, 7 = \$50 000 – \$74 999, 8 = \$75 000 – \$99 999, 9 = \$100 000 – \$124 999; 10 = \$125 000 - \$149 999; 11 = \$150 000 and above).

3.6.4 Results

Preliminary analyses

Preliminary data screening revealed no impossible/invalid responses and missing data was less than 5% suggesting that data could be imputed without issue (Tabachnik & Fidell, 2013). Multiple imputation (25 iterations) was used to input missing data for socio-demographic and dependent variables.

Control variables

An inspection of Table 6, which includes correlations between all study variables, reveals that several spending motives were significantly correlated with the socio-demographic variables. For material purchases, the motive of personal insecurity was significantly correlated with age ($r = -.12, p = .043$) and salary ($r = .20, p < .001$). The motives of self-development ($r = -.12, p = .030$) and fun ($r = -.24, p < .001$) were also significantly correlated with gender (male = 1, female = 2). For prosocial purchases, the motive of fun was correlated with age ($r = -.15, p = .010$) and the motives of self-development ($r = .14, p = .013$) and Personal insecurity ($r = .18, p = .002$) were correlated with salary. Finally, with respect to experiential purchases, the motives of self-development ($r = .14, p = .016$) and personal insecurity ($r = .14, p = .014$) were correlated with salary. The motives of self-development ($r = -.12, p = .032$) and personal insecurity ($r = -.14, p = .018$) were also correlated with age. These associations were controlled for in main analyses (ANCOVAs) by including the control variables as covariates.

Main analyses

In order to assess how the three purchases differed with respect to the spending motives, a repeated-measures ANCOVA with Purchase (Material, Prosocial, Experiential) as the within-subjects factor was run separately for stability, self-development, fun, helping others and personal insecurity motives. Table 7 presents the estimated marginal means for the spending motives across purchase type and Figure 3 provides a visual representation of these differences. Moreover, Table 8 presents descriptions of material, prosocial and experiential purchases across the different spending motives. For the motives of stability, self-development, helping others and personal insecurity, a Huynh-Feldt correction was used as sphericity was violated. The results revealed that the purchases differed significantly with respect to the stability motive ($F(1.968, 598.364) = 16.20, p < .001, \text{partial } \eta^2 = .05$). Post hoc tests using a Bonferroni correction revealed that prosocial purchases (mean = 3.36) elicited

significantly higher scores on the stability motive than experiential (mean = 2.97, $p < .001$) and material purchases (mean = 2.69, $p < .001$). Experiential and material purchases were not statistically different in terms of the stability motive ($p = .057$). With respect to the self-development motive, a repeated measures ANCOVA with age, gender and salary entered as covariates, determined that the three purchases differed significantly with respect to this motive ($F(1.671, 502.860) = 17.13, p < .001$, partial $\eta^2 = .05$). Specifically, material purchases elicited higher levels of the self-development motive (mean = 2.53) followed by experiential (mean = 2.01) and prosocial purchases (mean = 1.78). These differences were all statistically significant ($p < .001$). With respect to the Fun motive (gender and age entered as covariates) results revealed that the three purchases revealed significant differences with respect to this motive ($F(2, 604) = 10.91, p < .001$, partial $\eta^2 = .04$). Post hoc tests revealed that the fun motive was highest for experiential purchases (mean = 5.52) followed by material (mean = 4.61) and prosocial purchases (mean = 3.07). These differences were all statistically significant ($p < .001$). Results also revealed that the three purchases were significantly different with respect to the helping others motive ($F(1.963, 596.633) = 382.10, p < .001$, partial $\eta^2 = .56$). Specifically, prosocial purchases elicited the highest level of the helping others motive (mean = 6.23) followed by experiential (mean = 4.44) and material purchases (2.58). These differences were all statistically significant ($p < .001$). Finally, with respect to the personal insecurity motive (age and salary entered as covariates), the results revealed that this motive also differed significantly between purchase type ($F(1.889, 570.405) = 3.63, p = .029$, partial $\eta^2 = .01$). Post hoc tests revealed that material (mean = 2.45, $p = .002$) and experiential (mean = 2.50, $p = .002$) purchases elicited significantly higher scores on the personal insecurity motive than prosocial purchases (mean = 2.24). Experiential and material purchases were not significantly different in terms of this motive ($p > .05$).

In order to determine the relative importance of the spending motives within each purchase type, a repeated measures ANOVA was conducted separately for material,

prosocial and experiential purchases. First, a repeated measures ANOVA with a Huynh-Feldt correction determined that with respect to material purchases, the five spending motives revealed significant differences ($F(2.813, 846.684) = 22.73, p < .001$, partial $\eta^2 = .07$). Post hoc tests using a Bonferroni correction revealed that the fun motive (mean = 4.61) was significantly higher than the rest of the motives ($p < .001$). The motives of stability, helping others, self-development, and personal insecurity were not significantly different from each other. Second, a repeated measures ANOVA with a Huynh-Feldt correction determined that with respect to prosocial purchases, the five spending motives revealed significant differences ($F(3.144, 946.251) = 32.60, p < .001$, partial $\eta^2 = .10$). Post hoc tests revealed that for prosocial purchases the helping others motive was the highest, followed by stability, fun, personal insecurity and self-development. All motives were significantly different from each other ($p < .001$) except for stability and fun ($p = .300$). Finally, a repeated measures ANOVA with a Huynh-Feldt correction determined that with respect to experiential purchases, the five spending motives revealed significant differences ($F(3.021, 909.411) = 15.16, p < .001$, partial $\eta^2 = .05$). Post hoc tests revealed that the highest motive for experiential purchases was fun, followed by helping others, stability, personal insecurity and self-development. All motives were significantly different from each other. Taken together, the results support H4.

3.6.5 Discussion: Study 2

The results of Study 2 suggest that people are motivated to make material, prosocial and experiential purchases for different reasons. When individuals made prosocial and experiential purchases, they were significantly more likely to be motivated by a desire to help others (Helping others motive) than when making material purchases. Moreover, compared to experiential and material purchases, individuals were more likely to be motivated by a desire to ensure their own and their family's well-being (Stability motive) when making prosocial purchases. With respect to experiential

purchases, individuals were significantly more likely to report that they made this type of purchase (compared to prosocial and material purchases) to participate in a leisure activity that they enjoyed (Fun motive). Although material purchases elicited the Fun motive to a lesser extent than experiential purchases, enjoying a leisure activity was the reason individuals most often listed when making material purchases. Additionally, when making material purchases (compared to experiential and prosocial purchases), individuals were significantly more likely to be motivated by a desire to invest in their own personal development (Self-development motive). Finally, when individuals made experiential and material purchases, they were significantly more likely to be motivated by a desire to overcome feelings of insecurity, to attract attention to themselves and to spend impulsively compared to when making prosocial purchases. Material and experiential purchases were equally likely to elicit this motive.

3.7 General discussion

The primary objective of this article was to add to the spending literature by identifying a broader set of reasons that motivate people to spend money and to explore whether these motives affect well-being through psychological need satisfaction. The results of Study 1 suggest that people spend money for at least five main reasons, namely to ensure their own and their loved ones' well-being (Stability motive), to invest in their professional self-development (Self-development motive), to participate in leisure activities that they enjoy (Fun motive), to provide assistance to those in need (Helping others motive) and to overcome feelings of insecurity by attracting attention to themselves often in an impulsive way (Personal insecurity motive). This study relied on Srivastava et al.'s (2001) original ten motives for making money to determine if these same motives are present when people make actual purchases. This leaves open the possibility that there may be other reasons that motivate spending behaviour that were not explored in this study. Nevertheless, the results suggest that the five motives identified may underlie people's everyday spending decisions and that they have

important effects on psychological health. Consistent with previous research by Thibault Landry et al. (2016), when people make purchases with the intention of helping others, they are more likely to experience relatedness and autonomy need satisfaction, which in turn leads to greater well-being as well as less ill-being. Similarly, when individuals spend money with the intent of participating in a hobby that they enjoy, this allows them to satisfy their need for relatedness and leads to elevated well-being (and less ill-being). Moreover, spending money to invest in self-development leads to the satisfaction of the need for autonomy. Consistent with Thibault Landry et al. (2016), the motive of Stability was unrelated to need satisfaction or need frustration. Finally, when individuals are motivated to make purchases because they believe these will help them overcome feelings of self-doubt and to appear better than others, they are less likely to satisfy their need for relatedness and consequently experience decreased well-being. These motives are also more likely to actively thwart all three psychological needs and consequently lead to ill-being. It is important to highlight that in Thibault Landry et al.'s (2016) study on the motives for making money, the motive of Pride is considered as a Self-integrated reason for making money because it was found to have positive effects on well-being. In the current study, the pride motive for spending loaded on the Personal insecurity motive and was associated with increased need frustration and ill-being. A potential explanation for this finding is that the motives of pride (i.e. spending money to feel proud of one's accomplishments) and overcoming self-doubt (i.e. spending money to gain a feeling of reassurance that one is not a failure in life) are conceptually similar. Whereas the former refers to a sense of personal satisfaction gained from successful life accomplishments, the latter emphasizes feelings of inadequacy related to one's life. It is possible that more items are needed to represent each spending motive in order to conceptually separate these two constructs. Taken together, the results of Study 1 add to the growing body of research suggesting that people's motives for making everyday spending decisions have important consequences for well-being through their effect on psychological need satisfaction (Hill & Howell, 2014; Zhang et al., 2013).

In answer to researchers' call for a need to explore individuals' motives when making specific purchases, a secondary objective of this article was to explore the relative presence of the spending motives (identified in Study 1) across different types of purchases. The results of Study 2 revealed that material, prosocial and experiential purchases tend to be made for different reasons. First, compared to material purchases, when individuals make prosocial or experiential purchases, they are significantly more likely to do so because of a desire to help someone. Taken with the results of Study 1, this suggests a potential pathway through which prosocial and experiential purchases provide well-being. Prosocial and experiential purchases may be more often motivated by a desire to help others and this motive may allow people to satisfy their needs for relatedness and autonomy. For instance, a person paying for a private hospital room for a friend (experiential and/or prosocial purchase) because they truly want to see their friend get better will likely strengthen their relationship (relatedness) and allow the person to pursue a goal that is consistent with his/her desire to help others (autonomy). This is consistent with previous studies suggesting that prosocial and experiential purchases lead to greater happiness because they allow individuals to strengthen their relationships with others (Howell & Hill, 2009; Yamaguchi et al., 2016). Moreover, the results of Study 2 revealed that experiential purchases (compared to material and prosocial ones) are significantly more likely to come from a desire to participate in enjoyable leisure activities. Considering the results of Study 1 and 2 together, it suggests that when people make experiential purchases their primary motivation is to carry out an activity that they enjoy (Study 2). This motivation may in turn allow people to satisfy their need for relatedness (Study 1), likely because these types of activities are often shared with others (Caprariello & Reis, 2010; Guevarra & Howell, 2015). An interesting finding of Study 2 is that the primary reason people buy material things is also to participate in a hobby or enjoyable activity (albeit to a lesser extent than experiential purchases). Considering that this motive was found to encourage relatedness need satisfaction (Study 1), it is possible that material purchases can satisfy people's need for relatedness if the purchase is made for this reason. Moreover,

material purchases (compared to experiential and prosocial purchases) were significantly more likely to be motivated by a desire for self-development. As previously described, spending money in order to invest in one's development is associated with autonomy need satisfaction (Study 1). Taken together, the findings of study 1 and 2 suggest potential mechanisms through which material purchases may provide happiness. For instance, the purchase of a new hockey stick (material purchase) made primarily because a person wants to play their favorite sport with friends may lead to the strengthening of his/her relationships (relatedness) and consequently increase well-being. Similarly, a graduate student buying a laptop with the primary intention of writing a doctoral dissertation (self-development) may encourage feelings of autonomy as the purchase represents an opportunity to pursue a goal (e.g., becoming a doctor) that is important to him/her (autonomy). Together, the results are aligned with the findings of Guevarra and Howell (2015) that material items that can provide an experience (e.g., video games) provide similar levels of well-being as life experiences because they encourage psychological need satisfaction. Thus, the tangibility of a purchase may not necessarily undermine the happiness it can provide.

Finally, Study 2 revealed that compared to prosocial purchases, experiential and material purchases are more likely to be motivated by a desire to overcome feelings of insecurity by attracting attention to oneself and spending impulsively. The results of Study 1 revealed that spending money for these reasons leads to the active thwarting to the psychological needs. Although not tested directly, this suggests a potential pathway through which purchases, particularly, experiential and material purchases, may actually encourage need frustration and be detrimental to well-being. Purchases such as a tailor-made suit or a vacation to Hawaii may be equally likely to be motivated by a desire to gain admiration from others. This motive, in turn, is likely to negatively affect relationships with others and lead to feelings of incompetence and pressure over the long term as more purchases are necessary to compete with more expensive and lavish purchases made by others. This is consistent with the results of Zhang and

colleagues (2013) that experiences can also be purchased for extrinsic reasons and this prevents psychological need satisfaction. Moreover, Moldes, Banerjee, Easterbrook, Harris & Dittmar (2019) revealed that experiential and material purchases are equally likely to be used by people to display signs of wealth and social status and this was associated with decreased well-being. Similarly, Duan and Dholakia (2018) report that individuals who have a strong desire to display social status to others are equally likely to post pictures of their experiential and material purchases on social media.

3.7.1 Theoretical contributions and practical implications

The results of the two studies presented in this article contribute to the small body of research on what motivates people to make purchases (e.g., Zhang et al., 2013). Specifically, Study 1 extends this literature by highlighting a broader set of motives underlying general spending behavior (without limiting exploration to motives for one particular purchase type) that have important consequences for well-being. Moreover, Study 1 makes a significant contribution to the literature by implicating for the first time the role of need frustration in the association between spending motives and psychological health and by suggesting that everyday spending decisions have the potential of actively thwarting psychological needs and ultimately increasing ill-being. Future researchers are thus encouraged to include measures of need frustration and ill-being when assessing the psychological consequences of spending behavior.

From a practical perspective, the vast literature on spending and happiness outlines important recommendations aimed at helping individuals derive the greatest level of happiness from their spending decisions. Evidently, a large body of evidence supports the recommendation that spending money on others (as opposed to oneself) and on experiences (rather than material things) leads to happiness (Aknin, Wiwad & Hanni, 2018). Although the path between purchases, motives, need satisfaction and well-being was not assessed directly (and in its entirety), the results corroborate these recommendations by revealing that compared to material purchases, prosocial and

experiential purchases are more likely motivated by reasons that encourage the satisfaction of psychological needs (i.e., a desire to help others and to participate in enjoyable activities). Nevertheless, the results also suggest that it is possible to consume experiences for detrimental reasons (i.e., attract attention to oneself) and to purchase material items for beneficial reasons (i.e., participate in leisure activities and invest in self-development). Thus, while a luxurious vacation to Hawaii certainly provides an excellent opportunity to spend time with friends doing fun activities (e.g., snorkeling, site seeing, etc.), it may also be undertaken for reasons such as boasting to friends about the expensive vacations one can afford. Similarly, buying the latest brand name bicycle may be used to gain the admiration of others, but it can also make someone happy by allowing them to participate in a cross-country cycling adventure with close friends. Thus, the findings point to a third important recommendation: people should reflect on the reasons why they spend money as these can potentially influence the happiness they derive from the purchases they make.

3.7.2 Limitations and future research

It should be noted that a major limitation of Study 1 is that it relied on an already existing scale to assess individuals' spending motives. Although the results suggest the presence of five main spending motives, it is likely that a broader set of motives exist. People make a number of purchases on a monthly basis (e.g., paying bills, groceries, outings, etc.) that can be motivated for a variety of reasons. For instance, spending money on a new car may be motivated by reasons such as those highlighted in this study (e.g., attracting attention to oneself), but also for more practical reasons such as being able to get to one's job that is not accessible by public transport. Some purchases may be motivated by simple utility related reasons, such as repairing one's washing machine. Future studies could develop an exhaustive list of potential reasons for spending, administer these to a sample of participants and then use data reduction techniques to arrive at a more exhaustive list of reasons why people spend money. The

retrospective design of studies 1 and 2 constitutes another limitation as participants were asked to recall previous purchases and to report the motives they had when making the purchase. Such a design increases the risk that inaccurate participant recollections may bias the results. Future research could test for differences in motives and psychological health by using experimental designs and collecting data after participants are randomly assigned to make actual purchases (e.g., material, experiential, prosocial). In this way, future studies could directly test all the links in the pathway from actual purchases, motives to psychological need satisfaction (and frustration) and well-being. Moreover, it is important to note that need satisfaction/frustration and well-being/ill-being were assessed in life in general and not with respect to the purchase described. This approach was taken in order to remain consistent with previous research on motives for spending (Hill & Howell, 2014; Zhang et al., 2013). Future studies may also benefit from assessing the level of need satisfaction and well-being experienced specifically from the purchase made and/or recalled. Another limitation is the correlational nature of Study 1 as it precludes causal inferences between spending motives, psychological need satisfaction/frustration and well-being/ill-being. Without longitudinal data, it is impossible to rule out the alternative possibility that psychological health influences need satisfaction and in turn the spending motives. Finally, the self-reported nature of the studies increases the risk for common method bias. Nevertheless, Harman's single factor score (Harman, 1960) suggested that the results were unlikely affected by CMB. Moreover, many scholars argue that self-reports are appropriate for measuring subjective appraisals, such as the motives for spending, that are not easily observable into behavior (e.g., Chan 2009; Conway & Lance, 2010).

3.8 Conclusion

The current research adds to the few studies highlighting the importance of motives underlying spending behavior by revealing the effect of five main spending motives on

psychological need satisfaction and frustration. Specifically, when people spend money because they are motivated by a desire to help others, to participate in enjoyable leisure and to invest in self-development, they are more likely to experience well-being via psychological need satisfaction. On the other hand, making purchases for reasons such as boasting to others and to overcome feelings of insecurity is likely to lead to the active thwarting of the psychological needs and elevated ill-being is consequently experienced. Finally, evidence was found for the fact that people make prosocial, experiential and material purchases for different reasons and this provides additional insight into when and how these specific purchases provide happiness.

3.9 References

Adie, J. W., Duda, J. L., & Ntoumanis, N. (2008). Autonomy support, basic need satisfaction and the optimal functioning of adult male and female sport

participants: A test of basic needs theory. *Motivation and Emotion*, 32(3), 189-199.

Akaike, H. (1987). Factor analysis and AIC. In *Selected papers of hirotugu akaike* (pp. 371-386). Springer, New York, NY.

Aknin, L. B., Barrington-Leigh, C. P., Dunn, E. W., Helliwell, J. F., Burns, J., Biswas-Diener, R., ... & Norton, M. I. (2013). Prosocial spending and well-being: Cross-cultural evidence for a psychological universal. *Journal of Personality and Social Psychology*, 104(4), 635.

Aknin, L., Dunn, E., & Norton, M. I. (2012). Happiness runs in a circular motion: Evidence for a positive feedback loop between prosocial spending and happiness. *Journal of Happiness Studies*, 13, 347-355.

Aknin, L. B., Hamlin, J. K., & Dunn, E. W. (2012). Giving leads to happiness in young children. *PLoS one*, 7(6), 1-4.

Aknin, L. B., Wiwad, D., & Hanniball, K. B. (2018). Buying well - being: Spending behavior and happiness. *Social and Personality Psychology Compass*, 12(5), 1-12.

Aknin, B., Whillans, A. V., Norton, M. I., & Dunn, E. W. (2019). Happiness and Prosocial Behavior: An Evaluation of the Evidence. *World Happiness Report* (2019).

Arbuckle, J. L. (2014). *Amos* (Version 23.0) [Computer Program]. Chicago: IBM SPSS.

- Arthaud-Day, M. L., & Near, J. P. (2005). The wealth of nations and the happiness of nations: Why “accounting” matters. *Social Indicators Research*, 74, 511–548.
- Bartholomew, K. J., Ntoumanis, N., Cuevas, R., & Lonsdale, C. (2014). Job pressure and ill-health in physical education teachers: The mediating role of psychological need thwarting. *Teaching and Teacher Education*, 37, 101–107. doi:10.1016/j.tate.2013.10.006.
- Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., Bosch, J. A., & Thøgersen-Ntoumani, C. (2011a). Self-determination theory and diminished functioning: The role of interpersonal control and psychological need thwarting. *Personality and Social Psychology Bulletin*, 37, 1459–1473. doi:10.1177/0146167211413125.
- Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., & Thøgersen-Ntoumani, C. (2011b). Psychological need thwarting in the sport context: Assessing the darker side of athletic experience. *Journal of Sport & Exercise Psychology*, 33, 75–102. doi:10.1037/t00804-000.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Newbury Park, CA: Sage.
- Burroughs, J. E., Chaplin, L. N., Pandelaere, M., Norton, M. I., Ordabayeva, N., Gunz, A., & Dinauer, L. (2013). Using motivation theory to develop a transformative consumer research agenda for reducing materialism in society. *Journal of Public Policy & Marketing*, 32, 18-31.

- Caprariello, P. A., & Reis, H. T. (2013). To do, to have, or to share? Valuing experiences over material possessions depends on the involvement of others. *Journal of personality and social psychology*, 104(2), 199.
- Carter, T. J., & Gilovich, T. (2010). The relative relativity of material and experiential purchases. *Journal of personality and social psychology*, 98(1), 146.
- Carter, T. J., & Gilovich, T. (2012). I am what I do, not what I have: The differential centrality of experiential and material purchases to the self. *Journal of personality and social psychology*, 102(6), 1304.
- Chan, D. (2009). So why ask me? Are self-report data really that bad? In C. E. Lance & R. J. Vandenberg (Eds.), *Statistical and methodological myths and urban legends: Doctrine, verity and fable in the organizational and social sciences* (pp. 309–336). New York, NY: Routledge.
- Chan, C., & Mogilner, C. (2017). Experiential gifts foster stronger social relationships than material gifts. *Journal of Consumer Research*, 43(6), 913-931.
- Chen, B., Van Assche, J., Vansteenkiste, M., Soenens, B., & Beyers, W. (2014). Does psychological need satisfaction matter when environmental or financial safety are at risk? *Journal of Happiness Studies*, 16:745-766. DOI 10.1007/s10902-014-9532-5
- Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Van der Kaap-Deeder, J., ... & Ryan, R. M. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion*, 39(2), 216-236.

- Chirkov, V. I., Sheldon, K. M., & Ryan, R. M. (2011). Introduction: The struggle for happiness and autonomy in cultural and personal contexts: An overview. In *Human autonomy in cross-cultural context* (pp. 1-30). Springer, Dordrecht.
- Choi, N. G., DiNitto, D. M., & Kim, J. (2014). Discrepancy between chronological age and felt age: Age group difference in objective and subjective health as correlates. *Journal of Aging and Health, 26*(3), 458-473.
- Clingingsmith, D. (2016). Negative emotions, income, and welfare: Causal estimates from the PSID. *Journal of Economic Behavior & Organization, 130*, 1-19.
- Cole, J. C., Rabin, A. S., Smith, T. L., & Kaufman, A. S. (2004). Development and validation of a Rasch-derived CES-D short form. *Psychological Assessment, 16*, 360–372. doi:10.1037/1040-3590.16.4.360.
- Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology, 25*(3), 325–334. doi:10.1007/s10869-010-9181-6.
- Cummins, R. A. (2000). Personal income and subjective well-being: A review. *Journal of Happiness Studies, 1*, 133–158.
- Deci, E. L. & Ryan, R. M. (2000). Self-Determination Theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68-78.
- Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist, 55*, 34–43.

- Diener, E., & Biswas-Diener, R. (2002). Will money increase subjective well-being? A literature review and guide to needed research. *Social Indicators Research*, 57, 119-169.
- Diener, E., Kahneman, D., Arora, R., Harter, J., & Tov, W. (2009). Income's Differential Influence on Judgments of Life Versus Affective Well-Being. In *Assessing well-being* (pp. 233-246). Springer, Dordrecht.
- Diener, E., Ng, W., Harter, J., & Arora, R. (2010). Wealth and happiness across the world: Material prosperity predicts life evaluation, whereas psychosocial prosperity predicts positive feeling. *Journal of personality and social psychology*, 99(1), 52.
- Diener, E., Oishi, S., & Lucas, R. E. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual Reviews of Psychology*, 54, 403–425.
- Diener, E., & Seligman, M.E.P. (2004). Beyond money. Toward an economy of well-being. *Psychological Science in the Public Interest*, 5(1), 1–31.
- Duan, J., & Dholakia, R. R. (2018). How Purchase Type Influences Consumption-Related Posting Behavior on Social Media: The Moderating Role of Materialism. *Journal of Internet Commerce*, 17(1), 64-80.
- Dunn, E. W., Aknin, L. B., & Norton, M. I. (2008). Spending money on others promotes happiness. *Science*, 319, 1687-1688.

- Dunn, E. W., Ashton-James, C. E., Hanson, M. D., & Aknin, L. B. (2010). On the costs of self-interested economic behavior: How does stinginess get under the skin?. *Journal of Health Psychology, 15*(4), 627-633.
- Frey, B. S., & Stutzer, A. (2000). Happiness, economy and institutions. *The Economic Journal, 110*(466), 918-938.
- Gagné, M., & Deci, E. L. (2005). Self - determination theory and work motivation. *Journal of Organizational behavior, 26*(4), 331-362.
- Gagné, M., Forest, J., Vansteenkiste, M., Crevier-Braud, L., Van den Broeck, A., Aspel, A. K., et al. (2015). The Multidimensional Work Motivation Scale: Validation evidence in seven languages and nine countries. *European Journal of Work and Organizational Psychology, 24*(2), 178–196. doi:10.1080/1359432x.2013. 877892.
- George, D. & Mallery, M. (2010). *SPSS for windows step by step: A simple study guide and reference, 17.0 update, 10/e*. Boston: Pearson.
- Gillet, N., Fouquereau, E., Forest, J., Brunault, P., & Colombat, P. (2012). The impact of organizational factors on psychological needs and their relations with well-being. *Journal of Business Psychology, 27*, 437-450.
- Gilovich, T., & Gallo, I. (2019). Consumers' pursuit of material and experiential purchases: A review. *Consumer Psychology Review, 2019*; 00, 1-14.
- Gilovich, T., Kumar, A., & Jampol, L. (2015). A wonderful life: Experiential consumption and the pursuit of happiness. *Journal of Consumer Psychology, 25*(1), 152-165.

- Guevarra, D. A., & Howell, R. T. (2015). To have in order to do: Exploring the effects of consuming experiential products on well-being. *Journal of Consumer Psychology, 25*(1), 28-41.
- Gunnell, K. E., Crocker, P. R. E., Wilson, P. M., Mack, D. E., & Zumbo, B. D. (2013). Psychological need satisfaction and thwarting: A test of basic psychological needs theory in physical activity contexts. *Psychology of Sport and Exercise, 14*, 599–607.
- Harbaugh, W. T., Mayr, U., & Burghart, D. R. (2007). Neural responses to taxation and voluntary giving reveal motives for charitable donations. *Science, 316*, 1622–1625.
- Harman, H. H. (1960). *Modern factor analysis*. Oxford, England: Univ. of Chicago Press.
- Helliwell, J. F., Huang, H., & Wang, S. (2017). The social foundations of world happiness. *World happiness report, 8*.
- Hill, G. & Howell, R. T. (2014). Moderators and mediators of pro-social spending and well-being: The influence of values and psychological need satisfaction. *Personality and Individual Differences, 69*, 69-74.
- Hofer, J., & Busch, H. (2011). Satisfying one's needs for competence and relatedness consequent domain-specific well-being depends on strength of implicit motives. *Personality and Social Psychology Bulletin, 37*(9), 1147–1158. doi:10.1177/0146167211408329.

- Hogan, R. & Blake, R. (1996). Vocational interests: Matching self-concept with the work environment. In K.R. Murphy (Ed.), *Behavior in organizations* (pp. 89-144). San Francisco: Jossey-Bass.
- Hogan, J., & Hogan, R. (1996). *Motives, values, preferences inventory manual*. Tulsa, OK: Hogan Assessment Systems.
- Howell, R. T., & Hill, G. (2009). The mediators of experiential purchases: Determining the impact of psychological needs satisfaction and social comparison. *The Journal of Positive Psychology*, 4(6), 511-522. doi: 10.1080/17439760903270993.
- Howell, R. T., & Howell, C. J. (2008). The relation of economic status to subjective well-being in developing countries: a meta-analysis. *Psychological bulletin*, 134(4), 536.
- Hoyle, R. H. (1995). *Structural equation modeling: Concepts, issues, and applications*. Thousand Oaks, CA: Sage Publications.
- Hu, L.-T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. doi:10.1080/10705519909540118.
- Jebb, A. T., Tay, L., Diener, E., & Oishi, S. (2018). Happiness, income satiation and turning points around the world. *Nature Human Behaviour*, 2(1), 33.
- Kahneman, D., & Deaton, A. (2010). High income improves evaluation of life but not emotional well-being. *Proceedings of the national academy of sciences*, 107(38), 16489-16493.

- Kahneman, D., Krueger, A. B., Schkade, D., Schwarz, N., & Stone, A. A. (2006). Would you be happier if you were richer? A focusing illusion. *Science*, 312, 1908–1910. doi:10.1126/science.1129688
- Kline R. (1998). *Principles and Practice of Structural Equation Modeling*. New York, NY: Guilford Press.
- Kumar, A., Killingsworth, M. A., & Gilovich, T. (2014). Waiting for Merlot: Anticipatory consumption of experiential and material purchases. *Psychological science*, 25(10), 1924-1931.
- Lavigne, G. L., Vallerand, R. J., & Crevier-Braud, L. (2011). The fundamental need to belong: On the distinction between growth and deficit-reduction orientations. *Personality and Social Psychology Bulletin*, 37(9), 1185–1201. doi:10.1177/0146167211405995.
- Lever, J. P., Pinol, N. L., & Uralde, J. H. (2005). Poverty, psychological resources and subjective well-being. *Social Indicators Research*, 73(3), 375-408.
- MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological methods*, 1(2), 130.
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*, 39(1), 99–128. doi:10.1207/s15327906mbr3901_4.

- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50, 370-396.
- Millar, M., & Thomas, R. (2009). Discretionary activity and happiness: The role of materialism. *Journal of Research in Personality*, 43(4), 699–702. DOI: 10.1016/j.jrp.2009.03.012
- Moldes, O., Banerjee, R., Easterbrook, M. J., Harris, P. R., & Dittmar, H. (2019). Identity changes and well-being gains of spending money on material and experiential consumer products. *Journal of Economic Psychology*, 72(C), 229-244.
- Nicolao, L., Irwin, J. R., & Goodman, J. K. (2009). Happiness for sale: Do experiential purchases make consumers happier than material purchases? *Journal of Consumer Research*, 36, 188-198.
- Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2009). The path taken: Consequences of attaining intrinsic and extrinsic aspirations in post-college life. *Journal of research in personality*, 43(3), 291-306. doi: 10.1016/j.jrp.2008.09.001.
- Ng, J. Y., Ntoumanis, N., Thøgersen-Ntoumani, C., Deci, E. L., Ryan, R. M., Duda, J. L., & Williams, G. C. (2012). Self-determination theory applied to health contexts: A meta-analysis. *Perspectives on Psychological Science*, 7(4), 325-340.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. doi:10.3758/BRM.40.3.879.

- Rosenzweig, E., & Gilovich, T. (2012). Buyer's remorse or missed opportunity? Differential regrets for material and experiential purchases. *Journal of personality and social psychology*, 102(2), 215.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68–78. DOI: 10.1037/0003-066X.55.1.68.
- Schumacher, R. E., & Lomax, R. G. (1996a). *A beginner's guide to SEM*. New Jersey: Mahwah.
- Schumacher, R. E., & Lomax, R. G. (1996b). *A beginner's guide to structural equation modeling*. New Jersey: Lawrence Erlbaum Associates, Publishers.
- Sheldon, K. M., Cheng, C., & Hilpert, J. (2011). Understanding wellbeing and optimal functioning: Applying the Multilevel Personality in Context (MPIC) model. *Psychological Inquiry*, 22(1), 1–16. doi:10.1080/1047840x.2011.532477.
- Sheldon, K. M., & Hilpert, J. C. (2012). The Balanced Measure of Psychological Needs (BMPN) scale: An alternative domain general measure of need satisfaction. *Motivation and Emotion*, 36, 439–451. doi:10.1007/s11031-012-9279-4.
- Srivastava, A., Locke, E. A., & Bartol, K. M. (2001). Money and subjective well-being: It's not the money, it's the motives. *Journal of Personality and Social Psychology*, 80, 959–971. doi:10.1037//0022-3514.80.6.959.
- Stebbing, J., Taylor, I. M., Spray, C. M., & Ntoumanis, N. (2012). Antecedents of perceived coach interpersonal behaviors: The coaching environment and coach

psychological well-and illbeing. *Journal of Sport & Exercise Psychology*, 34, 481–502.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*. USA: Pearson Education

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics*, 6th edn Boston. Ma: Pearson.

Tay, L., & Diener, E. (2011). Needs and subjective well-being around the world. *Journal of personality and social psychology*, 101(2), 354.

Thomas, R., & Millar, M. (2013). The effects of material and experiential discretionary purchases on consumer happiness: Moderators and mediators. *The Journal of psychology*, 147(4), 345-356.

Thompson, E. R. (2007). Development and validation of an internationally reliable short-form of the Positive and Negative Affect Schedule (PANAS). *Journal of Cross-Cultural Psychology*, 38(2), 227-242. doi:10.1177/0022022106297301.

Vallerand, R. J. (1989). Vers une méthodologie de validation trans-culturelle de questionnaires psychologiques : Implications pour la recherche en langue française. *Canadian Psychology/Psychologie Canadienne*, 30(4), 662-680. DOI : 10.1037/h0079856.

Van Boven, L. (2005). Experientialism, materialism, and the pursuit of happiness. *Review of General Psychology*, 9(2), 132–142. DOI: 10.1037/1089-2680.9.2.132

- Van Boven, L., & Gilovich, T. (2003). To do or to have? That is the question. *Journal of Personality and Social Psychology*, 85, 1193-1202.
- Vansteenkiste, M., Neyrinck, B., Niemiec, C. P., Soenens, B., De Witte, H., & Van den Broeck, A. (2007). On the relations among work value orientations, psychological need satisfaction and job outcomes: A self-determination theory approach. *Journal of occupational and organizational psychology*, 80(2), 251-277.
- Vansteenkiste, M., Niemiec, C. P., & Soenens, B. (2010). The development of the five minitheories of self-determination theory: A historical overview, emerging trends and future directions. In T. Urdan, & S. Karabenick (Eds.), *Advances in motivation and achievement*, vol. 16: The decade ahead (pp. 105–166). UK:
- Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, 23, 263–280. doi:10.1037/a0032359.
- Wiwad, D., & Akin, L. B. (2017). Motives matter: The emotional consequences of recalled self-and other-focused prosocial acts. *Motivation and Emotion*, 41(6), 730-740.
- Whillans, A. V., Dunn, E. W., Sandstrom, G. M., Dickerson, S. S., & Madden, K. M. (2016). Is spending money on others good for your heart?. *Health Psychology*, 35(6), 574.
- Yamaguchi, M., Masuchi, A., Nakanishi, D., Suga, S., Konishi, N., Yu, Y. Y., & Ohtsubo, Y. (2016). Experiential purchases and prosocial spending promote

happiness by enhancing social relationships. *The Journal of Positive Psychology*, 11(5), 480-488.

Zhang, J. W., Howell, R. T., & Caprariello, P. A. (2013). Buying life experiences for the “right” reasons: a validation of the motivations for Experiential Buying Scale. *Journal of Happiness Studies*, 14(3), 817-842.

Table 1

Study 1 – Intercorrelations between items of the Motives for Spending Scale

Items	1	2	3	4	5	6	7	8	9
1. Item 1 - Security									
2. Item 2 – Family support	.47**								
3. Item 3 – Market value	.11	.15*							
4. Item 4 - Pride	-.15**	-.004	.29**						
5. Item 5 - Leisure	-.45**	-.24**	.01	.27**					
6. Item 6 - Charity	.01	.51**	.05	.20**	.13*				
7. Item 7 - Freedom	.01	.05	.43**	.29**	.19**	.05			
8. Item 8 - Impulse	-.18**	-.20**	.03	.20**	.22**	-.15**	.07		
9. Item 9 – Self-doubt	-.10	-.06	.13*	.51**	.10	-.03	.20**	.35**	
10. Item 10 – Social comparison	-.18**	-.10	.18**	.46**	.08	.01	.21**	.24**	.54**

** . Correlation is significant at the 0.001 level
* . Correlations is significant at the 0.05 level

Table 2

Study 1 – Results of exploratory factor analysis of the Motives for Spending Scale

Items	Factors and Loadings				
	Stability	Self-development	Personal insecurity	Helping others	Fun
Item 1: “I made this purchase because it allowed me to acquire the basic necessities to live (e.g., decent housing, food, security).”	.70				
Item 2: “I made this purchase because it allowed me to provide for my family (and/or friends, loved ones) and ensure their well-being.”	.62				
Item 3: “I made this purchase because it allows me to ensure that I will be fairly compensated for the knowledge, skills, and effort I put into my job and to ensure that my value in the market is fair.”		.76			
Item 7: “I made this purchase because it allows me (or will allow me in the future) to have more freedom and time to develop my own projects, businesses, or activities.”		.54			
Item 4: “I made this purchase because it represents the success I have experienced in my life; I made this purchase because it allows me to feel proud of my accomplishments.”			.58		
Item 8: “I made this purchase impulsively because I enjoy the thrill of buying things in an impulse way without giving them much forethought.”			.39		
Item 9: “I made this purchase because it reassures me that I am not a failure in life and/or because it allowed me reduce my sense of self-doubt or insecurity.”			.85		
Item 10: “I made this purchase because it allows me to show others that I am better than them and/or because others will admire me for it.”			.64		
Item 6: “I made this purchase because it allowed me to make somebody else happy or to help someone in need.”				.96	
Item 5: “I made this purchase because it represents a leisure activity that I enjoy; it allows me spend time participating in a hobby of mine.”					.94
Eigen value	1.11	1.30	2.64	1.92	.80
% variance explained	11.09	12.99	26.37	19.22	8.00

Table 3

Study 1 – Means and standard deviations for study variables that differ according to data collection method

Variables	Online ads	CHRP	Crowdsourcing website
Need satisfaction	12.82 (1.41)	12.54 (1.45)	11.50 (1.75)
Need frustration	10.53 (4.10)	10.66 (4.35)	14.90 (4.27)
Well-being	.39 (.59)	.26 (.68)	-.63 (.93)
Ill-being	-.24 (.83)	-.24 (.84)	.46 (.91)
Fun motive	3.28 (2.41)	3.41 (2.46)	4.43 (2.32)
Self-development motive	1.97 (1.41)	1.75 (1.25)	2.52 (1.49)
Personal insecurity motive	1.74 (.97)	1.63 (.78)	2.47 (1.15)

Table 4

Study 1 – Means and standard deviations for study variables that differ according to language

Variables	English	French
Need satisfaction	11.56 (1.72)	12.69 (1.45)
Need frustration	14.66 (4.28)	10.58 (4.26)
Well-being	-.58 (.93)	.33 (.63)
Ill-being	.44 (.90)	-.25 (.84)
Fun motive	4.35 (2.32)	3.35 (2.44)
Self-development motive	2.56 (1.52)	1.82 (1.29)
Personal insecurity motive	2.43 (1.15)	1.68 (.88)

Table 5

Study 1 - Descriptive statistics and intercorrelations between study variables

Variable	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
1. Stability	3.33	2.06															
2. Self-development	2.09	1.42	.10														
3. Fun	3.72	2.44	-.40**	.13*													
4. Helping others	3.25	2.33	.29**	.06	.13*												
5. Personal insecurity	1.95	1.05	-.19**	.29**	.24**	.02											
6. Autonomy satisfaction	11.62	2.20	-.04	.03	.09	.16**	-.15**										
7. Competence satisfaction	12.51	2.15	.04	-.09	-.08	.09	-.25**	.48**									
8. Relatedness satisfaction	12.71	2.03	.08	-.08	.08	.23**	-.20**	.35**	.35**								
9. Autonomy frustration	12.98	5.53	.004	.11	.01	-.09	.28**	-.52**	-.37**	-.33**							
10. Competence frustration	13.53	5.90	-.02	.17**	.05	-.06	.29**	-.37**	-.40**	-.32**	.69**						
11. Relatedness frustration	9.70	5.08	-.08	.13*	.12*	-.06	.40**	-.36**	-.39**	-.47**	.52**	.55**					
12. Well-being		.87	.06	-.08	-.05	.18**	-.24**	.54**	.61**	.56**	-.52**	-.50**	-.52**				
13. Positive affect	3.81	.53	.06	-.08	-.05	.20**	-.17**	.40**	.52**	.46**	-.32**	-.30**	-.33**				
14. General well-being	2.61	.42	.04	-.05	-.03	.11	-.25**	.55**	.54**	.52**	-.59**	-.57**	-.57**	.52**			
15. Ill-being		.92	-.01	.07	.03	-.10	.33**	-.50**	-.47**	-.49**	.58**	.62**	.66**	-.63**	-.40**	-.70**	
16. Negative affect	2.40	.59	.01	.02	.003	-.08	.26**	-.37**	-.39**	-.42**	.49**	.55**	.58**	-.51**	-.31**	-.57**	
17. Depression	1.91	.55	-.04	.12*	.05	-.10	.34**	-.54**	-.47**	-.48**	.57**	.60**	.64**	-.66**	-.43**	-.72**	.69**

Table 6

Study 2 –Intercorrelations between study variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Gender																		
2. Age	.09																	
3. Education	.16**	.14*																
4. Salary	-.22**	.31**	.21**															
Material purchase																		
5. Stability	.10	.09	.06	-.02														
6. Self-development	-.12*	-.06	.03	.04	.40**													
7. Helping others	-.03	-.01	.02	.03	.46**	.33**												
8. Fun	-.24**	-.06	-.03	-.03	-.30**	.14*	.09											
9. Personal insecurity	-.09	-.12*	.05	.20**	.03	.43**	.18**	.12*										
Prosocial purchase																		
10. Stability	.001	-.07	.01	-.05	.08	.13*	.05	.03	.22**									
11. Self-development	-.05	-.03	.07	.14*	.30**	.48**	.34**	.02	.42**	.32**								
12. Helping others	.02	.04	-.02	-.02	.05	-.05	.08	.09	-.07	-.01	-.18**							
13. Fun	-.02	-.15**	.02	.02	.08	.24**	.20**	.13*	.20**	.23**	.40**	-.05						
14. Personal insecurity	-.04	-.08	.05	.18**	.18**	.36**	.21**	.04	.62**	.25**	.55**	-.06	.30**					
Experiential purchase																		
15. Stability	-.07	.09	.06	.02	.33**	.25**	.24**	-.03	.11	.33**	.34**	.004	.14*	.14*				
16. Self-development	-.04	-.12*	.03	.14*	.23**	.45**	.27**	.06	.45**	.26**	.71**	-.10	.37**	.49**	.32**			
17. Helping others	-.06	.10	-.03	.05	.15**	.21**	.30**	.05	.02	.18**	.15*	.19**	.09	.10	.38**	.07		
18. Fun	.02	-.01	.004	.04	-.06	-.02	-.03	.14*	.01	.01	-.01	.15**	.05	.08	-.31**	.02	.003	
19. Personal insecurity	-.01	-.14*	.05	.14*	.18**	.35**	.20**	.06	.58**	.18**	.50**	.001	.24**	.72**	.13*	.54**	.07	.09

Table 7

Study 2 - Estimated marginal means for spending motives by purchase type

Spending motives	Purchase type		
	Material	Prosocial	Experiential
Stability	2.69	3.36	2.97
Self-development	2.53	1.78	2.01
Fun	4.61	3.07	5.51
Helping others	2.58	6.23	4.44
Personal insecurity	2.45	2.24	2.5

Table 8

Study 2 - Examples of purchases by spending motive and purchase type

Spending motive	Purchase type		
	Material	Prosocial	Experiential
Stability	<ul style="list-style-type: none"> • Groceries • Baby stroller • Rent 	<ul style="list-style-type: none"> • Family meal • Groceries • Restaurant meal 	<ul style="list-style-type: none"> • Hospital stay • Meal for friends/family • Family vacation • Plane ticket for job interview • Restaurant meal • Trip
Self-development	<ul style="list-style-type: none"> • Textbook • Computer • Notebook 	<ul style="list-style-type: none"> • Donation to charity • Gifts and/or meals for coworkers 	<ul style="list-style-type: none"> • Vacation/trip • Concert tickets • Zoo membership
Fun	<ul style="list-style-type: none"> • Fitness tracker • Video games • Book 	<ul style="list-style-type: none"> • Restaurant meal • Bicycle for children • Campsite 	<ul style="list-style-type: none"> • Restaurant meal with friends • Movie tickets • Trip • Vacation/trip to Hawaii • Restaurant with friends • Concert tickets
Helping others	<ul style="list-style-type: none"> • Bicycle • Christmas gifts • Piano 	<ul style="list-style-type: none"> • Church donation • Lending money to friends • Donation to charity 	<ul style="list-style-type: none"> • Donation to charity • Holiday gift baskets • Lending money to friends
Personal insecurity	<ul style="list-style-type: none"> • Custom made clothing • Cosmetics • Wine 	<ul style="list-style-type: none"> • Donation to charity • Holiday gift baskets • Lending money to friends 	<ul style="list-style-type: none"> • Donation to charity • Holiday gift baskets • Lending money to friends

Note. Purchase descriptions presented include purchases that received the highest scores (6 = agree; 7 = Strongly agree) for each motive (e.g., the purchase “Groceries” was provided as a material purchase that was highly motivated by a desire for Stability).

Figure 1

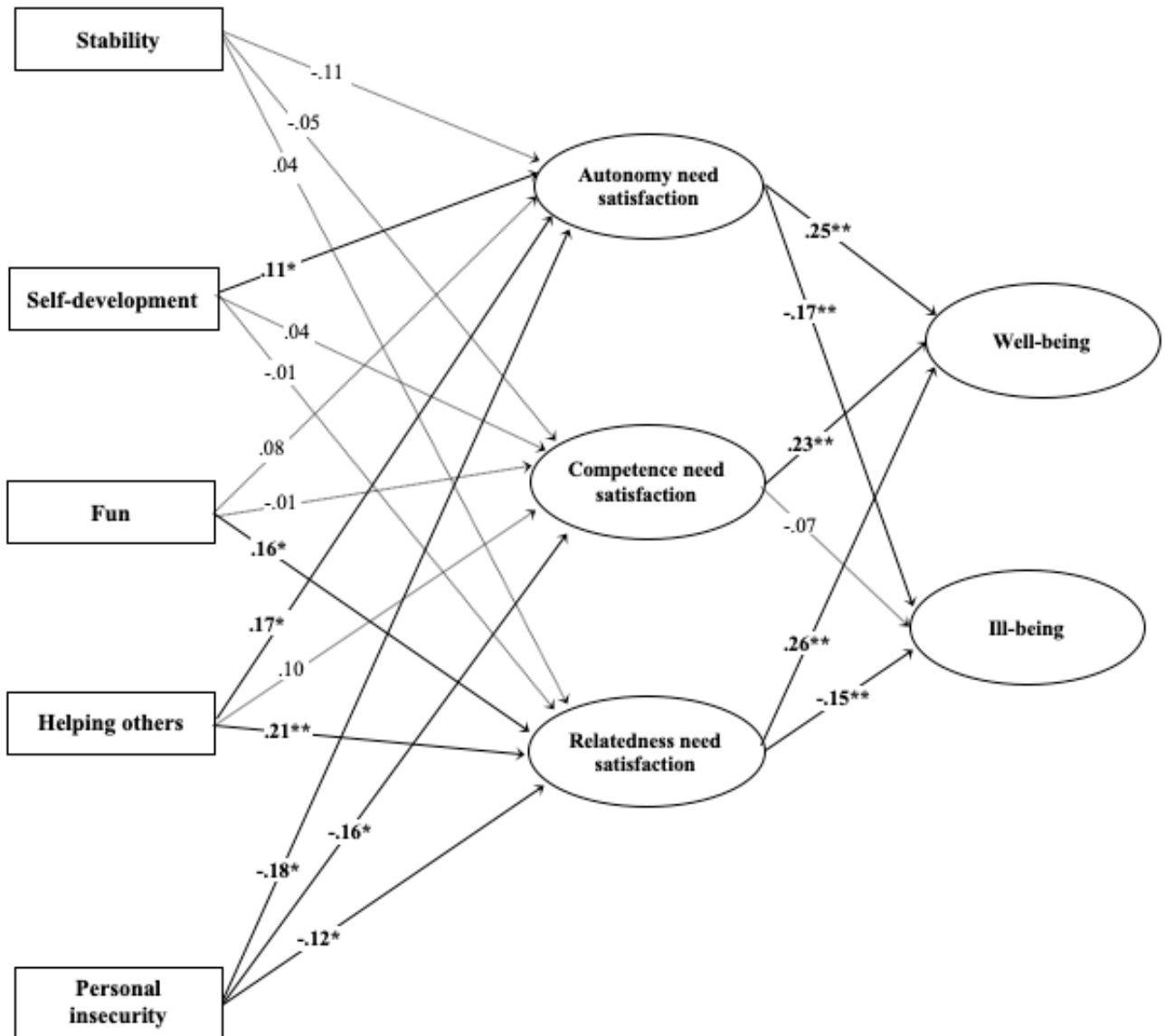


Figure 1: The final model (Model 2) tested in Study 1 depicting the standardized path coefficients between motives for spending, the satisfaction of the three psychological needs and psychological health outcomes (well-being and ill-being). The paths from control variables have not been shown for simplicity of presentation. (**. Coefficients are significant at the 0.001 level; *. Coefficients are significant at the 0.05 level)

Figure 2

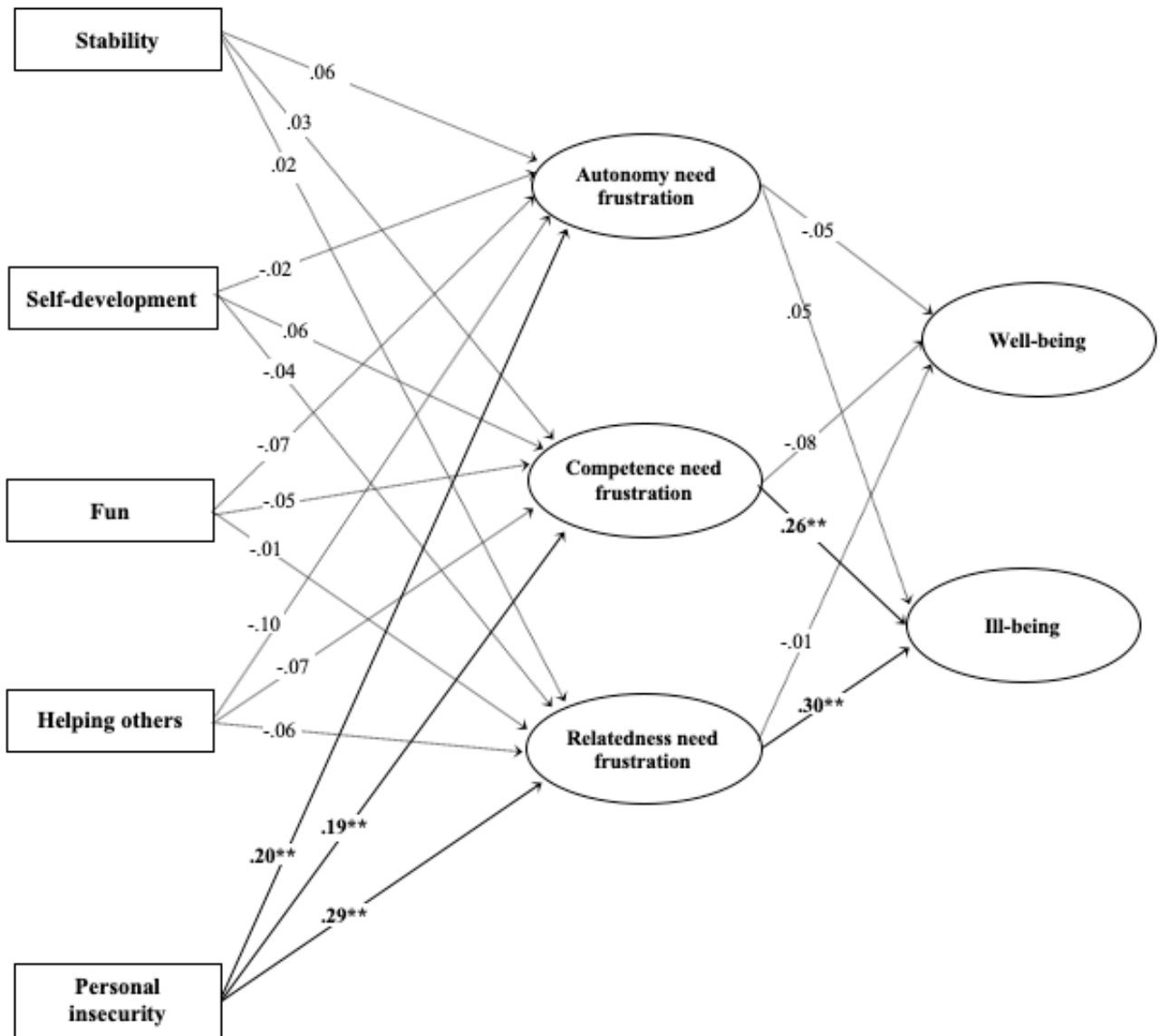


Figure 2: The final model (Model 2) tested in Study 1 depicting the standardized path coefficients between motives for spending, the frustration of the three psychological needs and psychological health outcomes (well-being and ill-being). The paths from control variables have not been shown for simplicity of presentation. (**. Coefficients are significant at the 0.001 level; *. Coefficients are significant at the 0.05 level)

Figure 3

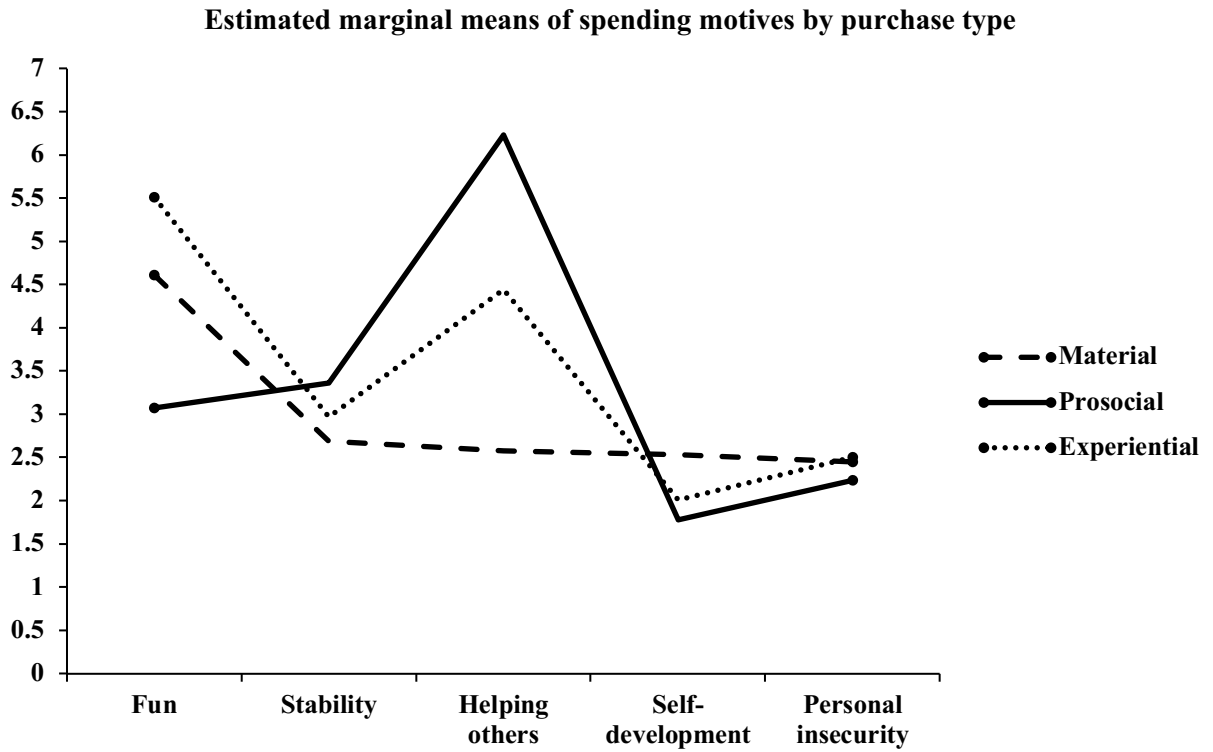


Figure 3: The estimated marginal means for the spending motives across purchase type found in Study 2.

CHAPTER IV

GENERAL DISCUSSION

4.1 Summary of findings across Articles 1 and 2

Given that money is the leading cause of stress in people's lives (APA, 2015), this thesis aimed to understand what motivates people to make and spend money, determine how these motives affect psychological health and to find ways to encourage a healthier relationship with money. These objectives were addressed through Article 1 (three studies), which focused on people's motives for making money and Article 2 (two studies) that emphasized spending motives. With respect to Article 1, Study 1 provided support for the finding that people are motivated to make money for ten main reasons. Specifically, individuals want money to ensure their financial security (Security), support loved ones (Family support), attain financial freedom (Freedom), ensure that they are fairly compensated for their work achievements (Market worth), to feel a sense of pride for life accomplishments (Pride), to participate in leisure activities (Leisure), as well as to help others (Charity). Individuals also make money because it represents a way to attract attention and boast (Social comparison), to overcome feelings of personal insecurity (Overcoming Self-doubt) as well as to spend impulsively (Impulse). The findings of this first study also suggest that the ten money motives are better represented by three broader categories of motives, namely Financial stability (Security and Family support), Self-integrated (Market worth, Pride, Leisure, Charity, and Freedom) and Non-integrated (Impulse, Social comparison, and Overcoming self-

doubt) motives. This lends support to the second-order classification of the MMMS (Srivastava et al., 2001) found by Thibault Landry et al. (2016).

The impact of these motives on psychological health is made clear by the results of the second study (Study 2) of Article 1. Consistent with previous research (Thibault Landry et al., 2016), when individuals desire money for Self-integrated reasons they are more likely to experience the satisfaction of their three psychological needs for autonomy, competence and relatedness (and less likely to experience need frustration) and consequently experience greater well-being (and less ill-being). Desiring money for Non-integrated reasons, on the other hand, leads individuals to experience an active thwarting of their psychological needs and in turn leads to greater ill-being. Interestingly, although Thibault Landry et al. (2016) found that Financial Stability motives were unrelated to psychological need satisfaction and health, the results of Study 2 revealed that Financial Stability motives significantly predicted need satisfaction and in turn well-being. Research suggests that money buys well-being when it allows individuals to acquire basic life necessities (e.g., food, housing, etc.) and extract themselves from poverty (Howell & Howell, 2008). Thus, it makes sense that when people want money in order to ensure their own and their family's physical well-being, this would also encourage psychological need satisfaction. For instance, being able to afford decent housing is likely to encourage feelings of autonomy and competence. Moreover, supporting loved ones, especially during hard financial times, is also likely to contribute to feelings of relatedness as it strengthens relationships with significant others. Indeed, previous research suggests that rises in economic standing lead to subsequent increases in life satisfaction and that this association is mediated by feelings of financial security and psychological need satisfaction (Howell, Kurai & Tam, 2013).

Another important contribution of Study 2 (Article 1) is that the results add to the materialism literature. Previous research suggests that individuals scoring high on

materialism experience lower levels of well-being mainly because they are less likely to satisfy their psychological needs and more likely to experience need frustration (Unanue et al., 2014, 2017). Consistent with this finding, the results revealed that need frustration (but not need satisfaction) explained materialism's adverse effects on psychological health (well-being and ill-being). The results also revealed that materialism might be better conceptualized as a set of unhealthy reasons for desiring money as its effect on need frustration was fully accounted for by the Non-integrated motives for making money. Consistent with Srivastava et al. (2001), this suggests that materialism's adverse effects on mental health are most likely driven by the fact that individuals high in materialism are likely to spend money impulsively, especially to compensate for feelings of personal insecurity and to develop an image that will draw attention from others. Thus, it may be appropriate to conceptualize materialism more broadly and as a set of unhealthy reasons for desiring money that represent only some of the possible reasons for making money. Self-integrated and Financial Stability motives represent beneficial motives for making money that may countermand the detrimental effects of materialism on mental health. Taken together, the results presented in Article 1 reiterate the importance of considering the reasons that motivate people to make money as these have important implications for psychological health outcomes.

A secondary objective of this thesis was to encourage individuals to develop a psychologically healthier relationship with money. The effectiveness of an intervention, which aimed to help individuals become aware of their own motivations for making money, encourage the adoption of beneficial motives (while discouraging detrimental ones) and promote healthy spending habits, was tested in Study 3 (Article 1). The results provided preliminary evidence that the intervention was successful at helping people become aware of their own motives for making money and keeping Non-integrated motives at bay. Although no significant changes in beneficial motives (Financial stability and Self-integrated) were witnessed, participants in the

experimental group revealed significantly lower Non-integrated motives than the control group two weeks after the intervention. Consistent with previous studies, this study finds some support for the fact that simply becoming aware of one's motives may help to reduce, or at the very least keep at bay, unhealthy motivations for making money (Sheldon et al., 2003).

In a related but distinct vein, the results of the studies in Article 2 highlight that in addition to considering the reasons that motivate people to make money, it is also important individuals' spending motives. Considering the very limited amount of studies exploring people's motives for spending, Study 1 (Article 2) aimed to explore whether a broader set of motives underlie everyday spending choices by using the Motives for Spending Scale (an adapted version of the MMMS; Srivastava et al., 2001). The results revealed that people spend money for at least five main reasons, namely to ensure their own and their loved ones' well-being (Stability motive), to invest in their professional self-development (Self-development motive), to participate in leisure activities that they enjoy (Fun motive), to provide assistance to those in need (Helping others motive) and to overcome feelings of insecurity by attracting attention to themselves often in an impulsive way (Personal insecurity motive). The results suggest that these five motives may underlie people's everyday spending decisions and have important effects on psychological health. Specifically, when people make purchases with the intention of helping others, they are more likely to experience relatedness and autonomy need satisfaction, which in turn leads to greater well-being as well as less ill-being. Similarly, when individuals spend money with the intent of participating in a hobby that they enjoy, this allows them to satisfy their need for relatedness and leads to elevated well-being (and less ill-being). Moreover, spending money to invest in self-development leads to the satisfaction of the need for autonomy. Consistent with Thibault Landry et al. (2016), the motive for Stability was unrelated to need satisfaction or need frustration. Finally, when individuals make purchases because they believe these will help them overcome feelings of self-doubt and to appear better than others,

they are less likely to satisfy their need for relatedness and consequently experience decreased well-being. These motives are also more likely to actively thwart all three psychological needs and consequently lead to ill-being. These results add to the growing body of research suggesting that people's motives for making purchases have important consequences for well-being through their effect on psychological need satisfaction and frustration (Howell & Hill, 2009; Weinstein & Ryan, 2010; Wiwad & Akin, 2017; Zhang et al., 2013).

In response to researchers' call to investigate the reasons that motivate particular purchases, Study 2 (Article 2) also explored the relative presence of the spending motives (identified in Study 1) across prosocial, experiential and material expenses. The results generally revealed that material, prosocial and experiential purchases tend to be made for different reasons. First, compared to material purchases, when individuals make prosocial or experiential purchases they are significantly more likely to do so because of a desire to help someone. Taken with the results of Study 1, this suggests a potential pathway through which prosocial and experiential purchases provide well-being. Prosocial and experiential purchases may be more often motivated by a desire to help others and this motive may allow people to satisfy their needs for relatedness and autonomy. For instance, a person paying for a friend's restaurant meal (experiential purchase) with the intent to help that person or make them happy will likely strengthen their relationship (relatedness) and allow the person to pursue a goal that is consistent with his/her desire to help others (autonomy). Moreover, the results revealed that experiential purchases (compared to material and prosocial ones) are significantly more likely to come from a desire to participate in enjoyable leisure activities. Considering the results of Study 1 and 2 together, this motive may allow people to satisfy their need for relatedness, likely because these types of activities are often shared with others (Caprariello & Reis, 2010; Guevarra & Howell, 2015).

An interesting finding of Study 2 is that the primary reason people buy material things is also to participate in a hobby or enjoyable activity (albeit to a lesser extent than experiential purchases). Considering that this motive was found to encourage relatedness need satisfaction (Study 1), it is possible that material purchases can satisfy people's need for relatedness if the purchase is made with the primary intent to participate in a leisure activity. Moreover, material purchases (compared to experiential and prosocial purchases) were significantly more likely to be motivated by a desire for self-development. As previously described, spending money in order to invest in one's development is associated with autonomy need satisfaction (Study 1). Taken together, the findings of study 1 and 2 suggest potential mechanisms through which material purchases may provide happiness. For instance, buying a new video game (material purchase) may allow a person to participate in a favorite hobby with friends, thereby strengthening his/her relationships (relatedness) and making him/her happy. Similarly, an entrepreneur investing in new equipment to improve his/her business is likely to encourage feelings of autonomy as the purchase presents an opportunity to pursue an endeavor that is important to him/her (autonomy). These results support the findings of Guevarra and Howell (2015) that material items that can provide an experience (e.g., video games) provide similar levels of well-being as life experiences because they encourage psychological need satisfaction. Thus, the tangibility of a purchase may not necessarily undermine the happiness it can provide.

Finally, the results of Study 2 (Article 2) also provide evidence for the fact that purchases can be made for reasons that can actively thwart people's psychological needs. Specifically, compared to prosocial purchases, experiential and material purchases are more likely to be motivated by a desire to overcome feelings of insecurity by attracting attention to oneself and spending impulsively. Thus, purchases such as a new car or concert tickets are equally likely to be motivated by a desire to gain admiration from others, which is likely to negatively affect relationships with others and lead to feelings of incompetence and pressure over the long term as more purchases

are necessary to compete with more expensive and lavish purchases made by others. This is consistent with the results of Zhang et al. (2013) that experiences can also be purchased for extrinsic reasons and this prevents psychological need satisfaction.

4.2 Theoretical contributions

Taken together, the results of the five studies of this thesis highlight the scientific utility of exploring the motives people endorse when they make and spend money. More specifically, a contribution of Article 1 is that it constitutes an imperative replication effort of the factor structure of the money motives and their concomitant links with psychological health. Since Srivastava et al.'s (2001) original work with the MMMS, very few studies have attempted to replicate the factor structure of the scale (Lim & Sng, 2006; Robak, Chiffreller & Zapone, 2007; Thibault Landry et al., 2016). The results presented in Article 1 successfully replicated one such study (Thibault Landry et al., 2016) across a more diverse sample of participants and found support for the contention that there exists ten primary motives for making money that can be categorized into three superordinate categories of motives (Financial stability, Self-integrated and Non-integrated motives) based on whether they encourage psychological need satisfaction or lead to need frustration. In addition to confirming the effects of Self-integrated and Non-integrated motives on psychological health, Article 1 also adds to the literature by suggesting that desiring money for Financial stability also encourages need satisfaction and consequently well-being.

Another contribution of Article 1 is that the results bridged two relatively independent research fields, namely the money motives and materialism literature. Despite the conceptual overlap between these two fields, the research on money motives and materialism has evolved relatively independently. Srivastava et al.'s (2001) study constitutes one exception as the results revealed that materialism's effects on well-being were accounted for by unhealthy motivations for desiring money. Nevertheless,

a limitation of Srivastava et al.'s (2001) study is that materialism was not directly assessed. Using one of the most widely used materialism scales (Material Values Scale; Richins & Dawson, 1992), the results of Article 1 found support for the finding that materialism's adverse effects on health are more likely driven by a desire to compensate for feelings of insecurity and to develop an image that others will applaud. This suggests that it may be more accurate to conceptualize materialism more broadly as a set of unhealthy reasons for desiring money that represent only some of the possible reasons for making money.

The current thesis also makes important contributions to the literature on spending motives. The results presented in Article 2 add to a small but growing number of studies (e.g., Zhang et al., 2013) implicating motives as important factors that can influence need satisfaction and frustration and consequently well-being. Specifically, Article 2 extends this literature by highlighting a broader set of motives underlying general spending behavior that have important consequences for well-being. Moreover, Article 2 makes a significant contribution to the literature by implicating for the first time the role of need frustration in the association between spending motives and psychological health and by suggesting that the reasons that people have for making everyday purchases have the potential of actively thwarting psychological needs and ultimately increasing ill-being. Future researchers are thus encouraged to include measures of need frustration and ill-being when assessing the psychological consequences of spending behavior.

From a broader perspective, the results of this thesis contribute to the literature on money, happiness and SDT by providing support for the contention that simply considering money, in and of itself, is not sufficient to fully understand its impact on well-being. Specifically, this thesis reveals that the psychological dimensions of money (i.e. considering what drives people to make money and the reasons that motivate everyday purchases) is a research topic worthy of more in depth exploration as it

provides insight into an additional pathway through which money impacts happiness and well-being. As was demonstrated, people make and spend money for a variety of reasons and these have a direct impact on the extent to which people's psychological needs are satisfied or thwarted in their daily life. Moreover, although SDT sometimes considers that the pursuit of money is evidence of extrinsic/controlled motivation (Kasser & Ryan, 1993), this thesis supports the few studies that consider that people can pursue money for both intrinsic and extrinsic reasons (Carver & Baird, 1998). Nevertheless, it is imperative to highlight that the studies of this thesis do not provide the possibility of classifying the motives for making and spending money into SDT's broader categories of motivation (i.e. autonomous/intrinsic versus controlled/extrinsic motivation). Given that SDT's motivational categories represent broad explanations for human behaviour, it is possible that they encompass more generally the motives for making and spending money. With respect to motives for making money, there are evident similarities between Self-integrated motives and autonomous motivation and between Non-integrated motives and controlled motivation. For instance, making money in order to pursue a leisure activity one enjoys (Leisure motive) reveals similarities with being motivated by the inherent pleasure that an activity provides (i.e., intrinsic motivation). Moreover, making money in order to appear better than others (Social comparison motive) closely resembles extrinsic/controlled motivation in that behaviour is motivated by a desire to receive external social approval. It may be relevant for future research to explore this aspect further from the point of view of combining these two perspectives and exploring how the motives for making and spending money relate to SDT's motivation dimensions. Similarly, the current thesis did not explore the relation between materialism, autonomous/controlled motivation and the spending motives. Given that materialism appears to be a concept that is encompassed by Non-integrated reasons for pursuing money, it is reasonable to hypothesize that materialism would relate to controlled motivation in the same way as Non-integrated motives would. From a theoretical perspective, future research could explore more directly how these motivational concepts relate to each other.

4.3 Practical implications

Many people are currently facing extremely high levels of debt and most are incurring more credit card debt than savings (Benessaïeh, 2017). Although a multitude of factors (economic, social, political, etc.) may play a role in rising debt, the statistics suggest that people are spending money that they just do not have. The findings of this thesis point to the importance of understanding the psychological factors that govern people's decisions when it comes to money and spending. From this perspective, it is possible that perhaps people are making and spending money for the wrong reasons. Being motivated to make and spend money in order to feel better about oneself or to boast an appealing image may lead to never ending cycles of money chasing and spending (often impulsively) because no amount of money or purchases can fulfill such desires. On the other hand, if an active effort is made to pursue money for healthier reasons (such as ensuring financial stability and helping others) it is more likely that, not only will people save more money, but they will invest in activities that are fulfilling in their own right and lead to personal growth and enduring happiness. Hence, becoming aware of one's motives for making money may be the first step in developing healthier money habits that allow for greater psychological health.

With respect to spending, there currently exists a vast literature on spending and happiness, which outlines important recommendations aimed at helping individuals derive the greatest level of happiness from their spending decisions. Evidently, a large body of evidence supports the recommendation that spending money on others (as opposed to oneself) and on experiences (rather than material things) leads to happiness (Aknin et al., 2018). The results of Article 2 corroborate these recommendations by revealing that compared to material purchases, prosocial and experiential purchases are more likely motivated by reasons that encourage the satisfaction of psychological needs (i.e., a desire to help others and to participate in enjoyable activities). Nevertheless, the results also suggest that it is possible to consume experiences for detrimental reasons

(i.e., attract attention to oneself) and to purchase material items for beneficial reasons (i.e., participate in leisure activities and invest in self-development). Thus, while purchasing front row tickets to a popular concert certainly provides an excellent opportunity to spend time with friends enjoying a fun activity, it may also be undertaken for reasons such as boasting to friends about the expensive experiences one can afford. Similarly, buying a new luxury car may be used to gain the admiration of others, but it can also make someone happy by allowing them to participate in a cross-country road trip with close friends. Thus, the findings of Article 2 point to an additional valuable recommendation: people should reflect on the reasons why they spend money as these can influence the happiness they derive from the purchases they make.

Taken together, the findings of this thesis point to the need for more concrete interventions and programs that can actively encourage people to reflect on the reasons that underlie their desire to make and spend money. Article 1 of this thesis constituted the very first effort at helping people develop a psychologically healthier relationship with money by targeting money motives. Although additional studies are needed to support the effectiveness of the intervention, preliminary evidence was found for the malleability of the money motives and suggests that it is possible to have a positive impact on people's motives. Practically, this means that programs and initiatives that encourage individuals to reflect on their own personal reasons for making and spending money may prove beneficial in improving psychological well-being with regards to money. Thus, the results of this thesis have implications and recommendations with respect to broader psychological, educational, and organizational initiatives.

First, given that money is one of the most significant sources of stress in people's lives, it follows that people may seek counselling or therapy in order to cope with this stress. Thus, psychological interventions that target money and finances may be improved by incorporating the notions highlighted in the current thesis. Therapeutic interventions

may be improved if individuals are brought to understand their own motives for making and spending money, how these affect their well-being and guided towards healthier motives. Moreover, research suggests that financial stress detrimentally affects romantic relationships (APA, 2015). According to a study conducted in the United States, forty three percent of people do not know how much money their spouse makes, yet arguing about money is one of the strongest predictors of divorce (Wong, 2018). Thus, discussing the different motives people have for making and spending money may be an important element to address from the standpoint of couple's therapy. For instance, disagreements may occur within couples when each person has different conceptualizations of money. Helping couples become aware of how each person views money may provide one avenue through which financial disagreements can be resolved.

The results of this thesis also have important implications with respect to financial education programs. In general, people have access to a wide range of financial literacy tools and resources made available to them from government bodies and specialized firms, such as banks and financial institutions. Most of these resources, however, have a very strong focus on helping individuals become familiar with financial topics such as budgeting, saving, investments, planning for retirement and choosing insurance (e.g., *Autorité des Marchés Financiers*; Québec). Moreover, financial literacy is also being introduced in the high school educational curriculum in Canada with the aim of helping adolescents become familiar with the basic concepts around money (e.g., saving, debt, taxation, compensation, etc.). Missing from these educational initiatives, however, is a focus on helping people understand what money means from a psychological perspective. In addition to teaching people about important financial concepts, such as saving and budgeting, it is imperative to also incorporate the notions that what motivates people to make and spend money has important implications for long term psychological well-being. Finding ways to encourage the adoption of beneficial

reasons for making and spending money is also a priority with respect to financial education.

Finally, from an organizational perspective, the results of the current thesis could be used to determine how compensation systems could best be designed and implemented. For instance, some studies find that companies that provide prosocial bonuses, in which employees are given a monetary bonus that they can then give to a charity of their choice or that they can offer to a colleague, have more satisfied and performing employees. Thus, it is possible to implement company policies can encourage employees to make and spend money for beneficial reasons, such as helping others. Moreover, knowing that employees are motivated to make money for different reasons may help organizational leaders understand their employees better and to know what their salary means to them. Although not directly tested in this thesis, it is likely that different motives for making and spending money may also have an influence on important work-related outcomes. Future research could explore more directly how people's motives for making and spending money affect employee satisfaction, job motivation, collaboration and performance.

4.4 Limitations and future research

Although this thesis makes important theoretical and practical contributions, it is important to highlight its limitations. One important limitation relates to the self-reported nature of the studies presented in Articles 1 and 2 as this increases the risk for common method bias. Nevertheless, care was taken in order to reduce this risk. An evaluation of Harman's single factor score (Harman, 1960) suggested that the results were unlikely affected by CMB. Across all studies, self-reported measures were deemed to be most appropriate in order to assess the variables of interest. Indeed, research suggests that self-reports are often the most appropriate way of measuring subjective appraisals, such as motives, because they are not easily observable in

behavior (e.g., Chan 2009; Conway & Lance, 2010; Podsakoff, MacKenzie, & Podsakoff, 2012). A second limitation pertains particularly to Study 2 (Article 1) and Study 1 (Article 2), which used a correlational design in order to assess the relationships among the variables in the models under study. Evidently, a correlational design precludes causal inference between motives, psychological need satisfaction/frustration and well-being/ill-being. For instance, Article 1 proposes that money motives influence psychological health through the mediating role of need satisfaction and frustration. Without longitudinal data however, it is impossible to rule out the alternative possibility that psychological health influences need satisfaction and in turn the money motives or that general need satisfaction or frustration may lead people to make or spend money for different reasons. Nevertheless, previous research using longitudinal designs and similar variables provide support for the direction of the relationships proposed in this study (Olafsen, Deci, & Halvari, 2018).

With respect to the intervention study (Study 3, Article 1), several limitations can be outlined. First, the small sample size decreases the odds of achieving adequate statistical power and causes significant difficulties in terms of generalizability of the results. It is crucial for future research to test the intervention with a larger and more diverse sample of participants. Second, the quasi-experimental design increases the possibility that other unaccounted factors may influence the results of the study. Nonetheless, care was taken to control for several socio-demographic variables that were known to have potentially biased the results. Analyses were conducted in order to determine whether the experimental and control groups differed with respect to the demographic variables. It was found that the experimental group was significantly older, more educated and worked more hours than the control group. These variables were thus included as covariates in main analyses. It is also important to note that participants in the experimental group voluntarily decided to participate in the workshop and this may have biased the results in several ways. Individuals who are highly motivated to learn about the psychological aspects of money may be people who

are inherently more willing to make changes to their money habits. On the other hand, it might also provide an explanation as to why the intervention was not as effective as expected. People who are motivated to understand their relationship with money may already make active efforts to improve this relationship and thus the information presented during the workshop may not have been sufficiently powerful to lead to significant changes in money motives.

Another important limitation is that participants in the control group did not participate in a placebo intervention. Thus, compared to the control group, participants in the experimental group were exposed to an intervention, received more attention from experimenters, and had more contact with other participants given the dynamic nature of the workshop. This leaves open the possibility that the mere fact of participating in the intervention may have affected the outcomes that were observed. Ideally, future studies could test the effectiveness of the intervention using an experimental design in which participants are randomly assigned to both conditions and in which the control group participates in a placebo intervention (e.g. workshop dealing with financial literacy or budgeting). Another factor that may have potentially biased the results relates to social desirability. Participants in the experimental group were presented with information that indicated that some motives for making money are beneficial, whereas others are detrimental for well-being and happiness. It is possible that participants in the experimental group reported significantly lower Non-integrated motives after the intervention compared to the control group because they consciously decided not to report these motives. If participants were motivated to appear socially desirable however, it would be expected that they would also overreport the beneficial motives of Self-integrated and Financial stability motives. Thus, it is unlikely that social desirability was at play. Nevertheless, future studies could incorporate social desirability scales into the study design in order to rule out this issue more definitely. Finally, the effect of the intervention on variables other than the money motives (i.e., need satisfaction/frustration, well-being/ill-being) was not assessed. It is possible that

the intervention may have had direct effects on these outcomes. Finally, the two-week timeframe may not have been sufficient to allow individuals to make any real changes in their motives and spending behavior. It may be fruitful for future research to assess different outcome variables over multiple periods to determine how they evolve over time.

With respect to Article 2, a major limitation of Study 1 is that it relied on an already existing scale to assess individuals' spending motives. Although the results suggest the presence of five main spending motives, it is likely that a broader set of motives exist. Future studies could develop an exhaustive list of potential reasons for spending, administer these to a sample of participants and then use data reduction techniques to arrive at a more exhaustive list of reasons why people spend money. Moreover, the retrospective design of both studies constitutes another limitation as participants were asked to recall previous purchases and to report the motives they had when making the purchase. Such a design increases the risk that inaccurate participant recollections may bias the results. Future research could test for differences in motives and psychological health by using experimental designs and collecting data after participants are randomly assigned to make actual purchases (e.g., material, experiential, prosocial).

A final limitation must be outlined that pertains to the thesis more generally. Articles 1 and 2 delved into motives for making and spending money respectively, but the link between these two types of motives remains unexplored. Thus, the findings presented in this thesis do not allow for a theoretical or practical understanding of how motives for making money relate to spending motives. It may be fruitful for future research to investigate how people's drive to make money relate to the psychological processes that govern spending decisions. Although a common sense approach would suggest that people likely spend money in line with what drives them to make money in the first place, it is also possible that these two processes are distinct. For instance, the results of Article 1 revealed that when people desire to make money for Financial

stability reasons, this encourages need satisfaction and well-being. On the other hand, Article 2 revealed that when people spend money for similar reasons (i.e. Stability motive), this had no impact on need satisfaction or well-being. Although more research is needed to explore how the motives for making and spending money relate to each other, these results indicate that they may influence health outcomes in a distinct way. Future studies should explore how these two concepts relate to one another in order to determine their conceptual distinctiveness and/or overlap. Moreover, it may be interesting to explore whether discrepancies in motives for making and spending money exist and the extent to which this impacts psychological health outcomes. For instance, an individual may experience a good intention to make money in order to donate to charity, which may in itself contribute to a boost in happiness. Nevertheless, if this same person's spending motives are not consistent with their motivation to help others, this may hinder or override any psychological health benefits.

CONCLUSION

Money and finances are a significant source of stress in people's lives and this stress has adverse effects on physical and psychological health (APA, 2015). Alarming high debt levels point to an urgent need to understand the psychological factors that influence people's decisions with respect to money and spending. Across a total of five studies, this thesis delved into what motivates people to make money, the reasons that motivate spending and identifies a potentially effective way to help individuals develop a healthier relationship with money. The findings of the research articles presented in this thesis point to several key conclusions and recommendations. First, people are motivated to make money for ten main reasons, namely to ensure their financial security (Security), support loved ones (Family support), attain freedom (Freedom), ensure a fair compensation for work achievements (Market worth), to feel a sense of pride for life accomplishments (Pride), participate in leisure activities (Leisure), help others (Charity), attract attention to oneself (Social comparison), overcome insecurity (Overcoming self-doubt) as well as to spend impulsively (Impulse). Moreover, these motives can be classified into three broad categories of reasons for desiring money depending on whether they encourage or impede psychological growth. Specifically, when people make money for Financial stability (Security and Family) and Self-integrated (Market worth, Freedom, Pride, Leisure, and Charity) reasons, this encourages psychological need satisfaction (reduces need frustration) and consequently improves well-being. Making money for Non-integrated reasons (Social comparison, Overcoming Self-doubt, Impulse and materialistic reasons), on the other hand, leads to the active thwarting of the psychological needs and, in turn, increases indices of ill-being.

With respect to spending, the reasons people have for making purchases also have important implications for well-being. In a general sense, every day purchases may be motivated by five main motives, namely for Stability (to ascertain one's own and one's family's physical well-being), Self-development (to invest in one's current and/or future professional goals), Helping others (to help others in need), Fun (to participate in an enjoyable leisure activity), and Personal insecurity (to overcome feelings of self-doubt by appearing better than others). When individuals spend money with the intent of helping others, enjoying a leisure activity, and investing in self-development, this encourages the satisfaction of the psychological needs and in turn leads to well-being. When money is spent with the intent of overcoming feelings of insecurity, this leads to the active thwarting of the psychological needs and consequently to greater ill-being.

Understanding that spending can be motivated by different reasons paints a clearer picture of how material, experiential and prosocial purchases may lead to well-being. There is much research evidence supporting the recommendation that spending money on others (as opposed to oneself) and on experiences (rather than material things) leads to happiness (Aknin et al., 2018). This thesis corroborates these recommendations by suggesting that compared to material purchases, prosocial and experiential purchases are more likely motivated by reasons that encourage the satisfaction of psychological needs (i.e., a desire to help others and to participate in enjoyable activities). Nevertheless, it is also possible to consume experiences for detrimental reasons (i.e., attract attention to oneself) and to purchase material items for beneficial reasons (i.e., participate in leisure activities and invest in self-development). Thus, it is not sufficient to simply use the tangibility or experiential nature of purchases to predict effects on well-being. Indeed, the motives underlying spending choices may be also be an important factor to consider when trying to understand how different purchases influence psychological health.

Finally, this thesis provides one potential avenue through which people can be encouraged to make and spend money for healthier reasons. Preliminary evidence was found for the effectiveness of an intervention that helped people become aware of their own motives for making money and keep unhealthy motives at bay. In a general sense, the findings presented in this thesis suggest that perhaps one explanation for increasing debt levels is that people are using money for the wrong reasons. Making and spending money for unhealthy reasons, such as to overcome feelings of personal insecurity, may lead to never ending cycles of money chasing and spending because no amount of money or purchases can fulfill such needs. On the other hand, if effort is made to pursue money for healthier reasons it is likely that, not only will people save more money, but they will invest in activities that are fulfilling in their own right and that lead to enduring happiness. Hence, becoming aware of one's motives for making and spending money may be the first step in developing healthier money habits that allow for greater psychological health.

APPENDIX A

QUESTIONNAIRES

Motives for Making Money Scale (English version)

(Srivastava, Locke, & Bartol, 2001)

In this section, we would like to know what reasons are important to you when making money. Please indicate if you agree or disagree with the following statements by circling the appropriate number using the scale provided: (1 = totally disagree; 10 = completely agree).

	Completely Disagree									Completely Agree
	1	2	3	4	5	6	7	8	9	10
1. To acquire life's basic necessities such as decent housing, food, and clothes.	1	2	3	4	5	6	7	8	9	10
2. To be able to support the people who are important to me (e.g. friends and family).	1	2	3	4	5	6	7	8	9	10
3. To know that I am being fairly compensated for the work that I do.	1	2	3	4	5	6	7	8	9	10
4. Because it allows me to feel proud of myself.	1	2	3	4	5	6	7	8	9	10
5. In order to spend time pursuing leisure activities that I enjoy (e.g. hobbies, pastimes, sports, etc.)	1	2	3	4	5	6	7	8	9	10
6. In order to give money to those in need.	1	2	3	4	5	6	7	8	9	10
7. So that I can put my ideas into action and develop my own projects, such as my own business.	1	2	3	4	5	6	7	8	9	10
8. So that I can let my mood guide me when making a purchase and to spend money impulsively (e.g. shopping) just for the thrill of it.	1	2	3	4	5	6	7	8	9	10
9. In order to prove to myself that I am not a failure.	1	2	3	4	5	6	7	8	9	10
10. So that I can prove to others that I am better than them (e.g. friends, brothers, sisters, etc).	1	2	3	4	5	6	7	8	9	10
11. To ensure that I have a decent emergency fund saved up.	1	2	3	4	5	6	7	8	9	10
12. In order to be able to support an important future project for my family members (e.g. pay for children's college tuition).	1	2	3	4	5	6	7	8	9	10
13. To ensure that I receive what I deserve for my ideas and effort.	1	2	3	4	5	6	7	8	9	10
14. To prove to myself that I am successful in life.	1	2	3	4	5	6	7	8	9	10
15. So that I can spend my time and money on my hobbies.	1	2	3	4	5	6	7	8	9	10
16. To be able to donate money to a cause that is important to me.	1	2	3	4	5	6	7	8	9	10
17. To ensure that I am not accountable to anyone for what I do or how I do it.	1	2	3	4	5	6	7	8	9	10
18. So that I can play exciting games (e.g. gamble at the casino, play the lottery, and/or spend money impulsively).	1	2	3	4	5	6	7	8	9	10
19. To prove to others that I am not incompetent.	1	2	3	4	5	6	7	8	9	10
20. So that I can buy a nicer house or car than my neighbours.	1	2	3	4	5	6	7	8	9	10
21. I make money so that I can feel secure.	1	2	3	4	5	6	7	8	9	10
22. So that I can leave enough money to others (e.g. my family, children, future family) when I am no longer around.	1	2	3	4	5	6	7	8	9	10
23. To ensure that I am compensated fairly for my work achievements.	1	2	3	4	5	6	7	8	9	10
24. To prove to myself that I can deal with life's challenges.	1	2	3	4	5	6	7	8	9	10
25. So that I can enjoy luxurious and high quality products (e.g., sports cars, trips, art).	1	2	3	4	5	6	7	8	9	10
26. So that I can have spare time to spend with others (e.g. family, friends, pursue volunteer activities).	1	2	3	4	5	6	7	8	9	10
27. So that I can lead my life with no interference from anyone.	1	2	3	4	5	6	7	8	9	10
28. So that I can then spend it on impulse.	1	2	3	4	5	6	7	8	9	10
29. I make money to prove that I am not as dumb as people think.	1	2	3	4	5	6	7	8	9	10
30. I make money so that others will pay attention to me and admire me.	1	2	3	4	5	6	7	8	9	10

Motives for Making Money Scale (French version)

(Srivastava, Locke & Bartol, 2001)

Dans cette section, nous sommes intéressés à connaître les raisons pour lesquelles vous désirez avoir de l'argent. S'il vous plaît veuillez indiquer l'importance de chacune des déclarations suivantes comme étant des raisons pour lesquelles vous désirez avoir de l'argent.

	Pas du tout important										Extrêmement Important									
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
1. Pour s'assurer d'avoir les exigences de base pour vivre, tel qu'un logement décent, de la nourriture, et des vêtements.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
2. Pour être en mesure de soutenir les personnes qui me sont chères (ex. mes ami(e)s et ma famille).	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
3. Pour obtenir une rémunération juste pour mon travail	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
4. Pour me sentir fièr(e) de moi.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
5. Pour pouvoir allouer du temps et des ressources à la poursuite d'activités de loisirs (par exemple, passe-temps, loisirs, sports, etc.)	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
6. Pour donner de l'argent à ceux qui en ont besoin.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
7. Pour mettre en œuvre mes idées, par exemple en créant ma propre entreprise.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
8. Pour laisser mon humeur me guider à certains moments et ainsi pouvoir dépenser mon argent inutilement (ex. en magasinant) juste pour l'excitation que cela me procure.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
9. Pour prouver que je ne suis pas un échec.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
10. Pour montrer que je suis meilleur que les autres (ex. mes amis / frères / soeurs / parentés).	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
11. Pour maintenir un solde bancaire raisonnable pour les urgences.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
12. Pour pouvoir assurer la réalisation d'un projet important pour ma famille dans le futur (ex. assurer l'éducation universitaire de mes enfants).	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
13. Pour obtenir ce que je mérite en échange de mes réflexions et de mes efforts.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
14. Pour savoir que j'ai réussi dans la vie.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
15. Pour consacrer du temps et dépenser de l'argent pour mes passe-temps.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
16. Pour lancer un fond caritatif ou donner de l'argent à une cause que je trouve importante.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
17. Pour ne pas devoir rendre des comptes à qui que ce soit sur ce que je fais ou comment je fais les choses.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
18. Pour jouer à des jeux excitants (ex. aller au casino, acheter de la loterie, ou faire des achats impulsifs).	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
19. Pour prouver que je ne suis pas aussi incompetent(e) que certaines personnes ont prétendu.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
20. Pour avoir une maison et une/des voitures qui sont meilleures que celles de mes voisin(e)s.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
21. Pour avoir un sentiment de sécurité.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
22. Pour laisser assez d'argent quand je mourrai, par exemple à mon conjoint(e) et mes enfants (ou éventuel conjoint(e)s et enfants).	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
23. Pour être rémunéré(e) équitablement pour mes réalisations dans le cadre de mon travail.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
24. Pour savoir que je peux faire face aux défis de la vie.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
25. Pour tirer un plaisir personnel des biens de luxe et de qualité (par exemple, voitures de sport, voyages, l'art, etc.).	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
26. Pour avoir suffisamment de temps libre pour aider les autres (ex. famille, amis, bénévolat).	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
27. Pour diriger ma propre vie, sans aucune ingérence de qui que ce soit.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
28. Pour dépenser de l'argent impulsivement.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
29. Pour prouver que je ne suis pas aussi idiot(e) que certaines personnes le supposent.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
30. Pour attirer l'attention et l'admiration des autres.	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10

The Balanced Measure of Psychological Needs Scale (English version)

(Sheldon & Hilpert, 2012)

The following statements concern your experiences in your life in general. Please indicate to what extent you agree with these statements.

1	2	3	4	5
Completely disagree	Disagree	Somewhat disagree	Agree	Completely agree
		somewhat agree		

Items:

1. I feel a sense of contact with people who care for me, and whom I care for.
2. I feel close and connected with other people who are important to me.
3. I feel a strong sense of intimacy with the people I spend time with.
4. I feel I can successfully complete difficult tasks and projects.
5. I feel I take on and master hard challenges.
6. I feel that I can do well even at the hard things.
7. I feel I am free to do things my own way.
8. I feel my choices express my “true self.”
9. I feel I can really do what interests me.

Dimensions:

Relatedness: Items 1, 2, 3

Competence: Items 4, 5, 6

Autonomy: Items 7, 8, 9

The Balanced Measure of Psychological Needs Scale (French version)

(Sheldon & Hilpert, 2012)

Les énoncés suivants font référence à vos expériences de vie en générale. Veuillez indiquer dans quelle mesure vous êtes en accord ou en désaccord avec chaque énoncé en utilisant l'échelle suivante.

1	2	3	4	5
Complètement en désaccord	En désaccord	Pas en désaccord ni en accord	En accord	Complètement en accord

Items :

1. Je me sens connecté aux personnes à qui je tiens et qui tiennent à moi.
2. Je me sens proche et connecté aux personnes qui sont importantes pour moi.
3. Je ressens une forte intimité avec les personnes avec qui je passe mon temps.
4. Je sais que je peux réussir face à des tâches et des projets difficiles.
5. Je sais que je suis capable de prendre en charge et de surmonter des défis difficiles.
6. Je sais que je suis capable de bien performer même dans des situations difficiles.
7. J'ai le sentiment d'être libre de faire les choses à ma façon.
8. J'ai le sentiment que mes choix dans la vie expriment vraiment qui je suis.
9. J'ai le sentiment que je peux vraiment faire ce qui m'intéresse.

Dimensions :

Affiliation sociale : Items 1, 2, 3

Compétence : Items 4, 5, 6

Autonomie : 7, 8, 9

Psychological Need Thwarting Scale (English version)

(Bartholomew, Ntoumanis, Ryan & Thøgersen-Ntoumani, 2011)

The following statements concern your experiences in your life in general. Please indicate to what extent you agree with these statements.

1	2	3	4	5	6	7
Completely disagree			Neither agree nor disagree			Completely agree

[At this moment] . . .

1. I feel prevented from making choices with regard to the way I do things.
2. I feel pushed to behave in certain ways.
3. I feel obliged to follow decisions made for me.
4. I feel under pressure to agree with the regimen I am provided.
5. There are occasions where I feel incompetent because others impose unrealistic expectations upon me.
6. There are times when I am told things that make me feel incompetent.
7. There are situations where I am made to feel inadequate.
8. I feel inadequate because I am not given opportunities to fulfill my potential.
9. I feel I am rejected by those around me.
10. I feel others are dismissive of me.
11. I feel other people dislike me.
12. I feel some of the people around me are envious when I achieve success.

Dimensions

Autonomy: Items 1 to 4

Competence: Items 5 to 8

Relatedness: Items 9 to 12

Psychological Need Thwarting Scale (French version)

(Bartholomew, Ntoumanis, Ryan & Thøgersen-Ntoumani, 2011)

Les énoncés qui suivent concernent vos expériences dans votre vie en générale. Veuillez indiquer dans quelle mesure vous êtes d'accord ou en désaccord avec chaque énoncé.

1	2	3	4	5	6	7
Fortement en désaccord			Ni en accord ni en désaccord			Fortement en accord

[En ce moment] . . .

1. Je me sens empêché(e) de faire des choix en ce qui concerne la façon dont je fais les choses.
2. Je me sens poussé(e) à me comporter de certaines façons.
3. Je me sens obligé(e) de suivre des décisions qui sont prises pour moi.
4. Je me sens forcé(e) d'être d'accord avec ce que les autres attendent de moi.
5. Il y a des situations qui me font sentir incompetent(e) parce que d'autres m'imposent des attentes irréalistes.
6. Il y a des moments où l'on me dit des choses qui me font sentir incompetent(e)s.
7. Il y a des situations me font sentir inadéquat(e).
8. Je me sens inadéquat(e) parce que l'on ne me donne pas d'opportunités pour réaliser mon plein potentiel.
9. Je me sens rejeté(e) par ceux qui m'entourent.
10. Je sens que les autres peuvent être méprisants envers moi.
11. Je crois que les autres ne m'aiment pas.
12. Je pense que certaines personnes qui m'entourent sont jalouses quand je réussis..

Dimensions

Autonomie : Items 1 à 4

Compétence : Items 5 à 8

Affiliation sociale : Items 9 à 12

Positive and Negative Affect Schedule-Short Form (English)

(Thompson, 2007)

This scale consists of a number of words that describe different feelings and emotions. Thinking about yourself and how you normally feel, to what extent do you generally feel:

1	2	3	4	5
Never	Rarely	Sometimes	Often	Always

Items

1. Upset
2. Hostile
3. Alert
4. Ashamed
5. Inspired
6. Nervous
7. Determined
8. Attentive
9. Afraid
10. Active

Dimensions

- Negative Affect : items 1,2,4,6,9
- Positive Affect : items 3,5,7,8,10

Positive and Negative Affect Schedule-Short Form (Français)

(Thompson, 2007)

Ce questionnaire contient des adjectifs qui décrivent des sentiments et des émotions. Lisez chacun de ces adjectifs. Pour chacun de ces adjectifs, vous devez indiquer à quel point il décrit comment vous vous sentez en général. Pour ce faire, vous devez utiliser le choix de réponses suivant :

1	2	3	4	5
Jamais	Rarement	Parfois	Souvent	Toujours

Dans quelle mesure vous sentez-vous...

Items

1. Fâché
2. Hostile
3. Alert
4. Honteux
5. Inspiré
6. Nerveux
7. Déterminé
8. Attentif
9. Effrayé
10. Actif

Dimensions

- Affect négatif: items 1,2,4,6,9
- Affect positif: items 3,5,7,8,10

Measure of Psychological Well-being (English)

(Choi, DiNitto, & Kim, 2014)

Below are seven statements with which you may agree or disagree. Using the scale below, indicate your agreement with each item. Please be open and honest in your responding.

1	2	3
Strongly Disagree		Strongly Agree

Items

1. My life has meaning and purpose.
2. I feel confident and good about myself.
3. I gave up trying to improve my life a long time ago.
4. I like my living situation very much.
5. Other people determine most of what I can and cannot do.
6. When I really want to do something, I usually find a way to do it.
7. I have an easy time adjusting to change.

Dimensions:

- Item 1: Purpose in life
- Item 2: Self-acceptance
- Item 3: Personal growth (reverse coded)
- Item 4: Acceptance of living situation
- Item 5: Perceived constraints (reverse coded)
- Item 6: Personal mastery
- Item 7: Self-efficacy

Measure of Psychological Well-being (Français)

(Choi, DiNitto, & Kim, 2014)

À l'aide de l'échelle suivante, veuillez indiquer à quel point vous êtes en accord ou en désaccord avec les énoncés suivants.

1	2	3	4	5
Fortement en désaccord	En désaccord	Ni en accord ni en désaccord	En accord	Fortement en accord

Items

1. Ma vie à un sens et un but.
2. Je me sens confiant(e) et bien dans ma peau.
3. J'ai renoncé depuis longtemps à essayer d'améliorer ma vie.
4. J'aime beaucoup ma situation actuelle.
5. D'autres personnes déterminent la plupart des actions que je peux ou ne peux pas faire.
6. Quand je veux vraiment faire quelque chose, je trouve toujours une façon de le faire.
7. C'est facile pour moi de m'adapter à un changement.

Dimensions :

- Item 1: But dans la vie.
- Item 2: Acceptation de soi
- Item 3: Croissance personnelle (inversé)
- Item 4: Acceptation de la situation de vie
- Item 5: Perception de contraintes (inversé)
- Item 6: Maîtrise de soi
- Item 7: Auto-efficacité

Center for Epidemiologic Studies-Depression Scale (English)

(Cole, Rabin, Smith, & Kaufman, 2004)

Please indicate the frequency with which you experienced the following states within the last two weeks.

0	1	2	3
None of the time	Rarely	Often	All of the time

Items:

1. I felt my life had been a failure.
2. I felt fearful.
3. I felt that I was just as good as other people. (Reverse scored)
4. People were unfriendly.
5. I felt that I could not shake off the blues even with the help from my friends or family.
6. I was bothered by things that usually don't bother me.
7. I felt that everything I did was an effort.
8. I felt hopeful about the future. (Reversed scored)
9. I felt lonely.
10. I had trouble keeping my mind on what I was doing.

Center for Epidemiologic Studies-Depression Scale (Français)

(Cole, Rabin, Smith, & Kaufman, 2004)

Veillez s'il vous plait indiquer la fréquence à laquelle vous avez vécu les états suivant ces deux dernières semaines.

0	1	2	3
Jamais	Rarement	Souvent	Tout le temps

Items

1. J'avais l'impression que ma vie était un échec.
2. J'avais peur.
3. Je me suis senti(e) aussi bien que d'autres personnes (inversé).
4. Les autres n'étaient pas gentils.
5. J'avais le sentiment que je ne pouvais pas surmonter ma déprime même avec l'aide de mes amis ou de ma famille.
6. J'étais gêné(e) par des choses qui ne me dérangent pas habituellement.
7. J'avais le sentiment que tout ce que je faisais était un effort.
8. J'avais de l'espoir face à l'avenir (inversé).
9. Je me suis senti(e) seul(e).
10. J'ai eu de la difficulté à rester concentré sur ce que je faisais.

The Materialistic Values Scale (English)

(Richins & Dawson, 1992)

The following statements refer to your beliefs about how you relate to money in your life. You can choose from 1 to 5 to indicate the degree to which you agree with each statement at this point in your life.

1	2	3	4	5	6
Completely disagree	Disagree	Slightly disagree	Slightly agree	Agree	Completely agree

Items:

1. I admire people who own expensive homes, cars, and clothes.
2. I try to keep my life simple, as far as possession are concerned. (Reverse scored)
3. My life would be better if I owned certain things I don't have.
4. The things I own say a lot about how well I'm doing in life.
5. Buying things give me a lot of pleasure.
6. I'd be happier if I could afford to buy more things.
7. I like to own things that impress people.
8. I like a lot of luxury in my life.
9. It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like.

The Materialistic Values Scale (Français)

(Richins & Dawson, 1992)

Les énoncés suivants font référence à la relation que vous avez envers l'argent. Veuillez utiliser l'échelle suivante pour indiquer à quel point vous êtes d'accord avec chaque énoncé.

1	2	3	4	5	6
Complètement en désaccord	En désaccord	Un peu en désaccord	Un peu en accord	En accord	Complètement en accord

Items:

1. J'admire ceux qui possèdent des maisons, des voitures, et des vêtements qui coûtent cher.
2. J'essaie de vivre simplement pour tout ce qui concerne les biens matériels (inversé).
3. Ma vie serait mieux si je possédais certaines choses que je n'ai pas.
4. Les biens que je possède en disent long sur ma réussite.
5. Acheter des choses matérielles me donne beaucoup de plaisir.
6. Je serai plus heureux si je pouvais me permettre d'acheter plus de choses.
7. J'aime acheter des choses qui impressionnent les autres.
8. J'aime beaucoup le luxe.
9. Parfois ca me dérange beaucoup de ne pas pouvoir acheter toutes les choses que je voudrais.

Motives for Spending Scale (English)

(Adapted from the Motives for Making Money Scale; Srivastava et al., 2001)

With respect to the purchase that you described, please use the rating scale provided below to indicate the extent to which you agree or disagree with the following reasons that may have motivated you to make this purchase.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Slightly disagree		Slightly agree	Agree	Strongly agree

1. I made this purchase because it allowed me to acquire the basic necessities to live (e.g. decent housing, food, security).

2. I made this purchase because it allowed me to provide for my family (and/or friends, loved ones) and ensure their well-being.

3. I made this purchase because it allows me to ensure that I will be fairly compensated for the knowledge, skills, and effort I put into my job and to ensure that my value in the market is fair.

4. I made this purchase because it represents the success I have experienced in my life; I made this purchase because it allows me to feel proud of my accomplishments.

5. I made this purchase because it represents a leisure activity that I enjoy; it allows me spend time participating in a hobby of mine.

6. I made this purchase because it allowed me to make somebody else happy or to help someone in need.

7. I made this purchase because it allows me to show others that I am better than them and/or because others will admire me for it.

8. I made this purchase impulsively because I enjoy the thrill of buying things in an impulse way without giving them much forethought.

9. I made this purchase because it reassures me that I am not a failure in life and/or because it allowed me reduce my sense of self-doubt or insecurity.

10. I made this purchase because it allows me (or will allow me in the future) to have more freedom and time to develop my own projects, businesses, or activities.

Motives for Spending Scale (Français)

(Adaptée de l'échelle Motives for Making Money Scale; Srivastava et al., 2001)

En ce qui trait à la dépense que vous venez de décrire, veuillez s'il vous plaît utiliser l'échelle ci-dessous pour indiquer les raisons qui vous ont motivé à faire cette dépense.

1	2	3	4	5	6	7
Fortement en désaccord	En désaccord	Un peu en désaccord	En accord et désaccord	Un peu en accord	En accord	Fortement en accord

1. J'ai fait cette dépense, car elle m'a permis d'acquiescer des exigences de bases pour vivre (e.x. logement décent, sécurité, nourriture, vêtements).
2. J'ai fait cette dépense car, elle m'a permis de soutenir les personnes qui me sont chères (ex. famille, ami(e)s, etc.)
3. J'ai fait cette dépense, car elle m'a permis de m'assurer que j'obtiendrai une rémunération juste pour mes connaissances, habiletés, et mon effort dans le cadre de mon travail et que ma valeur dans le marché est équitable.
4. J'ai fait cette dépense, car elle représente le fait que j'ai réussi dans la vie; elle représente ma fierté envers mes accomplissements dans ma vie.
5. J'ai fait cette dépense, car elle représente une activité de loisir que j'apprécie; cette dépense me permet de participer à un de mes passe-temps/activités que j'aime.
6. J'ai fait cette dépense, car elle m'a permis d'aider une autre personne et/ou rendre une autre personne heureuse.
7. J'ai fait cette dépense, car elle m'a permis de montrer que je suis meilleur que les autres et/ou pour attirer l'attention et l'admiration des autres.
8. J'ai fait cette dépense de manière impulsive, car j'aime laisser mon humeur me guider à certains moments et dépenser mon argent juste pour l'excitation que cela me procure
9. J'ai fait cette dépense, car elle m'assure que je ne suis pas un échec et/ou car elle permet d'apaiser mon insécurité/doute de soi
10. J'ai fait cette dépense, car elle me permet (ou me permettra dans le futur), d'avoir plus de liberté et temps pour mettre en œuvre mes propres projets, entreprises, et/ou activités.

Socio-demographic questionnaire (English)

- 1) How old are you?
- 2) What is your gender?
 - Male
 - Female
 - Other
- 3) What is the highest level of education you have completed?
 - None/No high school diploma
 - High School or equivalent
 - CEGEP general degree
 - CEGEP professional degree
 - Bachelor's degree
 - Master's degree
 - Doctoral degree
 - Other: _____
- 4) How many hours do you spend at work per week?
 - 35 hours or more
 - Between 25 and 34 hours
 - Between 15 and 24 hours
 - Less than 15 hours
 - I do not work
- 5) What is your current gross income (before taxes)? If you do not work, please indicate the total amount received through other means (such as income from financial aid, scholarships, personal donations).
 - I do not have access to a monetary income
 - Under \$10 000
 - \$10 000 –\$19 999
 - \$20 000 - \$29 999
 - \$30 000 - \$39 999
 - \$40 000 - \$49 999
 - \$50 000 - \$74 999
 - \$75 000 - \$99 999
 - \$100 000 - \$124 999
 - \$125 000 – \$149 999
 - \$150 000 - \$174 999
 - \$175 000 - \$199 999
 - \$200 000 - \$299 999
 - \$300 000 and above

Socio-demographic questionnaire (Français)

- 1) Quel âge avez vous?
- 2) Quel est votre sexe?
 - Homme
 - Femme
 - Autre
- 3) Quel est votre diplôme obtenu le plus élevé?
 - Aucun/Sans diplôme d'études secondaires
 - Diplôme d'études secondaires
 - Diplôme de formation professionnelle/DEP
 - Diplôme d'études collégiales (DEC)
 - Baccalauréat
 - Maîtrise
 - Doctorat
 - Autre, spécifier
- 4) Combien d'heures travaillez-vous par semaine?
 - 35 heures et plus
 - Entre 25 et 34 heures
 - Entre 15 et 24 heures
 - Moins de 15 heures
 - Je ne travail pas
- 5) Quel est le montant de votre revenu brut (avant taxes). Si vous ne travaillez pas, s'il vous plaît indiquez le montant que vous recevez par d'autres moyens (par exemple : l'aide financier, bourses d'études universitaires ou gouvernementales, dons, etc.).
 - Je n'ai pas de revenu financier
 - Moins de \$10 000
 - \$10 000 –\$19 999
 - \$20 000 - \$29 999
 - \$30 000 - \$39 999
 - \$40 000 - \$49 999
 - \$50 000 - \$74 999
 - \$75 000 - \$99 999
 - \$100 000 - \$124 999
 - \$125 000 – \$149 999
 - \$150 000 - \$174 999
 - \$175 000 - \$199 999
 - \$200 000 - \$299 999
 - \$300 000 et plus

APPENDIX B

CONSENT FORMS

CONSENT FORM – ARTICLE 1 & 2 - ENGLISH

TITLE OF THE RESEARCH PROJECT

The links between motivations for making and spending money and psychological well-being.

STUDENT-INVESTIGATOR

Student-Investigator: Lara Manganelli

Program of study: Ph.D. in Industrial and Organizational Psychology

University: Université du Québec à Montréal

Email: manganelli.lara@courrier.uqam.ca

Telephone: 514-554-7937

RESEARCH SUPERVISOR

Research supervisor: Jacques Forest, Ph.D.

Affiliation: Département d'organisations et ressources humaines, Université du Québec à Montréal

Email: forest.jacques@uqam.ca

Telephone: (514) 987-3000 poste 3310

INTRODUCTION

This is to invite you to participate in a research study that involves completing an online questionnaire with the purpose of understanding the ways in which money can lead to well-being. Before accepting to participate in this research project, please take the time to carefully read and understand the information provided in this document.

This consent form will explain the purpose of the study, the procedure and the nature of your participation, as well as the potential advantages, risks and discomforts associated with this study. You will also be provided with the contact information of the research team as well as a member of the ethics committee in the event that you would like to discuss concerns or questions related your participation in the study.

It is possible that this consent form contains words or concepts that may be unfamiliar to you. You should discuss any questions you have about this document and/or the study with a member of the research team.

PROJECT DESCRIPTION AND OBJECTIVES

The main purpose of this research project is to develop an understanding of the process through which money leads to well-being and/or ill-being. In order to do so, we intend to survey a large number of individuals on several psychological factors, such as the motivations to make and spend money, that can have an effect on the link between money and well-being.

NATURE AND LENGTH OF PARTICIPATION

Participation in this study consists of completing an online questionnaire pertaining to your motivations for making and spending money as well as your psychological well-being and ill-being. The time needed to complete the questionnaire is approximately 25 minutes.

ADVANTAGES ASSOCIATED WITH PARTICIPATION

You will not personally benefit from participating in this study. However, your participation will help contribute to the advancement of scientific knowledge concerning the different motivations associated with spending money.

RISKS ASSOCIATED WITH PARTICIPATION

There are no particular risks from participating in this research project. If at any time you feel uncomfortable with the nature of the questions, you can decide to refuse to answer one or several questions without having to justify your decision.

CONFIDENTIALITY

All information collected in this study will remain strictly confidential and your data will only be accessible to members of the research team. Your data will, in no way, be revealed or identifiable during the scientific diffusion of the results. From the onset of data collection, your responses will be coded only under a subject number, without name or any other identifying information. Throughout the entirety of the study, your data as well as your consent form will be stored separately in a safe and secure location in the laboratory of the research supervisor. Your data will be kept for a period of 5 years after the end of the study and will then be destroyed.

VOLUNTARY PARTICIPATION AND DISCONTINUATION

Your participation in this study is completely voluntary and you may withdraw from the study at any time without having to justify your decision and without consequence or penalty to you. If you decide to withdraw from the study, simply contact Lara Manganelli at the telephone number listed above to inform her of your decision. In the event of withdrawal from the study, all your data will be deleted and destroyed.

A decision to participate in this study also implies that you accept that the research team can utilize the information collected in this study to present results (in the form of articles, theses, conferences, and scientific papers), provided that no identifying information is publicly disclosed. You also have the right to request to have your file information and data deleted at any time. However, once the publication process has commenced, it will be impossible to destroy analyses and results linked to your data.

COMPENSATION

No financial compensation will be provided for your participation in this study.

QUESTIONS RELATED TO THE RESEARCH PROJECT?

For any additional questions concerning the research project, your participation in the study, or to withdraw your participation, you can contact a member of the research team: Jacques Forest (514-987-3000 extension 3310, forest.jacques@uqam.ca) and/or Lara Manganelli (514-554-7937, manganelli.lara@courrier.uqam.ca).

Do you have concerns or questions regarding your rights regarding your participation in this study ? The research ethics committee ‘Comité d’éthique de la recherche pour les projets étudiants impliquant des êtres humains (CERPE)’ of the Université du Québec à Montréal has approved the present research project. For any additional information regarding the ethical responsibilities of the research team or to submit a complaint, you can contact the CERPE ethics committee: cerpe4@uqam.ca or at phone number 514-987-3000 extension 4489.

ACKNOWLEDGEMENTS

The research team would like to thank you for your collaboration in this study, as your participation is essential to the realisation of our research project.

CONSENT

I declare that I have read and understood the current research project, the nature and the length of my participation, as well as the risks and inconveniences that I may be exposed to if I decide to participate in the study. I have been given the opportunity to discuss my participation and my questions have been answered to my satisfaction.

I, the undersigned, voluntarily accept to participate in this study. I realize that my participation is voluntary and I am free to withdraw from the study at any time without any consequence. I declare that I have been given enough time to reflect on my decision. By accepting to participate in this study, I renounce none of my rights and I hold the researchers, or the institutions that are involved to their legal and professional obligations.

A signed copy of this consent form must be provided to me.

VIRTUAL SIGNATURE:

[] I accept to participate in this research project.

[] I do not accept to participate in this research project.

Date

RESPONSIBILITIES OF THE RESEARCHER

I, the undersigned, certify that I

- (a) have explained to the participant the terms of the present consent form
- (b) have answered the questions that he/she has asked in this regard
- (c) have clearly indicated that he/she remains at any time, free to end his/her participation from the research project described above.
- (d) will submit a signed and dated copy of this form

Last Name, First Name

Signature

Date (You can print a copy of this consent form to keep for your records.)

CONSENT FORM – ARTICLE 1 & 2 – FRENCH

TITRE DU PROJET DE RECHERCHE

Les liens entres les motivations pour faire et dépenser l'argent et le bien-être psychologique.

ÉTUDIANT-CHERCHEUR

Étudiant-chercheur : Lara Manganelli

Programme d'étude : Doctorat en psychologie industrielle et organisationnelle

Université : Université du Québec à Montréal

Courriel : manganelli.lara@courrier.uqam.ca

Téléphone : 514-554-7937

DIRECTION DE RECHERCHE

Direction de recherche : Jacques Forest, Ph.D.

Affiliation : Département d'organisations et ressources humaines, Université du Québec à Montréal

Courriel : forest.jacques@uqam.ca

Téléphone : (514) 987-3000 poste 3310

PRÉAMBULE

Nous vous demandons de participer à un projet de recherche qui consiste à remplir un questionnaire électronique en ligne visant à comprendre comment l'argent peut mener au bien-être psychologique. Avant d'accepter de participer à ce projet de recherche, veuillez prendre le temps de comprendre et de considérer attentivement les renseignements qui suivent.

Ce formulaire de consentement vous explique le but de cette étude, les procédures, les avantages, les risques et inconvénients, de même que les personnes avec qui communiquer au besoin.

Le présent formulaire de consentement peut contenir des mots et des concepts que vous ne comprenez pas. Nous vous invitons à poser toutes les questions que vous jugerez utiles.

DESCRIPTION DU PROJET ET DE SES OBJECTIFS

Ce projet de recherche vise à développer une compréhension du processus par lequel l'argent peut mener au bien-être et/ou au mal-être. Pour ce faire, nous comptons interroger un grand nombre d'individus sur quelques facteurs psychologiques, telle que la motivation pour faire et dépenser de l'argent, qui pourraient avoir une influence sur la relation entre l'argent et le bien-être.

NATURE ET DURÉE DE VOTRE PARTICIPATION

Votre participation à cette recherche consiste répondre à un questionnaire électronique en ligne sur vos motivations pour faire de et dépenser de l'argent, ainsi que votre bien-être et mal-être psychologique. Le temps requis pour compléter ce questionnaire ne devrait pas dépasser 25 minutes.

AVANTAGES LIÉS À LA PARTICIPATION

Vous ne retirerez personnellement pas d'avantages à participer à cette étude. Toutefois, vous pourrez contribuer à l'avancement de la science en ce qui concerne les connaissances sur la relation entre l'argent et le bien-être.

RISQUES LIÉS À LA PARTICIPATION

Il n'y a pas de risque particulier à participer à ce projet de recherche. Vous demeurez libre de ne pas répondre à une ou plusieurs questions que vous estimez embarrassante, et ce, sans avoir à vous justifier.

CONFIDENTIALITÉ

Il est entendu que les renseignements recueillis dans le cadre de cette étude sont confidentiels et que seuls les membres de l'équipe de recherche auront accès à vos données et ne seront pas dévoilées lors de la diffusion des résultats. Le matériel de recherche ainsi que votre formulaire de consentement seront conservés séparément sous clé au laboratoire du chercheur responsable pour la durée totale du projet. Les données ainsi que les formulaires de consentement seront détruits 5 ans après les dernières communications scientifiques.

PARTICIPATION VOLONTAIRE ET RETRAIT

Votre participation est entièrement libre et volontaire. Vous pouvez refuser d'y participer ou vous retirer en tout temps au cours de cette recherche sans devoir justifier votre décision. Si vous décidez de vous retirer de l'étude, vous n'avez qu'à

communiquer avec la chercheuse, Lara Manganelli, au numéro de téléphone indiqué ci-dessous. Dans ce cas, toutes les données vous concernant seront détruites.

Votre accord à participer implique également que vous acceptez que l'équipe de recherche puisse utiliser aux fins de la présente recherche (articles, mémoires, thèses, conférences, et communications scientifiques) les renseignements recueillis à la condition qu'aucune information permettant de vous identifier ne soit divulguée publiquement. À votre demande, tous les renseignements qui vous concernent pourront aussi être détruits. Cependant, après le déclenchement du processus de publication, il sera impossible de détruire les analyses et les résultats portant sur vos données.

INDEMNITÉ COMPENSATOIRE

Aucune indemnité compensatoire ne sera versée pour votre participation à la présente recherche.

DES QUESTIONS SUR LE PROJET?

Pour toute question additionnelle sur le projet, sur votre participation, ou pour vous retirez du projet, vous pouvez communiquer avec les responsables du projet : Jacques Forest (514-987-3000 poste 3310, forest.jacques@uqam.ca) ainsi que Lara Manganelli (514-554-7937, manganelli.lara@courrier.uqam.ca).

Des questions sur vos droits en tant que participant ? Le Comité d'éthique de la recherche pour les projets étudiants impliquant des êtres humains (CERPE) a approuvé le projet de recherche auquel vous allez participer. Pour des informations concernant les responsabilités de l'équipe de recherche au plan de l'éthique de la recherche avec des êtres humains ou pour formuler une plainte, vous pouvez contacter la coordination du CERPE : cerpe4@uqam.ca ou au numéro de téléphone 514-987-3000 poste 4489.

REMERCIEMENTS

Votre collaboration est essentielle à la réalisation de notre projet et l'équipe de recherche tient à vous en remercier.

CONSENTEMENT

Je déclare avoir lu et compris le présent projet, la nature et l'ampleur de ma participation, ainsi que les risques et les inconvénients auxquels je m'expose tels que présentés dans le présent formulaire. J'ai eu l'occasion de poser toutes les questions concernant les différents aspects de l'étude et de recevoir des réponses à ma satisfaction. Je, soussigné(e), accepte volontairement de participer à cette étude. Je peux me retirer en tout temps sans préjudice d'aucune sorte. Je certifie qu'on m'a laissé le temps voulu pour prendre ma décision. Je comprends qu'en participant à ce projet de recherche, je ne renonce à aucun de mes droits ni ne dégage les chercheurs de leurs responsabilités. Une copie signée de ce formulaire d'information et de consentement doit m'être remise.

SIGNATURE VIRTUELLE :

[] J'accepte de participer à ce projet de recherche.

Je n'accepte pas de participer à ce projet de recherche.

Date

ENGAGEMENT DU CHERCHEUR

Je, soussigné(e) certifie

- (a) avoir expliqué au signataire les termes du présent formulaire;
- (b) avoir répondu aux questions qu'il m'a posées à cet égard;
- (c) lui avoir clairement indiqué qu'il reste, à tout moment, libre de mettre un terme à sa participation au projet de recherche décrit ci-dessus;
- (d) que je lui remettrai une copie signée et datée du présent formulaire.

Prénom Nom

Signature

Date

Vous pouvez imprimer un exemplaire du formulaire d'information et de consentement pour les conserver dans vos dossiers.

CONSENT FORM – ARTICLE 1 (STUDY 3) – EXPERIMENTAL GROUP

TITLE OF THE RESEARCH PROJECT

The effectiveness of a workshop aimed at helping individuals develop a healthier relationship with money.

STUDENT-INVESTIGATOR

Student-Investigator: Lara Manganelli

Program of study: Ph.D. in Industrial and Organizational Psychology

University: Université du Québec à Montréal

Email: manganelli.lara@courrier.uqam.ca

Telephone: 514-554-7937

RESEARCH SUPERVISOR

Research supervisor: Jacques Forest, Ph.D.

Affiliation: Département d'organisations et ressources humaines, Université du Québec à Montréal

Email: forest.jacques@uqam.ca

Telephone: (514) 987-3000 poste 3310

INTRODUCTION

This is to invite you to participate in a research study that involves participating in a workshop aimed at encouraging a psychologically healthier relationship with money.

Before accepting to participate in this research project, please take the time to carefully read and understand the information provided in this document.

This consent form will explain the purpose of the study, the procedure and the nature of your participation, as well as the potential advantages, risks and discomforts associated with this study. You will also be provided with the contact information of the research team as well as a member of the ethics committee in the event that you would like to discuss concerns or questions related your participation in the study.

It is possible that this consent form contains words or concepts that may be unfamiliar to you. You should discuss any questions you have about this document and/or the study with a member of the research team.

PROJECT DESCRIPTION AND OBJECTIVES

The main purpose of this research project is to determine the effectiveness of a workshop which aims to help individuals develop a healthier relationship with money by increasing positive motivations for making money, while decreasing negative ones. It is hoped that by modifying the motivations individuals have for making money, this will have positive effects in terms of well-being and ill-being. The ultimate goal of this research project is to have a positive impact on individuals' lives by providing them with the knowledge and tools needed to experience greater well-being in their dealings with money and finances.

NATURE AND LENGTH OF PARTICIPATION

Participation in this study consists of assisting a 3-hour workshop, which aims to encourage a healthier relationship with money. Participation in this study also consists of completing a questionnaire at two different time points; once before the workshop and a second time one week after your participation in the workshop. The first questionnaire will be provided to you at the beginning of the workshop, while an invitation to you to complete the second one online will be sent to you via email. The time needed to complete the questionnaire is approximately 10 minutes.

ADVANTAGES ASSOCIATED WITH PARTICIPATION

Given that the purpose of this study is to demonstrate the effectiveness of a monetary workshop to promote a healthier relationship with money, it is likely that you will directly benefit from your participation in the study. Through this workshop, you will be provided with information, tools and recommendations, based on scientific research, to help you to increase positive motivations for making and spending the money, while reducing negative motivations. In addition, you will have the opportunity to understanding your own motivations for making money.

RISKS ASSOCIATED WITH PARTICIPATION

There are no particular risks from participating in this research project. However, if at any time you feel uncomfortable with the nature of the questions, you can decide to refuse to answer one or several questions without having to justify your decision. With

regard to the workshop, you remain free to decide not to participate in the workshop or to leave at any moment if you feel uncomfortable with the subjects discussed.

CONFIDENTIALITY

All information collected in this study will remain strictly confidential and your data will only be accessible to members of the research team. Your data will, in no way, be revealed or identifiable during the scientific diffusion of the results. From the onset of data collection, your responses will be coded only under a subject number, without name or any other identifying information. Throughout the entirety of the study, your data as well as your consent form will be stored separately in a safe and secure location in the laboratory of the research supervisor. Your data will be kept for a period of 5 years after the end of the study and will then be destroyed.

VOLUNTARY PARTICIPATION AND DISCONTINUATION

Your participation in this study is completely voluntary and you may withdraw from the study at any time without having to justify your decision and without consequence or penalty to you. If you decide to withdraw from the study, simply contact Lara Manganelli at the telephone number listed above to inform her of your decision. In the event of withdrawal from the study, all your data will be deleted and destroyed.

A decision to participate in this study also implies that you accept that the research team can utilize the information collected in this study to present results (in the form of articles, theses, conferences, and scientific papers), provided that no identifying information is publicly disclosed. You also have the right to request to have your file information and data deleted at any time. However, once the publication process has commenced, it will be impossible to destroy analyses and results linked to your data.

COMPENSATION

No financial compensation will be provided for your participation in this study.

QUESTIONS RELATED TO THE RESEARCH PROJECT?

For any additional questions concerning the research project, your participation in the study, or to withdraw your participation, you can contact a member of the research team: Jacques Forest (514-987-3000 extension 3310, forest.jacques@uqam.ca) and/or Lara Manganelli (514-554-7937, manganelli.lara@courrier.uqam.ca).

Do you have concerns or questions regarding your rights regarding your participation in this study ? The research ethics committee ‘Comité d’éthique de la recherche pour les projets étudiants impliquant des êtres humains (CERPE)’ of the Université du Québec à Montréal has approved the present research project. For any additional information regarding the ethical responsibilities of the research team or to submit a complaint, you can contact the CERPE ethics committee: cerpe4@uqam.ca or at phone number 514-987-3000 extension 4489.

ACKNOWLEDGEMENTS

The research team would like to thank you for your collaboration in this study, as your participation is essential to the realisation of our research project.

CONSENT

I declare that I have read and understood the information contained in this consent form. I declare that I understood the current research project, the nature and the length of my participation, as well as the risks and inconveniences that I may be exposed to if I decide to participate in the study. I have been given the opportunity to discuss my participation and my questions have been answered to my satisfaction.

I, the undersigned, voluntarily accept to participate in this study. I realize that my participation is voluntary and I am free to withdraw from the study at any time without any consequence. I declare that I have been given enough time to reflect on my decision. By accepting to participate in this study, I renounce none of my rights and I hold the researchers, or the institutions that are involved to their legal and professional obligations.

A signed copy of this consent form must be provided to me.

Last Name, First Name

Signature

Date

RESPONSIBILITIES OF THE RESEARCHER

I, the undersigned, certify that I

- (a) have explained to the participant the terms of the present consent form
- (b) have answered the questions that he/she has asked in this regard
- (c) have clearly indicated that he/she remains at any time, free to end his/her participation from the research project described above.
- (d) will submit a signed and dated copy of this form

Last Name, First Name

Signature

Date

CONSENT FORM – ARTICLE 1 (STUDY 3) – CONTROL GROUP

TITLE OF THE RESEARCH PROJECT

The links between motivations for making and spending money and psychological well-being.

STUDENT-INVESTIGATOR

Student-Investigator: Lara Manganelli

Program of study: Ph.D. in Industrial and Organizational Psychology

University: Université du Québec à Montréal

Email: manganelli.lara@courrier.uqam.ca

Telephone: 514-554-7937

RESEARCH SUPERVISOR

Research supervisor: Jacques Forest, Ph.D.

Affiliation: Département d'organisations et ressources humaines, Université du Québec à Montréal

Email: forest.jacques@uqam.ca

Telephone: (514) 987-3000 poste 3310

INTRODUCTION

This is to invite you to participate in a research study that involves completing a questionnaire at 2 time points with the purpose of understanding the ways in which money can lead to well-being. Before accepting to participate in this research project, please take the time to carefully read and understand the information provided in this document.

This consent form will explain the purpose of the study, the procedure and the nature of your participation, as well as the potential advantages, risks and discomforts associated with this study. You will also be provided with the contact information of the research team as well as a member of the ethics committee in the event that you would like to discuss concerns or questions related your participation in the study.

It is possible that this consent form contains words or concepts that may be unfamiliar to you. You should discuss any questions you have about this document and/or the study with a member of the research team.

PROJECT DESCRIPTION AND OBJECTIVES

The main purpose of this research project is to develop an understanding of the psychological factors that might motivate individuals to spend money on certain purchases. In order to do so, we intend to survey a large number of individuals on the ways in which they spend their money and the different motivations they have for making certain purchases. The ultimate goal of this research project is to use this information to help individuals develop a healthier relationship with money.

NATURE AND LENGTH OF PARTICIPATION

Participation in this study consists of completing an online questionnaire at 2 different time points; the first time through a paper and pencil format and a second time one week later through an online questionnaire. The questionnaire pertains to your motivations for making and spending money as well as your psychological well-being and ill-being. The time needed to complete the questionnaire is approximately 25 minutes.

ADVANTAGES ASSOCIATED WITH PARTICIPATION

You will not personally benefit from participating in this study. However, your participating will help contribute to the advancement of scientific knowledge concerning the different motivations associated with spending money.

RISKS ASSOCIATED WITH PARTICIPATION

There are no particular risks from participating in this research project. If at any time you feel uncomfortable with the nature of the questions, you can decide to refuse to answer one or several questions without having to justify your decision.

CONFIDENTIALITY

All information collected in this study will remain strictly confidential and your data will only be accessible to members of the research team. Your data will, in no way, be revealed or identifiable during the scientific diffusion of the results. From the onset of data collection, your responses will be coded only under a subject number, without name or any other identifying information. Throughout the entirety of the study, your data as well as your consent form will be stored separately in a safe and secure location in the laboratory of the research supervisor. Your data will be kept for a period of 5 years after the end of the study and will then be destroyed.

VOLUNTARY PARTICIPATION AND DISCONTINUATION

Your participation in this study is completely voluntary and you may withdraw from the study at any time without having to justify your decision and without consequence or penalty to you. If you decide to withdraw from the study, simply contact Lara Manganeli at the telephone number listed above to inform her of your decision. In the event of withdrawal from the study, all your data will be deleted and destroyed.

A decision to participate in this study also implies that you accept that the research team can utilize the information collected in this study to present results (in the form of articles, theses, conferences, and scientific papers), provided that no identifying information is publicly disclosed. You also have the right to request to have your file information and data deleted at any time. However, once the publication process has commenced, it will be impossible to destroy analyses and results linked to your data.

COMPENSATION

No financial compensation will be provided for your participation in this study.

QUESTIONS RELATED TO THE RESEARCH PROJECT?

For any additional questions concerning the research project, your participation in the study, or to withdraw your participation, you can contact a member of the research team: Jacques Forest (514-987-3000 extension 3310, forest.jacques@uqam.ca) and/or Lara Manganelli (514-554-7937, manganelli.lara@courrier.uqam.ca).

Do you have concerns or questions regarding your rights regarding your participation in this study ? The research ethics committee ‘Comité d’éthique de la recherche pour les projets étudiants impliquant des êtres humains (CERPE)’ of the Université du Québec à Montréal has approved the present research project. For any additional information regarding the ethical responsibilities of the research team or to submit a complaint, you can contact the CERPE ethics committee: cerpe4@uqam.ca or at phone number 514-987-3000 extension 4489.

ACKNOWLEDGEMENTS

The research team would like to thank you for your collaboration in this study, as your participation is essential to the realisation of our research project.

CONSENT

I declare that I have read and understood the information contained in this consent form. I declare that I understood the current research project, the nature and the length of my participation, as well as the risks and inconveniences that I may be exposed to if I decide to participate in the study. I have been given the opportunity to discuss my participation and my questions have been answered to my satisfaction.

I, the undersigned, voluntarily accept to participate in this study. I realize that my participation is voluntary and I am free to withdraw from the study at any time without any consequence. I declare that I have been given enough time to reflect on my decision. By accepting to participate in this study, I renounce none of my rights and I hold the researchers, or the institutions that are involved to their legal and professional obligations. A signed copy of this consent form must be provided to me.

Last Name, First Name

Signature

Date

RESPONSIBILITIES OF THE RESEARCHER

I, the undersigned, certify that I

- (a) have explained to the participant the terms of the present consent form
- (b) have answered the questions that he/she has asked in this regard

(c) have clearly indicated that he/she remains at any time, free to end his/her participation from the research project described above.

(d) will submit a signed and dated copy of this form

Last Name, First Name

Signature

Date

CONSENT FORM – ARTICLE 1 (STUDY 3) – EXPERIMENTAL GROUP –
FRENCH

TITRE DU PROJET DE RECHERCHE

L'efficacité d'une formation visant à développer une relation saine avec l'argent.

ÉTUDIANT-CHERCHEUR

Étudiant-chercheur : Lara Manganelli

Programme d'étude : Doctorat en psychologie industrielle et organisationnelle

Université : Université du Québec à Montréal

Courriel : manganelli.lara@courrier.uqam.ca

Téléphone : 514-554-7937

DIRECTION DE RECHERCHE

Direction de recherche : Jacques Forest, Ph.D.

Affiliation : Département d'organisations et ressources humaines, Université du Québec à Montréal

Courriel : forest.jacques@uqam.ca

Téléphone : (514) 987-3000 poste 3310

PRÉAMBULE

Nous vous demandons de participer à un projet de recherche qui consiste à participer à une formation visant à promouvoir une relation saine avec l'argent. Avant d'accepter de participer à ce projet de recherche, veuillez prendre le temps de comprendre et de considérer attentivement les renseignements qui suivent.

Ce formulaire de consentement vous explique le but de cette étude, les procédures, les avantages, les risques et inconvénients, de même que les personnes avec qui communiquer au besoin.

Le présent formulaire de consentement peut contenir des mots que vous ne comprenez pas. Nous vous invitons à poser toutes les questions que vous jugerez utiles.

DESCRIPTION DU PROJET ET DE SES OBJECTIFS

Ce projet de recherche vise à déterminer l'efficacité d'une formation visant à promouvoir une relation saine avec l'argent en augmentant les bons motifs pour faire l'argent, tout en diminuant les motifs négatifs. Il est espéré qu'en changeant les motifs, des conséquences positives seront activées en lien avec le bien-être et le mal-être psychologique. Le but ultime de ce projet de recherche est d'avoir un impact positif sur la vie des individus en leur permettant de faire et de dépenser de l'argent d'une manière plus saine.

NATURE ET DURÉE DE VOTRE PARTICIPATION

Votre participation à cette recherche consiste à participer à une formation de trois heures visant à promouvoir une relation saine avec l'argent. Votre participation à cette recherche consiste également à répondre à un questionnaire à deux moments différents ; une première fois avant le commencement de la formation et une deuxième fois une semaine après votre participation à la formation. Le premier questionnaire vous sera fourni lors de la formation. Une semaine après la formation, vous serez invité à compléter le questionnaire de manière électronique en ligne. Le temps requis ce questionnaire ne devrait pas dépasser 10 minutes.

AVANTAGES LIÉS À LA PARTICIPATION

Comme le but de cette étude est de démontrer l'efficacité d'une formation monétaire pour promouvoir une relation saine avec l'argent, il est estimé que vous allez directement bénéficier à travers votre participation à l'étude. Lors de votre présence à la formation, vous serez fourni avec de l'information, des outils et des recommandations, basée sur de la recherche scientifique, qui a pour but de vous aider à augmenter des motivations positives à faire et à dépenser de l'argent tout en diminuant les motivations négatives. De plus, vous aurez l'occasion de mieux connaître vos propres motivations pour faire de l'argent.

RISQUES LIÉS À LA PARTICIPATION

Il n'y a pas de risque particulier à participer à ce projet de recherche. Vous demeurez libre de ne pas répondre à une ou plusieurs questions du questionnaire que vous estimez embarrassante, et ce, sans avoir à vous justifier. En ce qui concerne la formation, vous demeurez libre de ne pas participer à la formation, ou de quitter à n'importe quel moment, si vous vous sentez inconfortable avec les sujets abordés.

CONFIDENTIALITE

Il est entendu que les renseignements recueillis dans le cadre de cette étude sont confidentiels et que seuls les membres de l'équipe de recherche auront accès à vos données et ne seront pas dévoilées lors de la diffusion des résultats. Le matériel de recherche ainsi que votre formulaire de consentement seront conservés séparément sous clé au laboratoire du chercheur responsable pour la durée totale du projet. Les données ainsi que les formulaires de consentement seront détruits 5 ans après les dernières communications scientifiques.

PARTICIPATION VOLONTAIRE ET RETRAIT

Votre participation est entièrement libre et volontaire. Vous pouvez refuser d'y participer ou vous retirer en tout temps au cours de cette recherche sans devoir justifier votre décision. Si vous décidez de vous retirer de l'étude, vous n'avez qu'à communiquer avec la chercheuse, Lara Manganelli, au numéro de téléphone indiqué ci-dessous. Dans ce cas, toutes les données vous concernant seront détruites.

Votre accord à participer implique également que vous acceptez que l'équipe de recherche puisse utiliser aux fins de la présente recherche (articles, mémoires, thèses, conférences, et communications scientifiques) les renseignements recueillis à la condition qu'aucune information permettant de vous identifier ne soit divulguée publiquement. À votre demande, tous les renseignements qui vous concernent pourront aussi être détruits. Cependant, après le déclenchement du processus de publication, il sera impossible de détruire les analyses et les résultats portant sur vos données.

INDEMNITÉ COMPENSATOIRE

Aucune indemnité compensatoire ne sera versée pour votre participation à la présente recherche.

DES QUESTIONS SUR LE PROJET?

Pour toute question additionnelle sur le projet, sur votre participation, ou pour vous retirez du projet, vous pouvez communiquer avec les responsables du projet : Jacques Forest (514-987-3000 poste 3310, forest.jacques@uqam.ca) ainsi que Lara Manganelli (514-554-7937, manganelli.lara@courrier.uqam.ca).

Des questions sur vos droits en tant que participant ? Le Comité d'éthique de la recherche pour les projets étudiants impliquant des êtres humains (CERPE) a approuvé le projet de recherche auquel vous allez participer. Pour des informations concernant les responsabilités de l'équipe de recherche au plan de l'éthique de la recherche avec des êtres humains ou pour formuler une plainte, vous pouvez contacter la coordination du CERPE : cerpe4@uqam.ca ou au numéro de téléphone 514-987-3000 poste 4489.

REMERCIEMENTS

Votre collaboration est essentielle à la réalisation de notre projet et l'équipe de recherche tient à vous en remercier.

CONSENTEMENT

Je déclare avoir lu et compris le présent projet, la nature et l'ampleur de ma participation, ainsi que les risques et les inconvénients auxquels je m'expose tels que présentés dans le présent formulaire. J'ai eu l'occasion de poser toutes les questions concernant les différents aspects de l'étude et de recevoir des réponses à ma satisfaction. Je, soussigné(e), accepte volontairement de participer à cette étude. Je peux me retirer en tout temps sans préjudice d'aucune sorte. Je certifie qu'on m'a laissé le temps voulu

pour prendre ma décision. Je comprends qu'en participant à ce projet de recherche, je ne renonce à aucun de mes droits ni ne dégage les chercheurs de leurs responsabilités. Une copie signée de ce formulaire d'information et de consentement doit m'être remise.

Prénom Nom

Signature

Date

ENGAGEMENT DU CHERCHEUR

Je, soussigné(e) certifie

- (a) avoir expliqué au signataire les termes du présent formulaire;
- (b) avoir répondu aux questions qu'il m'a posées à cet égard;
- (c) lui avoir clairement indiqué qu'il reste, à tout moment, libre de mettre un terme à sa participation au projet de recherche décrit ci-dessus;
- (d) que je lui remettrai une copie signée et datée du présent formulaire.

Prénom Nom

Signature

Date

CONSENT FORM –ARTICLE 1 (STUDY 3) – CONTROL GROUP - FRENCH

TITRE DU PROJET DE RECHERCHE

Les liens entre les motivations pour faire et dépenser l'argent et le bien-être psychologique.

ÉTUDIANT-CHERCHEUR

Étudiant-chercheur : Lara Manganelli

Programme d'étude : Doctorat en psychologie industrielle et organisationnelle

Université : Université du Québec à Montréal

Courriel : manganelli.lara@courrier.uqam.ca

Téléphone : 514-554-7937

DIRECTION DE RECHERCHE

Direction de recherche : Jacques Forest, Ph.D.

Affiliation : Département d'organisations et ressources humaines, Université du Québec à Montréal

Courriel : forest.jacques@uqam.ca

Téléphone : (514) 987-3000 poste 3310

PRÉAMBULE

Nous vous demandons de participer à un projet de recherche qui consiste à remplir à deux questionnaires visant à comprendre comment l'argent peut mener au bien-être psychologique. Avant d'accepter de participer à ce projet de recherche, veuillez prendre le temps de comprendre et de considérer attentivement les renseignements qui suivent.

Ce formulaire de consentement vous explique le but de cette étude, les procédures, les avantages, les risques et inconvénients, de même que les personnes avec qui communiquer au besoin.

Le présent formulaire de consentement peut contenir des mots ou des concepts que vous ne comprenez pas. Nous vous invitons à poser toutes les questions que vous jugerez utiles.

DESCRIPTION DU PROJET ET DE SES OBJECTIFS

Ce projet de recherche vise à développer une compréhension du processus par lequel l'argent peut mener au bien-être et/ou au mal-être. Pour ce faire, nous comptons interroger un grand nombre d'individus sur quelques facteurs psychologiques, telle que la motivation pour faire et dépenser de l'argent, qui pourraient avoir une influence sur la relation entre l'argent et le bien-être. Le but ultime de ce projet de recherche est d'utiliser cette information pour aider les individus à développer une relation saine avec l'argent.

NATURE ET DURÉE DE VOTRE PARTICIPATION

Votre participation à cette recherche consiste répondre à un questionnaire à deux moments différents ; une première fois en version papier et une deuxième fois, une semaine après, de manière électronique en ligne. Le questionnaire portera sur vos motivations pour faire et dépenser de l'argent, ainsi que votre bien-être et mal-être psychologique. Le temps requis pour compléter ce questionnaire ne devrait pas dépasser 10 minutes.

AVANTAGES LIÉS A LA PARTICIPATION

Vous ne retirerez personnellement pas d'avantages à participer à cette étude. Toutefois, vous pourrez contribuer à l'avancement de la science en ce qui concerne les connaissances sur la relation entre l'argent et le bien-être.

RISQUES LIÉS À LA PARTICIPATION

Il n'y a pas de risque particulier à participer à ce projet de recherche. Vous demeurez libre de ne pas répondre à une ou plusieurs questions que vous estimez embarrassante, et ce, sans avoir à vous justifier.

CONFIDENTIALITÉ

Il est entendu que les renseignements recueillis dans le cadre de cette étude sont confidentiels et que seuls les membres de l'équipe de recherche auront accès à vos données et ne seront pas dévoilés lors de la diffusion des résultats. Le matériel de recherche ainsi que votre formulaire de consentement seront conservés séparément sous clé au laboratoire du chercheur responsable pour la durée totale du projet. Les données ainsi que les formulaires de consentement seront détruits 5 ans après les dernières communications scientifiques.

PARTICIPATION VOLONTAIRE ET RETRAIT

Votre participation est entièrement libre et volontaire. Vous pouvez refuser d'y participer ou vous retirer en tout temps au cours de cette recherche sans devoir justifier votre décision. Si vous décidez de vous retirer de l'étude, vous n'avez qu'à communiquer avec la chercheuse, Lara Manganelli, au numéro de téléphone indiqué ci-dessous. Dans ce cas, toutes les données vous concernant seront détruites.

Votre accord à participer implique également que vous acceptez que l'équipe de recherche puisse utiliser aux fins de la présente recherche (articles, mémoires, thèses, conférences, et communications scientifiques) les renseignements recueillis à la condition qu'aucune information permettant de vous identifier ne soit divulguée publiquement. À votre demande, tous les renseignements qui vous concernent pourront aussi être détruits. Cependant, après le déclenchement du processus de publication, il sera impossible de détruire les analyses et les résultats portant sur vos données.

INDEMNITÉ COMPENSATOIRE

Aucune indemnité compensatoire ne sera versée pour votre participation à la présente recherche.

DES QUESTIONS SUR LE PROJET?

Pour toute question additionnelle sur le projet, sur votre participation, ou pour vous retirez du projet, vous pouvez communiquer avec les responsables du projet : Jacques Forest (514-987-3000 poste 3310, forest.jacques@uqam.ca) ainsi que Lara Manganelli (514-554-7937, manganelli.lara@courrier.uqam.ca).

Des questions sur vos droits en tant que participant ? Le Comité d'éthique de la recherche pour les projets étudiants impliquant des êtres humains (CERPE) a approuvé le projet de recherche auquel vous allez participer. Pour des informations concernant les responsabilités de l'équipe de recherche au plan de l'éthique de la recherche avec des êtres humains ou pour formuler une plainte, vous pouvez contacter la coordination du CERPE : cerpe4@uqam.ca ou au numéro de téléphone 514-987-3000 poste 4489.

REMERCIEMENTS

Votre collaboration est essentielle à la réalisation de notre projet et l'équipe de recherche tient à vous en remercier.

CONSENTEMENT

Je déclare avoir lu et compris le présent projet, la nature et l'ampleur de ma participation, ainsi que les risques et les inconvénients auxquels je m'expose tels que présentés dans le présent formulaire. J'ai eu l'occasion de poser toutes les questions concernant les différents aspects de l'étude et de recevoir des réponses à ma satisfaction. Je, soussigné(e), accepte volontairement de participer à cette étude. Je peux me retirer en tout temps sans préjudice d'aucune sorte. Je certifie qu'on m'a laissé le temps voulu pour prendre ma décision. Je comprends qu'en participant à ce projet de recherche, je ne renonce à aucun de mes droits ni ne dégage les chercheurs de leurs responsabilités. Une copie signée de ce formulaire d'information et de consentement doit m'être remise.

Prénom Nom

Signature

Date

ENGAGEMENT DU CHERCHEUR

Je, soussigné(e) certifie

- (a) avoir expliqué au signataire les termes du présent formulaire;
- (b) avoir répondu aux questions qu'il m'a posées à cet égard;
- (c) lui avoir clairement indiqué qu'il reste, à tout moment, libre de mettre un terme à sa participation au projet de recherche décrit ci-dessus;
- (d) que je lui remettrai une copie signée et datée du présent formulaire.

Prénom Nom

Signature

Date

APPENDIX C

ETHICS

CERTIFICAT D'APPROBATION ÉTHIQUE

Le Comité d'éthique de la recherche pour les projets étudiants impliquant des êtres humains (CERPE 4: sciences humaines) a examiné le projet de recherche suivant et le juge conforme aux pratiques habituelles ainsi qu'aux normes établies par la *Politique No 54 sur l'éthique de la recherche avec des êtres humains* (Janvier 2016) de l'UQAM.

Titre du projet:	L'efficacité d'une intervention psychologique visant à encourager une relation saine avec l'argent basée sur la théorie de l'autodétermination.
Nom de l'étudiant:	Lara MANGANELLI
Programme d'études:	Doctorat en psychologie (profil scientifique-professionnel)
Direction de recherche:	Jacques FOREST

Modalités d'application

Toute modification au protocole de recherche en cours de même que tout événement ou renseignement pouvant affecter l'intégrité de la recherche doivent être communiqués rapidement au comité.

La suspension ou la cessation du protocole, temporaire ou définitive, doit être communiquée au comité dans les meilleurs délais.

Le présent certificat est valide pour une durée d'un an à partir de la date d'émission. Au terme de ce délai, un rapport d'avancement de projet doit être soumis au comité, en guise de rapport final si le projet est réalisé en moins d'un an, et en guise de rapport annuel pour le projet se poursuivant sur plus d'une année. Dans ce dernier cas, le rapport annuel permettra au comité de se prononcer sur le renouvellement du certificat d'approbation éthique.



Thérèse Bouffard
Présidente du CERPE 4 : Faculté des sciences humaines
Professeure, Département de psychologie

AVIS FINAL DE CONFORMITÉ

Titre du projet:	L'efficacité d'une intervention psychologique visant à encourager une relation saine avec l'argent basée sur la théorie de l'autodétermination.
Nom de l'étudiant:	Lara MANGANELLI
Programme d'études:	Doctorat en psychologie (profil scientifique-professionnel)
Direction de recherche:	Jacques FOREST

Objet : Fin du projet

Bonjour,

Le Comité d'éthique de la recherche pour les projets étudiants impliquant des êtres humains (CERPE FSH) a bien reçu votre rapport éthique final et vous en remercie. Ce rapport répond de manière satisfaisante aux attentes du comité.

Merci de bien vouloir inclure une copie du présent document et de votre certificat d'approbation éthique en annexe de votre travail de recherche.

Les membres du CERPE FSH vous félicitent pour la réalisation de votre recherche et vous offrent leurs meilleurs vœux pour la suite de vos activités.

Cordialement,



Anne-Marie Parisot

Professeure, Département de linguistique

Présidente du CERPÉ FSH

BIBLIOGRAPHY

- Adie, J. W., Duda, J. L., & Ntoumanis, N. (2008). Autonomy support, basic need satisfaction and the optimal functioning of adult male and female sport participants: A test of basic needs theory. *Motivation and Emotion*, 32(3), 189-199.
- Akaike, H. (1987). Factor analysis and AIC. In *Selected papers of Hirotugu Akaike* (pp. 371-386). Springer, New York, NY.
- Aknin, L. B., Barrington-Leigh, C. P., Dunn, E. W., Helliwell, J. F., Burns, J., Biswas-Diener, R., ... & Norton, M. I. (2013). Prosocial spending and well-being: Cross-cultural evidence for a psychological universal. *Journal of Personality and Social Psychology*, 104(4), 635.
- Aknin, L., Dunn, E., & Norton, M. I. (2012). Happiness runs in a circular motion: Evidence for a positive feedback loop between prosocial spending and happiness. *Journal of Happiness Studies*, 13, 347-355.
- Aknin, L. B., Hamlin, J. K., & Dunn, E. W. (2012). Giving leads to happiness in young children. *PLoS one*, 7(6), 1-4.
- Aknin, L. B., Wiwad, D., & Hanniball, K. B. (2018). Buying well - being: Spending behavior and happiness. *Social and Personality Psychology Compass*, 12(5), 1-12.

- Aknin, B., Whillans, A. V., Norton, M. I., & Dunn, E. W. (2019). Happiness and Prosocial Behavior: An Evaluation of the Evidence. World Happiness Report (2019).
- American Psychological Association. (2015). Stress in America: Paying with our health.
- Arbuckle, J. L. (2014). Amos (Version 23.0) [Computer Program]. Chicago: IBM SPSS.
- Arthaud-Day, M. L., & Near, J. P. (2005). The wealth of nations and the happiness of nations: Why “accounting” matters. *Social Indicators Research*, 74, 511–548.
- Bartholomew, K. J., Ntoumanis, N., Cuevas, R., & Lonsdale, C. (2014). Job pressure and ill-health in physical education teachers: The mediating role of psychological need thwarting. *Teaching and Teacher Education*, 37, 101–107. doi:10.1016/j.tate.2013.10.006.
- Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., Bosch, J. A., & Thøgersen-Ntoumani, C. (2011a). Self-determination theory and diminished functioning: The role of interpersonal control and psychological need thwarting. *Personality and Social Psychology Bulletin*, 37, 1459–1473. doi:10.1177/0146167211413125.
- Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., & Thøgersen-Ntoumani, C. (2011b). Psychological need thwarting in the sport context: Assessing the darker side of athletic experience. *Journal of Sport & Exercise Psychology*, 33, 75–102. doi:10.1037/t00804-000.

- Benessaieh, K. (2017). *Endettement des Québécois Une Bombe à Retardement*. La Presse. Retrieved from http://plus.lapresse.ca/screens/0b2d4683-ca23-4bef-aad18bc8b3836f86__7C__G2eoB0yN8t67.html
- Blanchflower, D. G., & Oswald, A. J. (2011). International happiness: A new view on the measure of performance. *The Academy of Management Perspectives*, 25(1), 6–22.
- Briggs, E., Landry, T., & Wood, C. (2007). Beyond just being there: An examination of the impact of attitudes, materialism, and self-esteem on the quality of helping behavior in youth volunteers. *Journal of Nonprofit & Public Sector Marketing*, 18(2), 27-45.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Newbury Park, CA: Sage.
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data?. *Perspectives on psychological science*, 6(1), 3-5.
- Burke, R. J. (2004). Workaholism, self-esteem, and motives for money. *Psychological Reports*, 94, 457–463. doi:10.2466/PRO.94.2.457-463.
- Burroughs, J. E., Chaplin, L. N., Pandelaere, M., Norton, M. I., Ordabayeva, N., Gunz, A., & Dinauer, L. (2013). Using motivation theory to develop a transformative consumer research agenda for reducing materialism in society. *Journal of Public Policy & Marketing*, 32, 18-31.

- Burroughs, J. E., & Rindfleisch, A. (2002). Materialism and well-being: A conflicting values perspective. *Journal of Consumer research*, 29(3), 348-370.
- Byrne, B. M. (2012). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. New York: Routledge Academic.
- Caprariello, P. A., & Reis, H. T. (2013). To do, to have, or to share? Valuing experiences over material possessions depends on the involvement of others. *Journal of personality and social psychology*, 104(2), 199.
- Carter, T. J., & Gilovich, T. (2010). The relative relativity of material and experiential purchases. *Journal of personality and social psychology*, 98(1), 146.
- Carter, T. J., & Gilovich, T. (2012). I am what I do, not what I have: The differential centrality of experiential and material purchases to the self. *Journal of personality and social psychology*, 102(6), 1304.
- Carver, C. S., & Baird, E. (1998). The American dream revisited: Is it what you want or why you want it that matters? *Psychological Science*, 9, 289–292. doi:10.1111/1467-9280.00057.
- Carver, A. B., & McCarty, J. A. (2013). Personality and psychographics of three types of gamblers in the United States. *International Gambling Studies*, 13(3), 338-355.
- Chan, D. (2009). So why ask me? Are self-report data really that bad? In C. E. Lance & R. J. Vandenberg (Eds.), *Statistical and methodological myths and urban legends: Doctrine, verity and fable in the organizational and social sciences* (pp. 309–336). New York, NY: Routledge.

- Chan, C., & Mogilner, C. (2017). Experiential gifts foster stronger social relationships than material gifts. *Journal of Consumer Research*, 43(6), 913-931.
- Chang, L., & Arkin, R. M. (2002). Materialism as an attempt to cope with uncertainty. *Psychology & Marketing*, 19(5), 389-406.
- Chen, B., Van Assche, J., Vansteenkiste, M., Soenens, B., & Beyers, W. (2014). Does psychological need satisfaction matter when environmental or financial safety are at risk? *Journal of Happiness Studies*, 16:745-766. DOI 10.1007/s10902-014-9532-5
- Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Van der Kaap-Deeder, J., ... & Ryan, R. M. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion*, 39(2), 216-236.
- Chen, Y., Yao, M., & Yan, W. (2014). Materialism and well-being among Chinese college students: The mediating role of basic psychological need satisfaction. *Journal of Health Psychology*, 19(10), 1232–1240.
- Chirkov, V. I., Sheldon, K. M., & Ryan, R. M. (2011). Introduction: The struggle for happiness and autonomy in cultural and personal contexts: An overview. In *Human autonomy in cross-cultural context* (pp. 1-30). Springer, Dordrecht.
- Choi, N. G., DiNitto, D. M., & Kim, J. (2014). Discrepancy between chronological age and felt age: Age group difference in objective and subjective health as correlates. *Journal of Aging and Health*, 26(3), 458-473.

- Christopher, A. N., & Schlenker, B. R. (2004). Materialism and affect: The role of self-presentational concerns. *Journal of Social and Clinical Psychology, 23*(2), 260-272.
- Clark, M. S., Greenberg, A., Hill, E., Lemay, E. P., Clark-Polner, E., & Roosth, D. (2011). Heightened interpersonal security diminishes the monetary value of possessions. *Journal of Experimental Social Psychology, 47*(2), 359-364.
- Clingingsmith, D. (2016). Negative emotions, income, and welfare: Causal estimates from the PSID. *Journal of Economic Behavior & Organization, 130*, 1-19.
- Cole, J. C., Rabin, A. S., Smith, T. L., & Kaufman, A. S. (2004). Development and validation of a Rasch-derived CES-D short form. *Psychological Assessment, 16*, 360–372. doi:10.1037/1040-3590.16.4.360.
- Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology, 25*(3), 325–334. doi:10.1007/s10869-010-9181-6.
- Csikszentmihalyi, M., & Rochberg-Halton, E. (1981). *The meaning of things: Domestic symbols and the self*. Cambridge, England: Cambridge University Press.
- Cummins, R. A. (2000). Personal income and subjective well-being: A review. *Journal of Happiness Studies, 1*, 133–158.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227–268. doi:10.1207/S15327965PLI1104_01.

- Deci, E. L. & Ryan, R. M. (2000). Self-Determination Theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.
- Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist*, 55, 34–43.
- Diener, E., & Biswas-Diener, R. (2002). Will money increase subjective well-being? A literature review and guide to needed research. *Social Indicators Research*, 57, 119-169.
- Diener, E., Kahneman, D., Arora, R., Harter, J., & Tov, W. (2009). Income's Differential Influence on Judgments of Life Versus Affective Well-Being. In *Assessing well-being* (pp. 233-246). Springer, Dordrecht.
- Diener, E., Ng, W., Harter, J., & Arora, R. (2010). Wealth and happiness across the world: Material prosperity predicts life evaluation, whereas psychosocial prosperity predicts positive feeling. *Journal of personality and social psychology*, 99(1), 52.
- Diener, E., Oishi, S., & Lucas, R. E. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual Reviews of Psychology*, 54, 403–425.
- Diener, E. & Seligman, M. E. P. (2004). Beyond money: Toward an economy of well-being. *Psychological Science in the Public Interest*, 5(1), 1-31.

- Diener, E., Tay, L., & Oishi, S. (2013). Rising income and the subjective well-being of nations. *Journal of Personality and Social Psychology*, 104(2), 267. doi:10.1037/a0030487.
- Dittmar, H., Bond, R., Hurst, M., & Kasser, T. (2014). The relationship between materialism and personal well-being: A meta-analysis. *Journal of personality and social psychology*, 107(5), 879.
- Donnelly, G., Iyer, R., & Howell, R. T. (2012). The big five personality traits, material values, and financial well-being of self-described money managers. *Journal of Economic Psychology*, 33(6), 1129-1142.
- Donnelly, G., Ksendzova, M., & Howell, R. T. (2013). Sadness, identity, and plastic in over-shopping: The interplay of materialism, poor credit management, and emotional buying motives in predicting compulsive buying. *Journal of Economic Psychology*, 39, 113-125.
- Duan, J., & Dholakia, R. R. (2018). How Purchase Type Influences Consumption-Related Posting Behavior on Social Media: The Moderating Role of Materialism. *Journal of Internet Commerce*, 17(1), 64-80.
- Dunn, E. W., Aknin, L. B., & Norton, M. I. (2008). Spending money on others promotes happiness. *Science*, 319, 1687-1688.
- Dunn, E. W., Ashton-James, C. E., Hanson, M. D., & Aknin, L. B. (2010). On the costs of self-interested economic behavior: How does stinginess get under the skin?. *Journal of Health Psychology*, 15(4), 627-633.

- Dunn, E. W., Gilbert, D. T., & Wilson, T. D. (2011). If money doesn't make you happy, then you probably aren't spending it right. *Journal of Consumer Psychology*, 21(2), 115-125.
- Duriez, B., Vansteenkiste, M., Soenens, B., & De Witte, H. (2007). The social costs of extrinsic relative to intrinsic goal pursuits: Their relation with social dominance and racial and ethnic prejudice. *Journal of Personality*, 75(4), 757–782. <https://doi.org/10.1111/j.1467-6494.2007.00456.x>
- Fournier, S., & Richins, M. L. (1991). Some theoretical and popular notions concerning materialism. *Journal of Social Behavior and Personality*, 6(6), 403–414.
- Frey, B. S., & Stutzer, A. (2000). Happiness, economy and institutions. *The Economic Journal*, 110(466), 918-938.
- Gagné, M., & Deci, E. L. (2005). Self - determination theory and work motivation. *Journal of Organizational behavior*, 26(4), 331-362.
- Gagné, M., Forest, J., Vansteenkiste, M., Crevier-Braud, L., Van den Broeck, A., Aspeli, A. K., et al. (2015). The Multidimensional Work Motivation Scale: Validation evidence in seven languages and nine countries. *European Journal of Work and Organizational Psychology*, 24(2), 178–196. doi:10.1080/1359432x.2013. 877892.
- Gardarsdóttir, R. B., Dittmar, H., & Aspinall, C. (2009). It's not the money, it's the quest for a happier self: The role of happiness and success motives in the link between financial goals and subjective well-being. *Journal of Social and Clinical Psychology*, 28, 1100–1127. doi:10.1521/jscp.2009.28.9.1100.

- Gardarsdóttir, R., Jankovic, J., & Dittmar, H. (2008). Is this as good as it gets? Materialistic values and well-being. In H. Dittmar (Ed.), *Consumer culture, identity and well-being: The search for the 'good life' and the 'body perfect'* (pp. 71–94). Hove and New York: Psychology Press.
- George, D. & Mallery, M. (2010). *SPSS for windows step by step: A simple study guide and reference, 17.0 update, 10/e*. Boston: Pearson.
- Ger, G., & Belk, R. W. (1999). Accounting for materialism in four cultures. *Journal of Material Culture*, 4(2), 183-204.
- Gillet, N., Fouquereau, E., Forest, J., Brunault, P., & Colombat, P. (2012). The impact of organizational factors on psychological needs and their relations with well-being. *Journal of Business Psychology*, 27, 437-450.
- Gilovich, T, Gallo, I. (2019). Consumers' pursuit of material and experiential purchases: A review. *Consumer Psychology Review*. 2019; 00, 1-14.
- Gilovich, T., Kumar, A., & Jampol, L. (2015). A wonderful life: Experiential consumption and the pursuit of happiness. *Journal of Consumer Psychology*, 25(1), 152-165.
- Grouzet, F. M., Kasser, T., Ahuvia, A., Dols, J. M. F., Kim, Y., Lau, S., ... & Sheldon, K. M. (2005). The structure of goal contents across 15 cultures. *Journal of personality and social psychology*, 89(5), 800.
- Guevarra, D. A., & Howell, R. T. (2015). To have in order to do: Exploring the effects of consuming experiential products on well-being. *Journal of Consumer Psychology*, 25(1), 28-41.

- Gunnell, K. E., Crocker, P. R. E., Wilson, P. M., Mack, D. E., & Zumbo, B. D. (2013). Psychological need satisfaction and thwarting: A test of basic psychological needs theory in physical activity contexts. *Psychology of Sport and Exercise*, 14, 599–607.
- Gunzler, D., Chen, T., Wu, P., & Zhang, H. (2013). Introduction to mediation analysis with structural equation modeling. *Shanghai archives of psychiatry*, 25(6), 390–394. <https://doi.org/10.3969/j.issn.1002-0829.2013.06.009>
- Harbaugh, W. T., Mayr, U., & Burghart, D. R. (2007). Neural responses to taxation and voluntary giving reveal motives for charitable donations. *Science*, 316, 1622–1625.
- Harman, H. H. (1960). *Modern factor analysis*. Oxford, England: Univ. of Chicago Press.
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]. Retrieved from <http://www.afhayes.com/public/process2012.pdf>
- Helliwell, J. F., Huang, H., & Wang, S. (2017). The social foundations of world happiness. *World happiness report*, 8.
- Henderson-King, D., & Brooks, K. D. (2009). Materialism, sociocultural appearance messages, and paternal attitudes predict college women's attitudes about cosmetic surgery. *Psychology of Women Quarterly*, 33(1), 133-142. doi:10.1016/j.psychsport.2013.03.007.

- Hill, G. & Howell, R. T. (2014). Moderators and mediators of pro-social spending and well-being: The influence of values and psychological need satisfaction. *Personality and Individual Differences*, 69, 69-74.
- Hofer, J., & Busch, H. (2011). Satisfying one's needs for competence and relatedness consequent domain-specific well-being depends on strength of implicit motives. *Personality and Social Psychology Bulletin*, 37(9), 1147–1158. doi:10.1177/0146167211408329.
- Hogan, R. & Blake, R. (1996). Vocational interests: Matching self-concept with the work environment. In K.R. Murphy (Ed.), *Behavior in organizations* (pp. 89-144). San Francisco: Jossey-Bass.
- Hogan, J., & Hogan, R. (1996). *Motives, values, preferences inventory manual*. Tulsa, OK: Hogan Assessment Systems
- Hope, N. H., Milyavskaya, M., Holding, A. C., & Koestner, R. (2014). Self-growth in the college years: Increased importance of intrinsic values predicts resolution of identity and intimacy stages. *Social psychological and personality science*, 5(6), 705-712.
- Howell, R. T., & Hill, G. (2009). The mediators of experiential purchases: Determining the impact of psychological needs satisfaction and social comparison. *The Journal of Positive Psychology*, 4(6), 511-522. doi: 10.1080/17439760903270993.
- Howell, R. T., & Howell, C. J. (2008). The relation of economic status to subjective well-being in developing countries: a meta-analysis. *Psychological bulletin*, 134(4), 536.

- Howell, R. T., Kurai, M., & Tam, L. (2013). Money buys financial security and psychological need satisfaction: Testing need theory in affluence. *Social Indicators Research*, 110(1), 17-29.
- Hoyle, R. H. (1995). *Structural equation modeling: Concepts, issues, and applications*. Thousand Oaks, CA: Sage Publications.
- Hu, L.-T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. doi:10.1080/10705519909540118.
- Hurst, M., Dittmar, H., Bond, R., & Kasser, T. (2013). The relationship between materialistic values and environmental attitudes and behaviors: A meta - analysis. *Journal of Environmental Psychology*, 36, 257 - 269. <https://doi.org/10.1016/j.jenvp.2013.09.003>
- Jebb, A. T., Tay, L., Diener, E., & Oishi, S. (2018). Happiness, income satiation and turning points around the world. *Nature Human Behaviour*, 2(1), 33.
- Kahneman, D., & Deaton, A. (2010). High income improves evaluation of life but not emotional well-being. *Proceedings of the national academy of sciences*, 107(38), 16489-16493.
- Kahneman, D., Krueger, A. B., Schkade, D., Schwarz, N., & Stone, A. A. (2006). Would you be happier if you were richer? A focusing illusion. *Science*, 312, 1908–1910. doi:10.1126/science.1129688
- Kamal, S., Chu, S. C., & Pedram, M. (2013). Materialism, attitudes, and social media usage and their impact on purchase intention of luxury fashion goods among

- American and Arab young generations. *Journal of Interactive Advertising*, 13(1), 27-40.
- Karabati, S., & Cemalcilar, Z. (2010). Values, materialism, and well-being: A study with Turkish university students. *Journal of Economic Psychology*, 31(4), 624-633.
- Kasser, T. (2002). Sketches for a self-determination theory of values. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 123-140). Rochester, NY: University Of Rochester Press.
- Kasser, T. (2016). Materialistic values and goals. *Annual review of psychology*, 67, 489-514.
- Kasser, T., Rosenblum, K. L., Sameroff, A. J., Deci, E. L., Niemiec, C. P., Ryan, R. M., ... & Hawks, S. (2014). Changes in materialism, changes in psychological well-being: Evidence from three longitudinal studies and an intervention experiment. *Motivation and Emotion*, 38(1), 1-22.
- Kasser, T., & Ryan, R. M. (1993). A dark side of the American dream: Correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology*, 65, 410–422. doi:10.1037//0022-3514.65.2.410.
- Kasser, T., & Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin*, 22, 280–287. doi:10.1177/0146167296223006.

- Kasser, T., & Ryan, R. M. (2001). Be careful what you wish for: Optimal functioning and the relative attainment of intrinsic and extrinsic goals. *Life goals and well-being: Towards a positive psychology of human striving*, 1, 116-131.
- Kenny, D. A. (2012). Multiple latent variable models: Confirmatory factor analysis. Davidakenny.net Retrieved August1, 2020.
- Kim, H., Callan, M. J., Gheorghiu, A. I., & Matthews, W. J. (2017). Social comparison, personal relative deprivation, and materialism. *British Journal of Social Psychology*, 56(2), 373-392.
- Kline R. (1998). *Principles and Practice of Structural Equation Modeling*. New York, NY: Guilford Press.
- Kumar, A., Killingsworth, M. A., & Gilovich, T. (2014). Waiting for Merlot: Anticipatory consumption of experiential and material purchases. *Psychological science*, 25(10), 1924-1931.
- Kushlev, K., Dunn, E. W., & Lucas, R. E. (2015). Higher income is associated with less daily sadness but not more daily happiness. *Social Psychological and Personality Science*, 6(5), 483-489.
- Lasaleta, J. D., Sedikides, C., & Vohs, K. D. (2014). Nostalgia weakens the desire for money. *Journal of Consumer Research*, 41(3), 713-729.
- Lavigne, G. L., Vallerand, R. J., & Crevier-Braud, L. (2011). The fundamental need to belong: On the distinction between growth and deficit-reduction orientations. *Personality and Social Psychology Bulletin*, 37(9), 1185–1201. doi:10.1177/0146167211405995.

- Lekes, N., Hope, N. H., Gouveia, L., Koestner, R., & Philippe, F. L. (2012). Influencing value priorities and increasing well-being: The effects of reflecting on intrinsic values. *The Journal of Positive Psychology, 7*(3), 249-261.
- Li, J., Lu, M., Xia, T., & Guo, Y. (2018). Materialism as compensation for self-esteem among lower-class students. *Personality and Individual Differences, 131*, 191-196.
- Lim, V. K., & Sng, Q. S. (2006). Does parental job insecurity matter? Money anxiety, money motives, and work motivation. *Journal of Applied Psychology, 91*(5), 1078–1087. doi:10.1037/0021-9010.91.5.1078.
- Lever, J. P., Pinol, N. L., & Uralde, J. H. (2005). Poverty, psychological resources and subjective well-being. *Social Indicators Research, 73*(3), 375-408.
- MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological methods, 1*(2), 130.
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research, 39*(1), 99–128. doi:10.1207/s15327906mbr3901_4.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*, 370–396.
- Mathur, A. (2013). Materialism and charitable giving: Can they co - exist?. *Journal of Consumer Behaviour, 12*(3), 149-158.

- Millar, M., & Thomas, R. (2009). Discretionary activity and happiness: The role of materialism. *Journal of Research in Personality*, 43(4), 699–702. DOI: 10.1016/j.jrp.2009.03.012
- Moldes, O., Banerjee, R., Easterbrook, M. J., Harris, P. R., & Dittmar, H. (2019). Identity changes and well-being gains of spending money on material and experiential consumer products. *Journal of Economic Psychology*, 72(C), 229-244.
- Moldes, O., & Ku, L. (2020). Materialistic cues makes us miserable: A meta - analysis of the experimental evidence for the effects of materialism on individual and societal well - being. *Psychology & Marketing*.
- Nagpaul, T., & Pang, J. S. (2017). Materialism lowers well - being: The mediating role of the need for autonomy - correlational and experimental evidence. *Asian Journal of Social Psychology*, 20(1), 11-21.
- Nicolao, L., Irwin, J. R., & Goodman, J. K. (2009). Happiness for sale: Do experiential purchases make consumers happier than material purchases? *Journal of Consumer Research*, 36, 188-198.
- Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2009). The path taken: Consequences of attaining intrinsic and extrinsic aspirations in post-college life. *Journal of research in personality*, 43(3), 291-306. doi: 10.1016/j.jrp.2008.09.001.
- Ng, J. Y., Ntoumanis, N., Thøgersen-Ntoumani, C., Deci, E. L., Ryan, R. M., Duda, J. L., & Williams, G. C. (2012). Self-determination theory applied to health contexts: A meta-analysis. *Perspectives on Psychological Science*, 7(4), 325-340.

- Olafsen, A. H., Deci, E. L., & Halvari, H. (2018). Basic psychological needs and work motivation: A longitudinal test of directionality. *Motivation and Emotion*, 42(2), 178-189.
- Paolacci, G., Chandler, J., & Ipeirotis, P. G. (2010). Running experiments on amazon mechanical Turk. *Judgment and Decision making*, 5(5), 411-419.
- Park, J. K., & John, D. R. (2011). More than meets the eye: The influence of implicit and explicit self-esteem on materialism. *Journal of consumer psychology*, 21(1), 73-87.
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539–569. doi:10.1146/annurev-psych-120710-100452.
- Poloz, S. (2018, May 1). Canada's Economy and Household Debt: How Big Is the Problem? Bank of Canada. Retrieved from <https://www.bankofcanada.ca/2018/05/canada-economy-household-debt-how-big-the-problem/>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. doi:10.3758/BRM.40.3.879.
- Prochaska, J. O., & DiClemente, C. C. (1983). Stages and processes of self-change of smoking: toward an integrative model of change. *Journal of consulting and clinical psychology*, 51(3), 390.

- Richins, M. L. (2011). Materialism, transformation expectations, and spending: Implications for credit use. *Journal of Public Policy & Marketing*, 30(2), 141-156.
- Richins, M., & Dawson, S. (1992). A consumer values orientation for materialism and its measurement—Scale development and validation. *Journal of Consumer Research*, 19, 303–316. DOI:10.1086/209304.
- Robak, R. W., Chiffrieller, S. H., & Zappone, M. C. (2007). College students' motivations for money and subjective well-being. *Psychological reports*, 100(1), 147-156.
- Rochberg-Halton, E. (1986). *Meaning and modernity: Social theory in the pragmatic attitude*. Chicago, IL: University of Chicago Press.
- Rosenzweig, E., & Gilovich, T. (2012). Buyer's remorse or missed opportunity? Differential regrets for material and experiential purchases. *Journal of personality and social psychology*, 102(2), 215.
- Rucker, D. D., & Galinsky, A. D. (2008). Desire to acquire: Powerlessness and compensatory consumption. *Journal of Consumer Research*, 35(2), 257-267.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68–78. DOI: 10.1037/ 0003-066X.55.1.68.
- Sacks, D. W., Stevenson, B., & Wolfers, J. (2012). The new stylized facts about income and subjective well-being. *Emotion*, 12(6), 1181. doi:10.1037/a0029873.

- Schumacher, R. E., & Lomax, R. G. (1996a). *A beginner's guide to SEM*. New Jersey: Mahwah.
- Schumacher, R. E., & Lomax, R. G. (1996b). *A beginner's guide to structural equation modeling*. New Jersey: Lawrence Erlbaum Associates, Publishers.
- Scott, K. (2009). *Terminal materialism vs. instrumental materialism: Can materialism be beneficial?* (Doctoral dissertation, Oklahoma State University).
- Sheldon, K. M., Arndt, J., & Houser - Marko, L. (2003). In search of the organismic valuing process: The human tendency to move towards beneficial goal choices. *Journal of Personality*, 71(5), 835-869.
- Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology*, 76(3), 482–497. doi:10.1037/0022-3514.76.3.482.
- Sheldon, K. M., Cheng, C., & Hilpert, J. (2011). Understanding wellbeing and optimal functioning: Applying the Multilevel Personality in Context (MPIC) model. *Psychological Inquiry*, 22(1), 1–16. doi:10.1080/1047840x.2011.532477.
- Sheldon, K. M., & Hilpert, J. C. (2012). The Balanced Measure of Psychological Needs (BMPN) scale: An alternative domain general measure of need satisfaction. *Motivation and Emotion*, 36, 439–451. doi:10.1007/s11031-012-9279-4.
- Sheldon, K. M., & Kasser, T. (1995). Coherence and congruence: Two aspects of personality integration. *Journal of personality and social psychology*, 68(3), 531.

- Sheldon, K. M., & Kasser, T. (2008). Psychological threat and extrinsic goal striving. *Motivation and Emotion, 32*(1), 37-45.
- Sheldon, K. M., Turban, D. B., Brown, K. G., Barrick, M., & Judge, T. A. (2003). Applying self-determination theory to organizational research. In: Martocchio, J. J., Ferris, G. R. (eds). *Research in Personnel and Human Resource Management, 22*, 357-394.
- Shrum, L. J., Lowrey, T. M., Pandelaere, M., Ruvio, A. A., Gentina, E., Furchheim, P., . . . Steinfield, L. (2014). Materialism: The good, the bad, and the ugly. *Journal of Marketing Management, 30*, 1858–1881. doi:10.1080/0267257X.2014.959985
- Solberg, E. C., Diener E., & Robinson M. D.(2004). Why are materialists less satisfied? In *Psychology and Consumer Culture: The Struggle for a Good Life in a Materialistic World*, ed. T Kasser, AD Kanner, pp. 29–48. Washington, DC: Am. Psychol. Assoc.
- Srivastava, A., Locke, E. A., & Bartol, K. M. (2001). Money and subjective well-being: It's not the money, it's the motives. *Journal of Personality and Social Psychology, 80*, 959–971. doi:10.1037//0022-3514.80.6.959.
- Stebbing, J., Taylor, I. M., Spray, C. M., & Ntoumanis, N. (2012). Antecedents of perceived coach interpersonal behaviors: The coaching environment and coach psychological well-and illbeing. *Journal of Sport & Exercise Psychology, 34*, 481–502.
- Stevenson, B., & Wolfers, J. (2013). Subjective well-being and income: Is there any evidence of satiation?. *American Economic Review, 103*(3), 598-604.

- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*. USA: Pearson Education.
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics*, 6th edn Boston, Ma: Pearson.
- Tay, L., & Diener, E. (2011). Needs and subjective well-being around the world. *Journal of personality and social psychology*, 101(2), 354.
- Landry, A. T., Kindlein, J., Trépanier, S. G., Forest, J., Zigarmi, D., Houson, D., & Brodbeck, F. C. (2016). Why individuals want money is what matters: Using self-determination theory to explain the differential relationship between motives for making money and employee psychological health. *Motivation and Emotion*, 40(2), 226-242.
- Thomas, R., & Millar, M. (2013). The effects of material and experiential discretionary purchases on consumer happiness: Moderators and mediators. *The Journal of psychology*, 147(4), 345-356.
- Thompson, E. R. (2007). Development and validation of an internationally reliable short-form of the Positive and Negative Affect Schedule (PANAS). *Journal of Cross-Cultural Psychology*, 38(2), 227-242. doi:10.1177/0022022106297301.
- Tsang, J. A., Carpenter, T. P., Roberts, J. A., Frisch, M. B., & Carlisle, R. D. (2014). Why are materialists less happy? The role of gratitude and need satisfaction in the relationship between materialism and life satisfaction. *Personality and Individual Differences*, 64, 62-66.

- Twenge, J. M., Gentile, B., DeWall, C. N., Ma, D., Lacefield, K., & Schurtz, D. R. (2010). Birth cohort increases in psychopathology among young Americans, 1938–2007: A cross-temporal meta-analysis of the MMPI. *Clinical psychology review, 30*(2), 145-154.
- Unanue, W., Dittmar, H., Vignoles, V. L., & Vansteenkiste, M. (2014). Materialism and well - being in the UK and Chile: Basic need satisfaction and basic need frustration as underlying psychological processes. *European Journal of Personality, 28*(6), 569-585.
- Unanue, W., Rempel, K., Gómez, M. E., & Van den Broeck, A. (2017). When and why does materialism relate to employees' attitudes and well-being: the mediational role of need satisfaction and need frustration. *Frontiers in psychology, 8*, 1755.
- Vallerand, R. J. (1989). Vers une méthodologie de validation trans-culturelle de questionnaires psychologiques : Implications pour la recherche en langue française. *Canadian Psychology/Psychologie Canadienne, 30*(4), 662-680. DOI : 10.1037/h0079856.
- Van Boven, L. (2005). Experientialism, materialism, and the pursuit of happiness. *Review of General Psychology, 9*(2), 132–142. DOI: 10.1037/1089-2680.9.2.132
- Van Boven, L., & Gilovich, T. (2003). To do or to have? That is the question. *Journal of Personality and Social Psychology, 85*, 1193-1202.
- Van den Broeck, A., Vansteenkiste, M., & De Witte, H. (2008). Selfdetermination theory: A theoretical and empirical overview in occupational health psychology. In J. Houdmont & S. Leka (Eds.), *Occupational health psychology* (Vol. 3, pp.

63–88). European perspectives on research, education, and practice. Nottingham: University Press.

Vansteenkiste, M., Neyrinck, B., Niemiec, C. P., Soenens, B., De Witte, H., & Van den Broeck, A. (2007). On the relations among work value orientations, psychological need satisfaction and job outcomes: A self-determination theory approach. *Journal of occupational and organizational psychology*, 80(2), 251-277.

Vansteenkiste, M., Niemiec, C. P., & Soenens, B. (2010). The development of the five minitheories of self-determination theory: A historical overview, emerging trends and future directions. In T. Urdan, & S. Karabenick (Eds.), *Advances in motivation and achievement*, vol. 16: The decade ahead (pp. 105–166). UK:

Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, 23, 263–280. doi:10.1037/a0032359.

Vohs, K. D., Mead, N. L., & Goode, M. R. (2006). The psychological consequences of money. *science*, 314(5802), 1154-1156.

Wang, R., Liu, H., Jiang, J., & Song, Y. (2017). Will materialism lead to happiness? A longitudinal analysis of the mediating role of psychological needs satisfaction. *Personality and Individual Differences*, 105, 312-317.

Watson, J. J. (2003). The relationship of materialism to spending tendencies, saving, and debt. *Journal of economic psychology*, 24(6), 723-739.

- Wiwad, D., & Aknin, L. B. (2017). Motives matter: The emotional consequences of recalled self-and other-focused prosocial acts. *Motivation and Emotion*, 41(6), 730-740.
- Whillans, A. V., Dunn, E. W., Sandstrom, G. M., Dickerson, S. S., & Madden, K. M. (2016). Is spending money on others good for your heart?. *Health Psychology*, 35(6), 574.
- Whysel, B. (2020). The money taboo: what can we do about it? Talk! Forbes. Retrieved from <https://www.forbes.com/sites/brettwhysel/2020/02/18/the-money-taboo-what-can-we-do-about-it-talk/#7446962964af>
- Wong, K. (2018). We're All Afraid to Talk About Money. Here's How to Break the Taboo. The New York Times. Retrieved from <https://www.nytimes.com/2018/08/28/smarter-living/how-to-talk-about-money.html>
- Workman, J. E., & Lee, S. H. (2011). Materialism, fashion consumers and gender: A cross - cultural study. *International Journal of Consumer Studies*, 35(1), 50-57.
- Wright, A. (2018, December 20). Canada, it's time to pay off that debt. Maclean's. Retrieved from <https://www.macleans.ca/economy/money-economy/canada-its-time-to-pay-off-that-debt/>
- Yamaguchi, M., Masuchi, A., Nakanishi, D., Suga, S., Konishi, N., Yu, Y. Y., & Ohtsubo, Y. (2016). Experiential purchases and prosocial spending promote happiness by enhancing social relationships. *The Journal of Positive Psychology*, 11(5), 480-488.

Zhang, J. W., Howell, R. T., & Caprariello, P. A. (2013). Buying life experiences for the “right” reasons: a validation of the motivations for Experiential Buying Scale. *Journal of Happiness Studies*, 14(3), 817-842.