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# 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

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Abstract

Debate exists as to whether money can bring happiness or not. Indeed, previous research has revealed contradictory findings concerning the impact of certain motives for making money on psychological well-being (e.g., Kasser & Ryan, 1993, 1996; Srivastava et al., 2001). Furthermore, the psychological mechanism behind this relation has received little attention so far. This study aimed to show that certain motives for making money can be beneficial to individuals' psychological health while others can be detrimental, not only by reducing well-being, but also by increasing ill-being. Based on the postulates of self-determination theory (Deci & Ryan, 2000), the current study also tested the mediating role of basic psychological needs of autonomy, competence and relatedness in the relationship between money motives and psychological health. Our findings suggest that self-integrated motives for making money are positively associated with well-being and negatively associated with ill-being through greater need satisfaction and lower need frustration. On the other hand, non-integrated motives for making money appear to be positively associated with ill-being and negatively associated with well-being through lower need satisfaction and greater need frustration. Together, these findings suggest that desiring money can either be beneficial or detrimental to psychological health depending on whether its instrumentality helps in achieving need satisfying or need frustrating life goals.

Keywords: Motives, money, self-determination theory, need satisfaction, need frustration.

## Introduction

For more than 20 years, researchers have been debating whether money can lead to happiness (e.g., Kasser & Ryan, 1993; Srivastava, Locke & Bartol, 2001), yet the question remains largely unanswered. Some evidence suggests that financial aspirations have detrimental consequences for individuals' health (e.g., lower self-actualization, global adjustment, vitality and physical health; Carver & Baird, 1998; Kasser & Ryan, 1993, 1996), while other findings indicate that some motives for making money are positively related to individuals' psychological health (e.g., subjective well-being and mental health; Garðarsdóttir, Dittmar & Aspinall, 2009; Srivastava et al., 2001). A potential explanation for these seemingly contradictory findings may lie in researchers' different conceptualization of the key concepts at hand. Hence, the goal of our research was to offer a better conceptualization of individuals' motives for making money. Moreover, the present study aimed to clarify our understanding as to why certain motives for making money may lead to enhanced well-being while others may lead to increased ill-being by investigating the psychological mechanisms underlying these relationships. Self-determination theory (SDT; Deci & Ryan, 2000) may provide valuable insight into why and how motives for making money impact psychological health by highlighting the role of basic psychological needs within these relationships.

In order to achieve these objectives, two studies were conducted within two working samples. In Study 1, we used as a starting point Srivastava et al.'s (2001) conceptualization of motives for making money as represented by their Motives for Making Money Scale (MMMS). We tested the factorial structure of this scale and investigated the factorial configuration offering the best representation of individuals' motives for making money. In Study 2, we validated this new factorial structure with a second independent sample. We also tested the relationship

between motives for making money and employees' psychological health, conceptualized using indicators of both well-being and ill-being. In addition to this, we examined the role of employees' basic psychological needs (satisfaction and frustration) as the mechanisms underlying this relationship.

In the following section, we present the theoretical and empirical arguments that contributed to our specific hypotheses. More precisely, we first go over the current literature on the relationship between motives for making money and psychological health, before reviewing in greater detail the findings pertaining to Srivastava et al.'s (2001) MMMS and highlighting important theoretical limitations of this scale.

## Motives for Making Money and Well-Being

It is commonly proposed that although money can bring individuals some form of contentment, it will not buy them long-lasting happiness regardless of how much they earn (Kasser, 2002). Indeed, research has shown the relationship between income and well-being to be rather weak, especially for middle- and upper-class individuals in wealthy countries (Diener & Biswas-Diener, 2002). In fact, for these individuals, gaining a large income only has a small impact on their subjective well-being (Diener & Biswas-Diener, 2002). Furthermore, other research has shown that individuals who value being financially successful above other life goals (e.g., affiliation goals, self-acceptance goals, community goals) experience less well-being than those who do not (Kasser & Ryan, 1993, 1996). For example, in three studies, Kasser and Ryan (1993) showed that high importance ranking of financial aspirations was associated with lower self-actualization and vitality amongst undergraduate students, and with lower global functioning and social activity as well as with increased behavioral problems amongst teenagers. High importance ranking of extrinsic goals such as financial aspirations was also found to be related to

greater physical symptoms in adults and to greater depression in undergraduate students (Kasser & Ryan, 1996). Based on their findings, Kasser and Ryan (1996) concluded that the American dream of being rich and famous was chimerical and even detrimental for young citizens; a conclusion that started a debate now lasting for more than 20 years.

While these findings have appealed to many researchers (e.g., Sirgy, 1998), others have argued that money could provide some form of contentment and that desiring it would not necessarily cause individuals any prejudice (e.g., Carver & Baird, 1998). For instance, as a reply to Kasser and Ryan's (1993, 1996) studies, Carver and Baird (1998) asked the question "Is it what you want or why you want it that matters?". In their study amongst students, these authors found that individuals who endorsed greater financial aspirations experienced less self-actualization whereas individuals who endorsed greater communal aspirations experienced greater self-actualization. However, their results also showed that financial aspirations were positively related to self-actualization when individuals desired financial success for intrinsic reasons such as personal fun and satisfaction (e.g., "*because it would be satisfying to have a job that pays well"*). Inversely, financial aspirations were negatively related to self-actualization when individuals desired financial success for extrinsic reasons such as social pressure (e.g., "*because people will respect me if I'm financially successful"*). In light of these findings, it appeared that financial aspirations could potentially be less detrimental for individuals' psychological health than Kasser and Ryan had claimed (1993, 1996), depending on the motives underlying these aspirations.

## Motives for Making Money Scale (MMMS)

Srivastava et al. (2001) went a step further in their interpretation of Carver and Baird's (1998) findings and suggested that money was simply a means to an end as most people aspire to

attain financial success in order to fulfill other life goals. Furthermore, they argued that Carver and Baird's (1998) study was limitative as it only focused on a limited number of reasons to aspire to financial success. Indeed, according to Srivastava et al. (2001), considering solely 1) the extrinsic financial aspirations: implied social pressure (e.g., "*because it's something you're supposed to do*"), family considerations (e.g., "*because it will make my family proud of me*"), and admiration and respect from others (e.g., "*because people will respect me if I'm financially successful*"), as well as 2) the intrinsic financial aspirations: fun (e.g., "*because it would be fun to have a job that pays well*"), promotion of self-determination (e.g., "*because it's important to me to have the freedom to do what I choose*"), and 3) personal satisfaction (e.g., "*because it would be satisfying to have a job that pays well*") offered a very restrictive representation of individuals' motives for making money.

Consequently, Srivastava et al. (2001) suggested that considering a broader array of motives would allow researchers to better understand the complex relationship between motives for making money and well-being; hence, they generated a list of fifty one motives. Using data from a first sample of students, exploratory factor analysis (EFA) revealed ten meaningful factors representing distinct categories of money motives: 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 get just compensation for my work"*), pride (e.g., "*to feel proud of myself"*), leisure (e.g., "*to spend time and money on my hobbies"*), freedom (e.g., "*to not be accountable to anyone for what or how I do things"*), impulse (e.g., "*to spend money on impulse"*), charity (e.g., "*to donate money to those who need it"*), social comparison (e.g., "*to have a house and cars that are better than those of my neighbors"*) and overcoming self-doubt (e.g., "*to prove that I am not as dumb as some people assumed"*).

In a second sample of students, Srivastava et al. (2001) replicated the scale's ten first-order factor structure using confirmatory factor analysis (CFA). Second-order exploratory factor analyses were consequently conducted and revealed a three second-order factor structure. As such, security, family support, market worth and pride were identified as *positive motives* reflecting one's life achievement and competency in meeting basic life necessities, whereas social comparison and overcoming self-doubt were grouped as *negative motives* reflecting one's desire to feel confident and superior, and to have power over others. As for leisure, freedom, impulse, and charity, they constituted the *freedom of action motives*, illustrating one's ability to spend money as pleased.

## Replication of the Original Factor Structure of the MMMS

Few studies have measured motives for making money using the complete version of the MMMS. Indeed, although past research has been conducted on these motives (e.g., Gaðarsdóttir et al. 2009; Lim & Sng, 2006; Robak, Chiffriller, & Zappone, 2007), many studies have used only a few dimensions of the scale (e.g., *negative motives*; Giacomantonio, Mannetti & Pierro, 2013; Lim & Sng, 2006) or even only a limited set of items (e.g., Garðarsdóttir et al., 2009). For example, Garðarsdóttir et al. (2009) used only four of the original twelve items to measure positive motives and four of the original six items to measure negative motives. Freedom of action motives was not assessed.

Moreover, the rare studies that have used the complete MMMS have not been able to replicate the originally proposed factorial structure (e.g., Burke, 2004; Robak et al., 2007). For example, through EFA, Burke (2004) found a two second-order factor structure underlying the items of the MMMS, as opposed to the three second-order factor structure proposed by Srivastava et al. (2001). More specifically, Burke (2004) obtained a second-order factor structure

with positive motives (i.e., security, family support, market worth, and pride) as in the MMMS validation study. However, as opposed to Srivastava et al (2001), the negative motives in Burke's (2004) factorial structure not only included social comparison and overcoming self-doubt, but it also contained impulse, leisure, and freedom. As a result, the original second-order factor "freedom of action motives" was not replicated, as it only included the first-order factor charity.

Given the limited number of studies that have investigated the MMMS and the divergent results they have produced, it appears important to revisit the factorial structure of this scale.

## Study 1: Goal

Therefore, Study 1 aims to investigate the factorial structure of the MMMS. As such, the current objective is to replicate the ten first-factor factorial structure initially obtained by Srivastava et al. (2001). More importantly, Study 1 investigates whether a different second-order factorial structure may more adequately represent individuals' motives for making money. Indeed, using SDT, we propose that the ten motives identified by Srivastava et al. (2001) have common denominators at their roots that can be used to conceptualize and categorize them in order to better explain their positive and negative effect on individuals' psychological health. Similar to Sheldon and Elliot (1999) who suggested that goals can be integrated or non-integrated with the self depending on whether they are in line with individuals' personal values and psychological growth, we suggest that the ten first-factors could be better grouped into two distinct categories representing either self-integrated or non-integrated motives for making money.

In line with SDT, self-integrated motives for making money could be conceptualized as motives that promote personal growth in psychologically healthy environments (Deci & Ryan,

2000). In this light, it appears that the original freedom of action motives leisure, freedom and charity along with the original positive motives family support, security and market worth could be categorized as self-integrated motives given that these six motives directly encourage individuals' personal growth in psychologically healthy environments. More precisely, the money motives to support one's family, including offering education and financial security to one's children (family), to be able to afford for basic living requirements such as a decent housing and emergencies (security), to earn a fair compensation for one's work achievement, thinking and effort (market worth), to donate money and spend volunteering time for causes that one values (charity), to spend time and enjoy one's leisure and hobbies (leisure) and to direct one's life without enduring external interference or having to justify what one does (freedom) all appear to be aimed at sustaining individuals' optimal social, emotional and physical development in various contexts. Whether it is through one's involvement in charity, leisure, family or work activities, individuals who endorse these motives for making money apparently tend towards positive self-growth. Accordingly, self-integrated motives could thus include the money motives security, family, charity, market worth, freedom and leisure.

In contrast, non-integrated motives for making money could be conceptualized as motives that do not promote either personal growth or psychologically healthy environments. In this light, the original negative motives social comparison and overcoming self-doubt along with the original freedom of action motive impulse and the original positive motive pride could be more appropriately categorized as non-integrated motives as they actively impede both personal growth and the development of psychologically healthy environments. Making money to attract attention, show off and have more material possessions than friends, family and neighbors (overcoming self-doubt) does not appear to foster healthy social environments and psychological

states. Nor does making money to feel proud of oneself and know that one has earned his way in life (pride) or to prove that one isn't dumb, incompetent or failing as others claimed (social comparison). Finally, making money to gamble in casinos and spend just for the thrill of it (impulse) seems to be an unhealthy and risky personal investment. Given these considerations, non-integrated motives could include the money motives pride, impulse, social comparison and overcoming self-doubt.

Hence, in Study 1 we aim to test this newly proposed two second-order factor structure and compare it to the original three second-order factor structure of the MMMS. Moreover, Study 1 addresses another important limitation of past research concerning financial aspirations and examines motives for making money in a sample of full-time working adults as opposed to student samples as done in most previous studies (e.g., Burke, 2004; Robak et al., 2007). As such, the present study is intended to provide better insights into the issue given that, by definition, the work context represents the life domain where most individuals earn money (Milkovich & Newman, 2007).

## Study 1: Method and Results

### Participants and Measures

Data for Study 1 was collected with the help of a consultation firm who agreed to send an email to employees of their client organizations. In total, 1456 (300 males and 1156 females) American full-time employees were invited by email to complete an online questionnaire concerning their financial aspirations. This questionnaire included the 30-item Motives for Making Money Scale (Srivastava et al., 2001), which evaluates the ten money motives with three items each. Participants were asked to rate on a scale from 1 (*totally unimportant*) to 10 (*extremely important*) the importance of each motive for making money. In total, 538 employees

took part in the study, thus corresponding to participation rate of 37%. Informed consent was obtained from all the individual participants included in the study. The majority of participants were women (57.3%), were aged between 35 and 54 (66.2%), worked in the private sector (for profit; 59.7%) and were full-time workers (87.5%). Moreover, 53.1% of the participants had an annual salary (including bonuses) of 90,000$ or less.

**Statistical Analyses and Results**

In order to investigate the factorial structure of the MMMS, we conducted exploratory factor analysis (EFA) using SPSS. The EFA was performed with the principal component and Varimax rotation. Items that loaded at .30 or higher on the expected factor were retained (Costello & Osborne, 2005; Floyd & Wildman, 1995). Items that loaded on more than one factor were deleted. A total of four items were removed given that they had double loadings (MMMW_9, MMFR_19, MMIM_22, and MMSC_30; see Table 1). Results revealed a 9-factor structure and showed that the overcoming self-doubt and social comparison items loaded on a single factor. All other items loaded on their respective factor and had factor loadings greater than .60 (varying from .634 to .924). This 9-factor structure explained 73.71% of the variance (see Table 1).

Confirmatory Factor Analysis (CFA) using M*plus* was subsequently conducted in order to investigate the goodness-of-fit of the 9-factor structure obtained in the EFA. Four goodness-of-fit indices were used: the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR). Generally, values higher than .90 for the CFI and the TLI indicate an acceptable fit (Hoyle, 1995; Schumacher & Lomax, 1996) and values lower than .08 for the RMSEA as well as for the SRMR suggest an adequate fit (Browne & Cudeck, 1993; Hu &

Bentler, 1999). A first measurement model (M1) was tested in which all items loaded on their respective factor (9-factor structure). This model did not provide a particularly good fit to the data: $\chi^2(263) = 858.108$; CFI = .884; TLI = .857; RMSEA = .065 [CI = .061-.070]; SRMR = .056. An inspection of the model modification indices suggested the inclusion of two covariances (i.e., MMSD26 with MMSD27, MMSC28 with MMSC29; see Table 1). A subsequent measurement model (M2), consisting of M1 with the inclusion of the two covariances, fit the data well ($\chi^2(261) = 543.807$; CFI = .945; TLI = .932; RMSEA = .045 [CI = .040-.051]; SRMR = .050) and provided a significantly better fit than M1 ($\Delta\chi^2[4] = 233.49$, $p < .001$). M2 was then compared to a 10-factor structure (M3) with self-doubt and social comparison as distinct factors, as initially proposed by Srivastava et al. (2001). Results show that M3 ($\chi^2(254) = 541.551$; CFI = .944; TLI = .929; RMSEA = .046 [CI = .041-.052]; SRMR = .050) did not provide a significantly better fit to the data than M2 ($\Delta\chi^2[7] = 2.26$, n.s.).

A subsequent set of CFA was performed in order to investigate a second-order factor structure underlying the nine motives. In line with SDT, a first second-order factor solution (M4) was tested containing two second-order factors: (1) "self-integrated motives" comprised of six first-order factors (security, family, charity, market worth, freedom and leisure) and (2) "non-integrated motives" comprised of three first-order factors (pride, impulse, and overcoming self-doubt/social comparison). This model provided a good fit the data ($\chi^2(286) = 652.023$; CFI = .929; TLI = .919; RMSEA = .049 [CI = .044-.054]; SRMR = .070). It also provided a significantly better fit the data than the three second-order factor solution (M5) proposed by Srivastava et al. (2001): $\chi^2(286) = 937.129$; CFI = .874; TLI = .856; RMSEA = .066 [CI = .061-.070]; SRMR = .071 ($\Delta\chi^2[0] = 190.06$**).

## Study 1: Discussion

The results of Study 1 support the relevance of investigating employees' motives for making money through the theoretical lens of self-determination theory. More specifically, motives for making money appear to be better conceptualized as either self-integrated or non-integrated depending on whether they encourage or impede personal growth in psychologically healthy environments.

## Study 2

On the basis of findings obtained in Study 1, Study 2 aimed to investigate the differential predictive effect of self-integrated and non-integrated money motives on psychological health. More specifically, Study 2 explored the relationship between self-integrated and non-integrated money motives and employees' psychological health, conceptualized as well-being and ill-being. Furthermore, Study 2 examined the underlying mechanisms explaining why certain motives for making money are beneficial to well-being whereas others are detrimental to psychological health and could potentially be related to manifestations of ill-being. Whereas Sheldon, Ryan, Deci and Kasser (2004) suggested that motives for making money may relate differently to psychological health because they lead to differences in interpersonal relationships, self-worth contingencies, social comparison and energy levels, we suggest that it is due to differences in psychological need satisfaction and frustration. In doing so, we base ourselves on an idea previously put forth by these authors (Sheldon & Elliot, 1999) according to which individuals can choose goals that have the potential to maximize their need satisfaction. This potential can either be actualized if the chosen goal is pursued for personal values and psychological growth, as in the case of self-integrated money motives, or non-actualized if the chosen goal does not promote long-term personal growth, as in the case of non-integrated money motives (Sheldon & Elliot, 1999). In line their well-replicated findings that goals pursued for personal growth are

positively associated to well-being as measured by subjective well-being, life satisfaction, and mood (Sheldon & Elliot, 1999), we hypothesize that self-integrated motives would be related to manifestations of well-being whereas non-integrated motives would be related to manifestations of ill-being through psychological need satisfaction and frustration. In the next sections, we present in greater detail the notions of psychological need satisfaction and frustration as well as their relationship to employees' psychological health. We also present the theoretical and empirical foundation supporting their hypothesized relationship with motives for making money.

## Self-Determination Theory (SDT) and Psychological Needs

According to SDT, there are three basic psychological needs that must be satisfied to ensure psychological health and optimal human functioning (e.g., Deci & Ryan, 2000; Sheldon, Cheng, & Hillpert, 2011). Indeed, SDT emphasizes the importance of the needs for competence, autonomy, and relatedness. In terms of the need for competence, individuals must believe they can modify their environment and achieve their desired outcomes within it (Deci & Ryan, 2000; Hofer & Busch, 2011). As for the need for autonomy, individuals must have a sense of volition in choosing their activities and act in concordance with their true self and values (Deci & Ryan, 2000; Chirkov, Ryan, & Sheldon, 2011). Finally, the human need for relatedness is expressed as the desire to feel connected to others (Deci & Ryan, 2000; Lavigne, Vallerand, & Crevier-Braud, 2011). According to the theory, these three psychological needs are more or less likely to be satisfied depending on individuals' contexts. As such, particular contexts and goals that allow individuals to satisfy their three psychological needs lead them to experience better functioning and health.

Past research supports this claim and has further shown that positive work-related contexts that promote need satisfaction will consequently lead to well-being. For example, Van

den Broeck, Vansteenkiste, DeWitte and Lens (2008) found that positive job characteristics (e.g., task autonomy and positive feedback) were positively associated with need satisfaction, which was in turn associated with greater vigor and lower emotional exhaustion. Need satisfaction has also been positively associated with work satisfaction, and hedonic as well as eudemonic well-being (Gillet, Fouquereau, Forest, Brault, & Colombat, 2012; Van de Broeck, Vansteenkiste, De Witte, Soenens, & Lens, 2010).

*Hypothesis 1:* Need satisfaction is positively associated with psychological well-being.

## Psychological Need Frustration and Ill-Being

While extensive research has identified need satisfaction as a strong predictor of well-being, recent work suggests that it may not the best predictor of ill-being (Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011). In fact, need satisfaction appears to be less useful in explaining manifestations of ill-being (e.g., depressive symptoms, Bartholomew et al., 2011). This claim is further supported by empirical findings suggesting that well-being and ill-being are not opposite ends of a continuum and should rather be conceptualized as two distinct yet related dimensions of mental health (Ryff, Love, Urry, Muller, Rosenkranz, Friedman, & Singer, 2006).

In line with this new conceptualization of psychological health (including both well-being and ill-being), the construct of need frustration has recently been introduced as a better predictor of ill-being, given that the mere absence of need satisfaction may not suffice to adequately explain individuals' malfunctioning (Bartholomew et al., 2011; Bartholomew, Ntoumanis, Ryan & Thogersen-Ntoumani, 2011;Vansteenkiste & Ryan, 2013). According to Bartholomew et al. (2011), need frustration goes beyond perceiving that one's need satisfaction is low and involves perceptions that one's needs are actively frustrated. Therefore, need

frustration should not be measured by the absence of positive psychological experiences, which would reflect a lack of need satisfaction, but by the actual presence of negative psychological experiences (Bartholomew et al., 2011). Concretely speaking, need frustration would rather describe instances where individuals experience actual feelings of rejection (as opposed to not feeling related), feelings of incompetence (as opposed to not feeling competent) and feelings of being oppressed (as opposed to not feeling volitional).

It thus follows that the negative relationship between need frustration and well-being should be weaker than the strong positive relationship between need frustration and ill-being (Bartholomew et al., 2011). Indeed, there is empirical evidence to support this proposition (e.g., Bartholomew et al., 2011; Bartholomew, Ntoumanis, Cuevas & Losdale, 2014; Gunnell, Crocker, Mack, Wilson, & Zumbo, 2013). In recent sets of studies, Bartholomew et al. (2011) showed that need satisfaction and need frustration had both distinct outcomes. More specifically, they showed that need satisfaction was more strongly related to well-being (i.e., vitality and positive affect) while need frustration better predicted ill-being (i.e., depression, negative affect, burnout, disordered eating and physical symptoms). In their second set of studies, Bartholomew et al. (2011) replicated their findings regarding need satisfaction and vitality, and further expanded their findings for need frustration, revealing its strong link with emotional and physical exhaustion.

*Hypothesis 2:* Need frustration is positively associated with psychological ill-being.

## Psychological Needs and Money Motives

Given previous findings, it seems that need satisfaction and need frustration may play a central role in explaining the relationship between motives for making money and employees' psychological health. More specifically, need satisfaction and need frustration may explain why

Srivastava et al. (2001) found that positive motives were positively associated with well-being, whereas negative motives were negatively associated to well-being (freedom of action motives were not significantly associated with well-being). Building on Srivastava et al.'s (2001) suggestion, money may simply be a means to fulfill greater life goals that are either beneficial or detrimental to employees' psychological health depending on whether they satisfy or frustrate their basic psychological needs.

Based on the conceptualization of money motives we found, self-integrated motives (security, family, charity, market worth, freedom and leisure) appear to contribute to life goals aimed at fulfilling individuals' need for competence, autonomy and relatedness. For example, making money to support a family could satisfy individuals' need for relatedness as well as their need for autonomy and competence. In this sense, individuals whose financial goal is to support their family may have increased feeling of relatedness because they care for their family members. They may also experience increased feelings of competence and autonomy when they are adequately able to support their family on their own. Another example would be making money to feel free and independent. Indeed, having the financial goal to make enough money to direct one's own life independently and without external interference may help one satisfy his psychological needs for autonomy and competence. As such, individuals whose financial goal is to earn their own money to financially support themselves without having to rely on any external help and consequently justify their action may experience increased feeling of competence and autonomy when doing so.

*Hypothesis 3*: Self-integrated motives for making money are positively associated with basic psychological need satisfaction.

In contrast, non-integrated motives (pride, impulse, social comparison and overcoming

self-doubt) appear to contribute to life goals that are seemingly counter to individuals' healthy psychological growth. Individuals with non-integrated motives for making money thus appear to invest their energy in suboptimal social and emotional environments. Through compensatory strategies, these individuals chose to invest their money, and themselves by the same token, in activities and experiences that bring short-lived pleasant feelings, and encourage feelings of isolation, incompetence, competition and pressure in the long haul (Van den Broeck, Vansteenkiste & De Witte, 2008). For example, making money to attract attention, show off, overcome feelings of self-doubt and have more material possessions than one's friends, family and neighbors might provide temporary relief but will not sustain long-term psychological, emotional and social development. This is also true of the money motives to feel proud of oneself and to prove to others that one isn't incompetent, dumb or a failure. As such, by investing in these types of activities and experiences, individuals with non-integrated motives for making money risk actively impeding their psychological needs. Consequently, they may experience not only lower feelings of relatedness, but also lower feelings of competence and autonomy.

*Hypothesis 4*: Non-integrated motives are positively associated with basic psychological need frustration.

## Study 2: Goals and Hypotheses

Given that little is currently known about the psychological mechanisms explaining the beneficial as well as the detrimental effects of money motives on employees' psychological health, Study 2 tested in a second worker sample a model (Figure 2) investigating the relationship between money motives and psychological health (well-being and ill-being) as well as the mediating role of psychological needs (satisfaction and frustration) in this relationship.

With this in mind, desiring money for greater life goals that satisfy the three basic psychological needs of competence, relatedness and autonomy could lead to greater psychological health than desiring money for greater life goals that frustrate the three psychological needs. In this sense, motives for making money that foster need satisfaction could contribute to employees' well-being, whereas motives for making money that frustrates their psychological needs are likely to foster ill-being.

## Study 2: Method

### Participants

Data for Study 2 was collected through the listserv of the professional order of Certified Human Resources Professional (CHRP) in the province of Québec, Canada. French-speaking members of this professional order received an email inviting them to complete an online study concerning their financial aspirations as well as their psychological health. In total, 748 employees took part in the study, which represents a very good participation rate according to the professional order[1]. Informed consent was obtained from all individual participants included in this study. The majority of participants were women (71.9%, which is representative of the professional order membership), had a mean age of 41.02 (SD = 10.81), worked in the private sector (for profit; 58.4%) and were full-time workers (85.6%). Moreover, 56.1% of the participants had an annual salary (including bonuses) of 75,000$ or less.

### Measures

In this study, all the measures were administered in French. In line with the guidelines of the International Test Commission (Hambleton, 1993), scales that were not available in French

[1] In previous occasions, the professional order has helped other researchers gather data and the average participation rate is usually around 400 to 500 respondents out of 8,500 members. Gathering over 700 respondents can thus be considered a good participation rate.

were translated using the back-translation procedure with independent bilingual judges (Vallerand, 1989).

**Motives for making money.** As in Study 1, Srivastava et al.'s (2001) MMMS was used to assess employees' motives for making money. Based on the results of Study 1, a second-order factor structure regrouping the nine first-order factors into two second-order factors was used in the SEM analyses: (1) "self-integrated motives" (security, family, charity, market worth, freedom and leisure; $\alpha = .71$) and (2) "non-integrated motives" (pride, impulse, and overcoming self-doubt/social comparison; $\alpha = .79$).

**Need satisfaction.** The Balanced Measure of Psychological Needs Scale (Sheldon & Hilpert, 2012) was used to assess the satisfaction of the needs for autonomy (e.g., "I am free to do things my own way"; 3 items; $\alpha = .65$), for competence (e.g., "I take on and master hard challenges"; 3 items; $\alpha = .76$), and for relatedness (e.g., "I feel close and connected with other people who are important to me"; 3 items; $\alpha = .68$). Participants were asked to indicate the extent to which they agreed with the proposed statements. Items were rated on a five-point scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Mean scores of the three subscales were used as indicators of the latent construct of need satisfaction.

**Need frustration.** The French adapted version (Gillet, Fouquereau, Lequeurre, Bigot, & Mokounokolo, 2012) of the Psychological Need Thwarting Scale (Bartholomew et al., 2011) was used to assess the frustration of the needs for autonomy (e.g., "I feel prevented from making choices with regard to the way I do things"; 3 items; $\alpha = .82$), for competence (e.g., "There are situations where I am made to feel inadequate"; 3 items; $\alpha = .80$), and for relatedness (e.g., "I feel other people dislike me"; 3 items; $\alpha = .71$). Participants were asked to indicate the extent to which they agreed with the proposed statements. Items were rated on a five-point scale ranging

from 1 (*totally disagree*) to 7 (*totally agree*). Mean scores of the three subscales were used as indicators of the latent construct of need frustration.

**Well-being.** Employee well-being was conceptualized with two indicators: positive affect and life satisfaction. Positive affect was assessed using Thompson's (2007) Short-Form version of the Positive and Negative Affect Schedule (PANAS). On a five-point scale ranging from 1 (*not at all*) to 5 (*extremely*), participants were asked to indicate the extent to which they felt different feelings and emotions during the past weeks (e.g., "inspired"; 5 items; $\alpha = .73$). Life satisfaction was assessed using Diener, Emmons, Larson, and Griffin's (1985) 5-item Satisfaction with Life Scale (e.g., "I am satisfied with my life"; $\alpha = .87$). Participants were asked to indicate on a seven-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) their agreement with the proposed statements. In the present study, the mean scores of the positive affect subscale and of the life satisfaction scale were used as indicators of the latent factor of well-being.

**Ill-being.** Employee ill-being was conceptualized with two indicators: negative affect and depressive symptoms. Negative affect was assessed using Thompson's (2007) Short-Form version of the Positive and Negative Affect Schedule (PANAS). On a five-point scale ranging from 1 (*not at all*) to 5 (*extremely*), participants were asked to indicate the extent to which they felt different feelings and emotions during the past weeks (e.g., "hostile"; 5 items; $\alpha = .73$). Depressive symptoms were assessed using an adapted version of the short-form of the Centre for Epidemiologic Studies–Depression scale (CES-D; Cole, Rabin, Smith, & Kaufman, 2004). On a 4-point scale ranging from 0 (*rarely*) to 3 (*most of the time*), participants were asked to indicate how often they experienced the proposed statements (e.g., "I felt that everything I did was an

effort"; 8 items; α = .74). In the present study, the mean scores of the negative affect subscale and of the depressive symptom scale were used as indicators of the latent factor of ill-being.

**Statistical Analyses**

The adequacy of the proposed model was assessed by structural equation modeling using M*plus* (Mùthens & Mùthens, 2012). All models were tested with standardized coefficients obtained by maximum likelihood estimation. The goodness-of-fit of the model was evaluated using the same indices (CFI, TLI, RMSEA, and SRMR) as in Study 1.

## Study 2: Results

**Preliminary Analyses**

As in Study 1, the SDT-based second-order factor structure (M6) was compared to the second-order factor structure initially proposed by Srivastava et al. (2001; M7): ($\chi^2(284)$ = 500.285; CFI = .911; TLI = .899; RMSEA = .048 [CI = .041-.054]; SRMR = .064) and provided a significantly better fit the data than this model ($\chi^2(284)$ = 545.410; CFI = .893; TLI = .877; RMSEA = .055 [CI = .049-.062]; SRMR = .075; ($\Delta\chi^2[0]$ = 45.13**). Then a measurement model (M8) was tested, in which indicators of the variables included in the structural model (money motives, psychological need satisfaction and frustration, employee psychological ill-being and well-being) loaded on their respective latent factor. This model provided a satisfactory fit to the data ($\chi^2(562)$ = 1312.828; CFI = .90; TLI = .88; RMSEA = .05 [CI = .042-.048]; SRMR = .06) and all indicators had significant loadings on their corresponding latent factor. Next, a MANOVA was performed to verify whether the variables in the model differed according to significant background variables (i.e, gender, age, job status, type of organization and annual salary). Since no significant differences were found, demographic characteristics were excluded from further analysis.

**Testing of the proposed model**

SEM analysis was conducted in order to test the proposed model (Figure 1). This model (M9) proposed indirect links from self-integrated motives to employee psychological well-being through need satisfaction, and from non-integrated motives to employee ill-being through need frustration (full mediation). This model provided a relatively satisfactory fit to the data: $\chi^2(5570) = 1345.318$; CFI = .892; TLI = .880; RMSEA = .045 [CI = ..042-.048]; SRMR = .067. This model was compared to a subsequent model (M10), which consisted of M9 with the addition of four cross-links (i.e., self-integrated motives to need frustration, non-integrated motives to need satisfaction, need frustration to well-being, and need satisfaction to ill-being). This model provided a satisfactory fit to the data $\chi^2(566) = 1307.037$; CFI = .90; TLI = .89; RMSEA = .05 [CI = .041-.047]; SRMR = .06) and a significantly better fit that M9 ($\Delta\chi^2[4] = 43.06$). Next, M10 was compared to a partial mediation model (M11). M11 consisted of M10 with the addition of four direct paths from the two types of money motives to employee well-being and ill-being (partial mediation). Although this model provided a satisfactory fit to the data ($\chi^2(562) = 1300.653$; CFI = .90; TLI = .88; RMSEA = .04 [CI = .041-.048]; SRMR = .06), model comparison illustrated that M11 did not provide a significantly better fit to the data than M10 ($\Delta\chi^2[4] = 6.38$, ns). It was therefore concluded that M10 was the best fitting model. As can been seen in Figure 2, almost all hypothesized links (except for one) were significant. More specifically, non-integrated motives negatively predicted need satisfaction and positively predicted need frustration whereas self-integrated motives positively predicted need satisfaction but were unrelated to need frustration. Moreover, need satisfaction positively predicted well-being and negatively predicted ill-being. The opposite pattern was observed for need frustration: it negatively predicted employee well-being and positively predicted employee ill-being.

In order to formally test the mediating role of need satisfaction and need frustration in the relationship between motives for making money and employee psychological health, 95% confidence intervals were computed from 1,000 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 indicated several significant indirect effects. More specifically, results showed indirect effects of self-integrated motives (Estimate = .496 [CI = .117-.876], $p$ = .010) and of non-integrated motives (Estimate = -.493 [CI = -.836 -.150], $p$ = .005) on employee well-being through need satisfaction. The indirect effect of self-integrated motives on employee well-being through need frustration was non-significant (Estimate = -.044 [CI = -.120-.032], $p$ = .254). Moreover, results showed significant indirect effects of non-integrated motives on employee ill-being through need frustration (Estimate = .230 [CI = .081-.380], $p$ = .003) as well as indirect effects of self-integrated motives on employee ill-being through need satisfaction (Estimate = -.144 [CI = -.290- .001], $p$ = .051). The indirect effect of non-integrated motives on employee ill-being through need satisfaction was also marginally significant (Estimate = .130 [CI = -.005-.266], p = .059).

**Study 2: Discussion**

Concerning the relationship between money motives and psychological needs, Hypothesis 3 was supported: Self-integrated motives were positively associated with need satisfaction. However, they were unrelated to need frustration. Hypothesis 4 was also supported: Non-integrated motives were positively associated with need frustration. Moreover, they were negatively associated with need satisfaction.

Concerning the relationship between psychological needs and psychological health, Hypothesis 1 was supported: Need satisfaction was positively associated with well-being.

Furthermore, it was also negatively associated to ill-being. Hypothesis 2 was also supported: Need frustration was positively associated with ill-being. It was also negatively associated to well-being.

Finally, in terms of the mediating role of psychological needs in the relationship between motives for making money and psychological health, results indicate that the indirect links from self-integrated motives to well-being though need satisfaction, and from non-integrated motives to ill-being through need frustration were significant, as hypothesized. Indirect links from self-integrated motives to ill-being though need satisfaction and from non-integrated motives to ill-being through need satisfaction were also significant. Furthermore, the indirect link from self-integrated motives to well-being through need frustration was non-significant. Finally, the indirect link from non-integrated motives to well-being through need satisfaction was significant.

## General Discussion

Previous research has shown that certain motives for making money have differential relationships with psychological health, in the sense that some motives have a positive impact while others have a negative impact on well-being (Garðarsdóttir et al., 2009; Srivastava et al., 2001). This study aimed to shed light on the mechanisms behind these relations. Furthermore, in line with current theorizing on the distinction between well-being and ill-being as indicators of psychological health, this study included specific measures of ill-being.

As a first step, the factor structure of Srivastava et al.'s (2001) Motives for Making Money Scale was analyzed in Study 1. As expected, the second-order factor structure found was different from the one found by Srivastava et al. (2001) and revealed two second-order factors composed of self-integrated and non-integrated motives. This finding was in line with previous research showing that Srivastava et al.'s original factor structure was not replicated in other

studies (e.g., Robak et al., 2007).

Following this, a structural model was used in Study 2 to test whether self-integrated motives for making money relate to greater need satisfaction, which in turn relates positively to well-being, and whether self-integrated motives for making money relate to greater need frustration, which consequently relates positively to ill-being. In general, results of Study 2 supported this model.

Our study provides a preliminary answer as to the conditions under which wanting money can lead either to positive or negative consequences. While much research has shown that money generally leads to negative cognitive and affective consequences (e.g., Aknin, Norton, & Dunn, 2009; Garðarsdóttir et al., 2009; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2006; Kiatpongsan & Norton, 2014; Srivastava et al., 2001;Vohs, Mead, & Goode, 2006, 2008), our research is one of the few to have identified a potential operating mechanisms under which money can lead to positive or negative consequences. In accordance with Howell and Hill (2009) and Howell, Kurai and Tam (2012) who have shown that money can have positive consequences through psychological need satisfaction, our research is arguably the first to validate thoroughly a scale to measure individuals' money motives - the MMMS – and to provide a potential explanation as to why self-integrated and non-self-integrated money motives respectively lead to well-being and ill-being. As such the present findings suggest that wanting money to promote one's psychological growth in a healthy environment through leisure, freedom, family, charity and market worth can lead individuals to experience greater feelings of competence, autonomy and relatedness. On the other hand, wanting money to compensate for feelings of inadequacy, feel proud of oneself, show off and be better than everyone else seems to prevent individuals from experiencing feelings of autonomy, competence and relatedness.

Furthermore, the current findings are in line with previous research suggesting that need satisfaction is negatively related to ill-being and inversely that need frustration is negatively related to well-being (Vansteenkiste & Ryan, 2013). Indeed, these findings replicate results of recent studies showing that need satisfaction is a stronger predictor for well-being than for ill-being, and may even at times be non-significant in predicting ill-being (Bartholomew et al., 2011; Gillet et al., 2012; Gunnell, Crocker, Wilson, Mack & Zumbo, 2014, Gunnell et al., 2013).

Interestingly, in Studies 1 and 2, Srivastava et al.'s original positive motives impulse and pride loaded on the newly designated second-order factor non-integrated motives, which was shown to be negatively associated to well-being and positively to ill-being. These results run counter to those of Srivastava et al. (2001) and Garðarsdóttir et al. (2009) who argued that the motive impulse had no impact on well-being, and that the motive pride had a positive impact on well-being. However, as we argued, these results are coherent with propositions of self-determination theory according to which participating in activities for external reasons such as feeling proud of oneself is considered an introjected source of motivation and is associated to lower well-being (e.g., Trépanier, Forest, Fernet, & Austin, 2015). Other research conducted respectively in nine countries (Gagné, Forest, Vansteenkiste, Crevier-Braud, Van den Broeck, Aspeli, et al., 2014) and in twenty-one countries (Sheldon et al., 2011) further shows that introjected and extrinsic sources of motivation predict more negative health consequences (e.g., less vitality and more exhaustion). In line with the postulates of SDT, the current research strengthens the argument that introjected and extrinsic goals lead to greater ill-being because of their limited impact on need satisfaction (Niemiec, Ryan & Deci, 2009; Vallerand & Lalande, 2011;Vansteenkiste & Ryan, 2013).

**Limits**

Apart from moving beyond correlational and self-reported data, future studies should aim to replicate with other working samples the new factor structure of the MMMS found here in order to further validate our results. Indeed, sample restrictions may have played a role since all the participants in the present research had a professional background in human resources or in industrial relations. Hence, our findings should be replicated using participants from a broader variety of professional backgrounds to gain more confidence that the results presented here are not restricted to populations with specific vocations.

## Conclusion

In our modern society, money can hold different meanings (e.g., Biljeveld & Aarts, 2014; Furnham & Argyle, 1998). For example, it can be a symbol of happiness and wealth (Aknin et al., 2009) or a symbol of inequity and despair (e.g., Bloom, 1999; Grouzet, Kasser, Ahuvia, Dols, Kim, Lau, et al., 2005; Kasser, 2011; Wilkinson & Pickett, 2009). Some have even said that money is "evil" (Tang & Chiu, 2003). The current study aimed to show that money is not necessarily "evil" and can even contribute to some form of happiness depending on its instrumentality in achieving more need satisfaction and/or less need frustration. In doing so, we provided the scientific community with a refined validation of the Motives for Making Money Scale (MMMS; Srivastava et al., 2001) and showed that wanting money for one's security, family, market worth, leisure, charity and freedom (self-integrated motives) increased well-being and decreased ill-being, while wanting money for one's pride, impulse and overcoming self-doubt/social comparison (non-integrated motives) increased ill-being and diminished well-being.

Our study thus shed light over as to why and how money can promote and hinder optimal functioning. We not only provided evidence for these results with a sample of working adults (rather than students as is often the case; e.g., Srivastava et al., 2001; Burke, 2004) in two

different countries (Canada and USA), but we also put forth an operating mechanism through which self-integrated and non-integrated money motives influence ill-being and well-being. Using the basic psychological needs for autonomy, competence and relatedness proposed by self-determination theory (Deci & Ryan, 2000), we used the recent distinction between need satisfaction and need frustration (e.g., Barthlomew et al., 2011; Vansteenkiste & Ryan, 2013) to show that self-integrated motives increase need satisfaction while non-integrated motives increase need frustration, which in turn affected employees' psychological health. This mediating variable might explains previous research showing why actively pursuing money through capitalism (e.g., Kasser, Kanner, Cohn, & Ryan, 2007) or materialism (e.g., Kasser & Ahuvia, 2002) has oftentimes been linked to negative consequences. Given that recent empirical evidence show that we can teach people to reduce their financial and materialistic goals (Brown, Kasser, Ryan, Linley, & Orzech, 2009; Kasser, Rosenblum, Sameroff, Deci, Niemiec, Ryan, et al., 2014), the next logical step based on our two studies, would be to find ways to teach people to have more self-integrated and less non-integrated money motives.

## Ethical approval

All procedures performed in the current studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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Table 1
Factor Loadings for Exploratory Factor Analysis with Varimax Rotation of the MMMS

| Items | F1 | F2 | F3 | F4 | F5 | F6 |
|---|---|---|---|---|---|---|
| To take care of the basic requirements for living such as decent housing (MMSEC1) | .807 | | | | | |
| To maintain a reasonable bank balance for emergencies (MMSEC2) | .869 | | | | | |
| To have a feeling of security (MMSEC3) | .801 | | | | | |
| To be able to support a family (MMFAM4) | | .797 | | | | |
| To take care of the college education of my children (MMFAM5) | | .842 | | | | |
| To leave behind enough money for my spouse and kids when I die (MMFAM6) | | .714 | | | | |
| To get just compensation for my work (MMMW7) | | | .893 | | | |
| To get what I earned as a result of my thinking and effort (MMMW8) | | | .841 | | | |
| To be paid fairly for my work-achievements (MMMW9)** | | | | | | |
| To feel proud of myself (MMPR10) | | | | .784 | | |
| To know that I earned my way in life (MMPR11) | | | | .828 | | |
| To know that I can deal with the life's challenges (MMPR12) | | | | .805 | | |
| To spend time and resources pursuing leisure activities (e.g., poetry, literature, photography, painting, music, etc.; MMLE13) | | | | | .832 | |
| To spend time and money on my hobbies (MMLE14) | | | | | .857 | |
| To get personal pleasure from luxuries (e.g., cars, houses, art; MMLE15) | | | | | .634 | |
| To donate money to those who need it (MMCH16) | | | | | | .750 |
| To start a charitable trust dedicated to a cause that I value (MMCH17) | | | | | | .772 |
| To have enough spare time that could be devoted to volunteer activities (MMCH18) | | | | | | .796 |

*Note*. F1 = security; F2 = family; F3 = market worth; F4 = pride; F5 = leisure; F6 = charity; F7 = Freedom; F8 = Impulse; F9 = Self-doubt/social comparison.

Table 1 (continued)
Factor Loadings for Exploratory Factor Analysis with Varimax Rotation of the MMMS

| | F7 | F8 | F9 |
|---|---|---|---|
| To implement my ideas by starting my own business (MMFR19)* | | | |
| To not be accountable to anyone for what or how I do things (MMFR20) | .924 | | |
| To direct my own life with no interference from anyone else (MMFR21) | .908 | | |
| To let my mood guide me at times so that I can blow money in shopping just for the thrill of it (MMIM22)** | | | |
| To play exciting games in casinos (gamble; MMIM23) | | .800 | |
| To spend money on impulse (MMIM24) | | .755 | |
| To prove I am not a failure (MMSD25) | | | .709 |
| To prove that I am not as incompetent as some people have claimed (MMSD26) | | | .906 |
| To prove that I am not as dumb as some people assumed (MMSD27) | | | .899 |
| To show I am better than my friends / brothers / sisters / relatives (MMSC28) | | | .832 |
| To have a house and cars that are better than those of my neighbors (MMSC29) | | | .770 |
| To attract the attention and admiration of others (MMSC30)** | | | |

*Note*. F1 = security; F2 = family; F3 = market worth; F4 = pride; F5 = leisure; F6 = charity; F7 = Freedom; F8 = Impulse; F9 = Self-doubt/social comparison.

Table 2
*Correlations between variables*

| Variables | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1-Good Motives | --- | | | | | |
| 2- Bad Motives | .405* | --- | | | | |
| 3- Need satisfaction | .115* | -.064 | --- | | | |
| 4- Need frustration | .113* | .346* | -.393* | --- | | |
| 5- Employee well-being | .091* | -.115* | .554* | -.424* | --- | |
| 6- Employee ill-being | .075* | .247* | -.254* | .575* | -.376* | --- |

*Note.* *p < .05; ǂ p ≤ .08

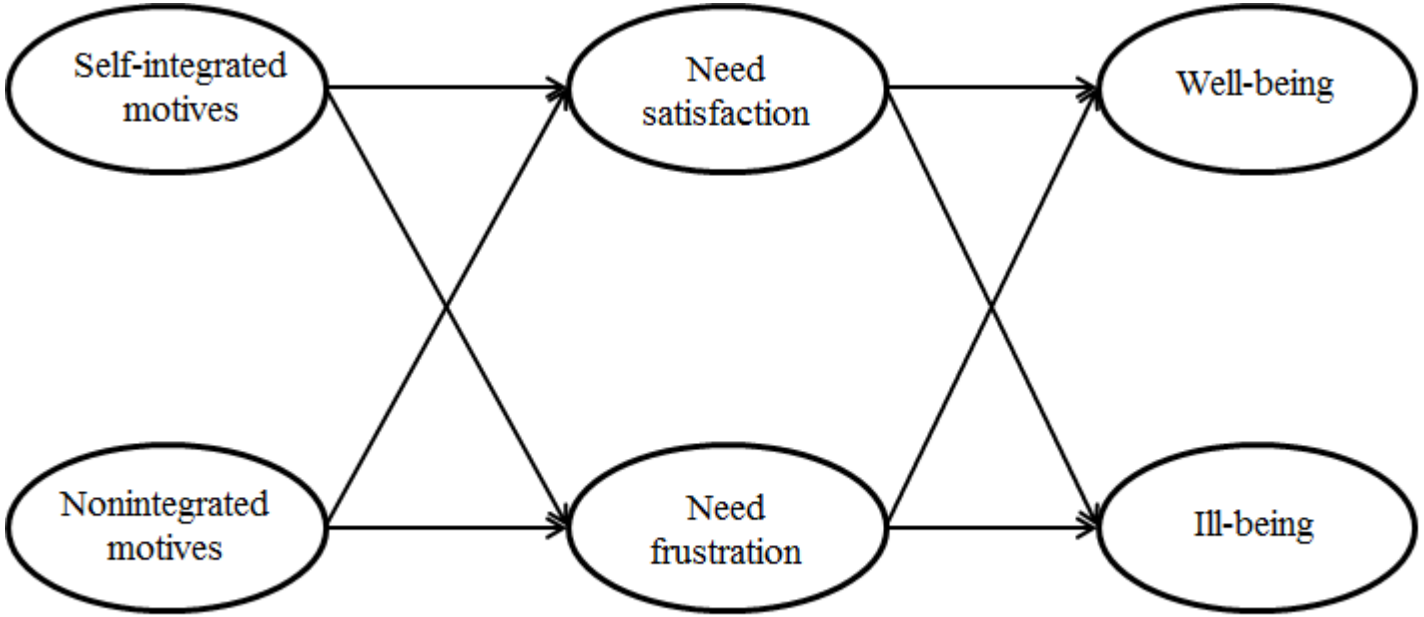


*Figure 1*. The proposed model

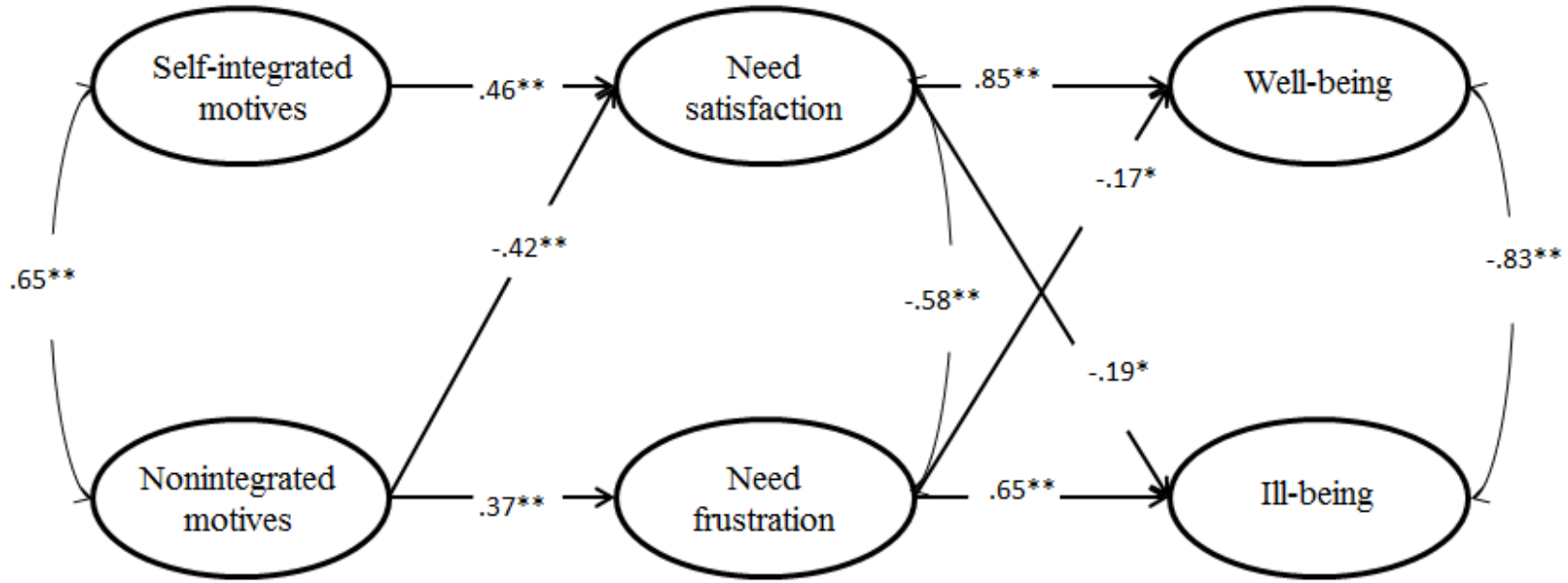


*Figure 2.* The final model depicting the interplay between motives from making money, psychological needs, and employee psychological health