Financial literacy, disordered money behavioral in the context financial therapy concepts

Mahboobeh Behfar
PH. D student of financial management. Faculty of management and Accounting. Science and Research Branch. Islamic Azad University. Tehran. Iran.
Behroo3001@yahoo.com

Mohammadhamed Khanmohammadi
Associate Professor. Department of Accounting. Damavand Branch. Islamic Azad University. Damavand. Iran. (Corresponding Author)
Dr.khanmohammadi@yahoo.com

Hamidreza Kordlouie
Associate Professor. Department of Financial Management. Islamshahr Branch. Islamic Azad University. Islamshahr. Iran.
Hamidreza.kordlouie@gmail.com

Submit: 12/05/2023 Accept: 12/08/2023

ABSTRACT

According to the American psychological association (APA), the number-one stressor in people` lives is money, above work, health, and children. While most Americans find money to be a source of stress in their lives, for some, this stress is a consequence of disordered money behavioral. Disordered money behavioral cannot be completely eliminated but it can be reduced or managed properly. It can negatively influence on people`s career and job performance. Financial literacy is one of the variables that seems to affect disordered money behavioral. This research seeks to investigate the relationship between financial literacy and disordered money behavioral and its construct among Iranians. The research sample selected by available methods includes 385 people of the financial and accounting students and professors of Iranian universities in the first half of 2020. The tools used in the research are standard questionnaires. Structural equations modeling technique in Smart PLS software was used to analyze data. The content and face validity methods and factor analysis were used to confirm the validity of the questionnaire, and its reliability was evaluated using Cronbach's alpha coefficient. The results support that financial literacy have a negative impact on disordered money behavioral and their constructs.

Keywords:

Financial literacy, disordered money behavioral, financial therapists

1. Introduction

It is universally accepted that financial literacy is an essential component of financial and economic stability and development. There are several definitions of financial literacy; however, there is no agreement to these definitions. Each institution has designed financial literacy measuring tools according to its definition; for this reason, there have been many tools and methods in measuring financial literacy (Allgood & Walstad, 2011). Based on the definition of the Organization for Economic Development and Cooperation in 2013, “financial literacy is the ability to make informed judgments and make effective decisions about the use and management of money"(ASIC, 2013). According to Jumpstart (2009), financial literacy is the ability of a person to use his/her knowledge and skills to effectively manage his/her financial resources for financial security throughout his/her lifetime. Therefore, one of the main issues in financial markets' efficient performance is current or potential participants (Karimkhani & Eslami, 2015). Financial literacy and understanding its implications are particularly important to investors because financial decisions significantly impact their financial situation during their lifetime. Additionally, their financial situation in life can affect their overall performance (Shirazian, 2018). In recent years, developing and developed countries have been concerned about their citizens' level of financial literacy. Because it cannot be ignored that the investors are often faced with difficult economic and financial contexts, financial decisions can have major negative consequences in risky financial situations (Gerardi et al., 2010). On the one hand, a person's background feelings or circumstances, such as their financial literacy, may influence financial decisions (Nofsinger, 2014).

A survey by the American Psychological Association (APA) determined that financial concerns are a leading cause of stress in America: 73% of Americans name money as the number one cause of stress in their lives, above such stressors as work and physical health problems. However, with the exception of pathological gambling, psychology has done little to identify problematic money behaviors as an area of concern or offer interventions for disordered money behaviors. (Klontz et al., 2008)

The importance of the category of financial psychological damage and lack of attention to this issue in Iran has led the present study to identify the relationship between financial literacy and disordered money behavioral and its constructs.

2. Literature Review

Most of the existing literature on financial behavior focuses on basic money management tasks (e.g., balancing a checkbook). However, it can be equally important to identify problematic financial behaviors that can sabotage one’s financial health (Ford et al., 2011). It does not take a financial expert to recognize that many individuals engage in problematic financial behaviors. An academic interest in the psychological beliefs and behaviors related to financial outcomes dates back to the early 1970’s with a concentrated effort on the development of assessment tools in the 1990’s (Klontz et al., 2008b). Although it is useful to identify healthy financial behaviors, such as keeping receipts, tracking spending, and using credit wisely, it is also important to identify psychologically-based financial attitudes and behaviors that can sabotage one`s financial health. Furthermore, while some scales exist that measure a specific pattern of money behaviors (e.g., compulsive buying, pathological gambling), no empirically validated stand-alone screening device exists that can measure a variety of disordered money behavior patterns. (Klontz et al., 2012)

In his book The Money Trap, Gallen uses the term “money disorders” to describe “the emotional and spiritual imbalances that express themselves as continuing problems with money and work” (2002). He proposes that money disorders are the result of emotional difficulties, and that people with problematic money behaviors engage in these behaviors to avoid feeling intense and unresolved emotions. For our purposes, we define disordered money behaviors as maladaptive patterns of financial beliefs and behaviors that lead to clinically significant distress, impairment in social or occupational functioning, undue financial strain or an inability to appropriately enjoy one’s financial resources. Symptoms may include anxiety, worry, or despair about one’s financial situation, a lack of savings, excessive debt, bankruptcy, conflict with family or others around money, compulsive overspending or hoarding, financial dependency, or excessive financial risk-taking. These maladaptive patterns of money beliefs and behaviors persist despite their emotional, relational, and financial consequences. (Canale et al., 2015)

Research supports the idea that disordered money behaviors have a significant negative impact on personal well-being. For example, research has shown that being either overly tight or loose with money, being overconcerned with financial success, and being materialistic is associated with lower ratings of well-being. Additionally, individuals who are materialistic report lower levels of self-actualization, vitality, and happiness and higher levels of anxiety, physical symptoms, and unhappiness. Research has also demonstrated that compulsive buying afflicts 5.8% of the population and is associated with feelings of low self-esteem (Klontz et al., 2015).

2.1. Disordered money behavioral

Money disorders can be defined as "maladaptive patterns of financial beliefs and behaviors that lead to clinically significant distress, impairment in social or occupational functioning, undue financial strain, or an inability to enjoy one's financial resources" (Klontz et al., 2012). Gallen (2002) suggested that money disorders are problematic financial behaviors that people engage in to attempt to avoid emotional pain. Gallen described money disorders as "the emotional and spiritual imbalances that express themselves as continuing problems with money and work". Klontz et al. (2014) further hypothesized that a lack of money or low levels of financial knowledge do not explain disordered money behaviors. Rather, disordered money behaviors are psychological in nature and may require psychological intervention to overcome.

Disordered money behaviors are not caused by a lack of money. It is a seemingly logical conclusion for many that problems with money and related stress can be cured by having more money. However, research consistently shows that this is not the case. There is no significant correlation between happiness and money once household incomes are above $50,000 per year, and attitudes about money have been found to be independent of a person's income. Moreover, the significant economic gains experienced by Americans in the past few decades have not been accompanied by a rise in life satisfaction and are actually correlated with increases in distrust and depression (Klontz et al., 2015). Theorists hypothesize that money problems are rooted in early experiences with money. These include both positive and negative experiences during childhood, cultural influences, and early learning, which lead to patterns of learned behaviors that meet psychological and emotional needs rather than facilitating rational financial goals. Vanwijhe et al. (2013) hypothesizes that difficult feelings underlie internal conflicts around money and resolution of these feelings leads to adaptive financial behaviors. Klontz et al. (2014) proposes that the most pervasive and chronically destructive financial behaviors are rooted in painful emotions related to past relationships and events and may require psychotherapy to achieve resolution resulting in lasting healthy financial behaviors.

Eight behavioral patterns that have been noted in the literature relating to money disorders are discussed here, including "compulsive buying", "compulsive hoarding", "financial denial", "financial dependence", "financial enabling", "financial enmeshment", "pathological gambling" and "workaholism". (Klontz et al., 2012)

2.1.1. Overspending and Compulsive Buying Disorder

chronic overspending can be a consequence of compulsive buying disorder. Compulsive buying disorder is typically described by the inability to control one's spending (Klontz & Bolton, 2009). Feelings of depression and low self-esteem have been associated with compulsive buying behavior, in addition to the obvious potential for financial ramifications, such as overspending and excessive debt. Klontz and Klontz (2009) found that approximately 2-8% of the population may be classified as compulsive buyers. Here, we define Compulsive Buying as obsessive, irresistible, out of control buying urges that lead to financial difficulties, feelings of guilt and/or shame, and interfere with one's work or close relationships.

2.1.2. Compulsive Hoarding

Tolin et al. (2007) defined compulsive hoarding as "accumulating and having great difficulty discarding objects that most other people would consider useless or of limited value; having clutter so severe that it prevents or seriously limits the use of living spaces for which the space is intended; and clutter, acquiring, or difficulty discarding causes significant impairment or distress". In fact, compulsive hoarding has been linked to compulsive buying as many compulsive buyers' living spaces are full of clothes, pantry items, books, recreational items, gift items, etc. that have not been used or are outdated (Klontz et al., 2008b). Forman (1987) described a financial hoarder (or "miser" in his words) as one who has a fear of losing money, is distrustful of others related to money, has trouble enjoying money and an inability to discard worn-out or worthless objects even when they have no sentimental value.

2.1.3. Financial denial or Rejection

Financial denial is the "attempt to cope by simply not thinking about money or trying not to deal with it" (Klontz et al., 2008b). Medintz (2004) found that 36% of adults (n=1,001) admitted that they avoided thinking about their financial difficulties. Denial about money and financial avoidance also comes in other forms, such as the belief that money is dirty, unenlightened, or unspiritual. Money avoidant beliefs have been found to be associated with lower levels of income and net worth as well as ignorance around one's net worth (Klontz et al., 2011). Whereas financial denial is a defense mechanism to help relieve anxiety associated with financial stress, financial rejection is the act of ridding oneself of, or avoiding the accumulation of money. It is hypothesized that people with lower self-esteem may be prone to this condition as they may feel unworthy or undeserving of money (Klontz & Klontz, 2009).

2.1.4. Financial Dependence

Financial dependency defines as the reliance on others for non-work income that creates fear or anxiety of being cut-off, feelings of anger or resentment related to the non-work income, and a stifling of one's motivation, passion, and/or drive to achieve. Young adults have become increasingly dependent on their parents in the past few decades (Schneider, 2000), which has been found to be associated with increased parent-child conflict (Aquilino & Supple, 2001). Women who are in abusive relationships have reported that financial dependency is a major reason why they stay in the relationship (Anderson et al., 2003). In fact, Anderson and colleagues found that 46% of domestic violence victims reported a lack of money was one of the main reasons they decided to return to their abuser.

2.1.5. Financial Enabling

Financial enablers are the counterpart to financial dependents. Financial enabling was defined by Klontz et al. (2008b) as the inability to say "no" when someone, such as a family member, continues to ask for money. For example, a parent may continuously help their adult children by rescuing them when they are unable to meet their financial obligations. Enabling can have significant financial ramifications on not only the enabler, but also the one who is being enabled. The enabler believes they are helping, yet the financially dependent individual is never taught to be financially responsible. Klontz and colleagues proposed that financial enabling is not a new problem but has become more common. One reason they suggested for this problem is that society lacks norms with regard to ways for parents to respond to requests for money from adult children.

2.1.6. Financial Enmeshment

In the 1960's, Salvador Minuchin identified that some families are enmeshed or chaotic and tightly interconnected. Enmeshed parents lack boundaries with their children, becoming too entangled with their children to have or maintain a leadership position in the family (Lawson et al., 2015). Financial enmeshment involving adults crossing boundaries with their children in the area of finances. For example, parents sharing too much financial information with children that causes anxiety and stress or asking children to engage in unacceptable age-related behaviors like passing financial messages between adults in conflict. (Nichols & Schwartz, 2007)

2.1.7. Pathological Gambling

In this research, we define pathological gambling as "persistent and recurrent maladaptive gambling behavior that disrupts personal, family, or vocational pursuits" (APA, 2013). The estimated prevalence rates world-wide for pathological gambling are between 1-2% of the population. However, approximately 2-5% percent of the population experiences some type of less severe problematic gambling at some time in their lives (Faregh & Dervensky, 2012). Pathological gambling can be tied to other events than the typical scenario of gambling in a casino hall. Pathological gambling can also be seen in certain professions, such as day-trading or speculating in financial markets, as well as continuously making risky business deals and even "floating" checks (Klontz et al., 2008b).

2.1.8. Workaholism

Archuleta et al. (2013) noted that workaholism is "an addiction wherein the workaholic is highly involved in work, feels driven to work because of inner pressures that make the person feel guilty or depressed when not working, and in which the person has low levels of work enjoyment". Britt et al. (2015) developed and tested self-report scales to identify workaholic, work enthusiast, and other work-related profiles. They found that workaholics scored higher than work enthusiasts on measures of perfectionism, non-delegation of responsibility, and job stress. Workaholism can have profound consequences on one's life – negatively affecting personal health, family relationships, and personal growth. Notably, children of workaholics feel they can never meet their workaholic parent's perfectionistic standards (Archuleta et al., 2012). In this research, workaholism is viewed as an obsessive preoccupation with working and engagement of working long hours that produces extreme guilt and anxiety when not working and interferes with family or close relationships.

2.2. Financial therapy

Financial therapy merges finance with emotional support to help people cope with financial stress. Financial advisors must often provide therapy to clients in order to help them make logical monetary decisions and deal with any financial issues they might be facing (sages et al., 2015). Just as with any other form of therapy that addresses other aspects of a person's life, financial therapy provides support and advice geared specifically toward the financial realm and the stresses that go along with it. The end goal is to get a person's finances in order and provide the necessary advice to keep them in order. (Archuleta et al., 2013)

The Financial Therapy Association defines financial therapy as "a process informed by both therapeutic and financial competencies that helps people think, feel, and behave differently with money to improve overall well-being through evidence-based practices and interventions."(Archuleta et al., 2012)

There are a range of reasons why a person would seek out or need financial therapy. In many cases, behavioral issues cause a person to adapt unhealthy financial routines, including unhealthy spending habits (such as gambling or compulsive shopping), overworking oneself to hoard money, completely avoiding financial issues that must be dealt with, or hiding finances from a partner. Often, bad saving, spending, or working habits are a symptom of other bad habits related to mental or physical health. By identifying disorders money behavioral in people, therapists can be helped in treatment. (Asebedo & Wilmarth, 2017)

2.3. Research background

Previous studies have reported that financial literacy is associated with disordered money behavioral, money scripts and financial anxiety. Jae min et al. (2023) examined whether the association between financial knowledge and financial anxiety depends on an individual`s financial self-efficacy. This study found that financial knowledge and financial self-efficacy were significant in explaining financial anxiety. Also, research states that higher levels of one's perceived control or confidence in one's ability to deal with situations without being overwhelmed can help people respond to financial anxiety better and make financial knowledge work to reduce financial anxiety. Paulus et al (2015) discussed the association between financial literacy and anxiety. As the financial literacy suggests its significant role in various life achievements and aspects, studies also found the contribution of financial literacy to disordered money behavioral

Elliehausen et al. (2019) conducted a study entitled behavioral economics, financial literacy, and consumers' financial decisions. Do subjective shortcuts and heuristic decision-making methods always lead to losses and also do those who have adequate financial literacy use less heuristic decision-making methods? The results show that training has little effect on the use of heuristic methods and individuals do not need training and financial interventions in the same way.

Nuriyev (2019) has conducted a study entitled mental accounting: the impact of human psychology on financial decisions. In this study, the psychological aspects in financial decision making have been examined and recommendations have been introduced to enhance the effectiveness of financial decision making and to identify the limitations of the psychological impacts on making financial decision.

Muris (2002) found that low levels of self-efficacy were related to high levels of disordered money, and specific domains of self-efficacy are associated with particular types of financial behavioral damages. In summary, theory revealed self-efficacy, anxiety-related responses, and literacy to be associated with each other.

Tavakoli et al. (2022) in their research, “The Effectiveness of Acceptance and Commitment Group Financial Therapy on Financial Literacy, Personal Financial Management and Mental Accounting”, were concluded that acceptance and commitment financial therapy is effective for improving merchant’s mental accounting and financial literacy. while the financial therapy approach did not have any significant effect on improving the mean of personal financial management scores.

Considering the above discussion, it seems necessary to study financial literacy in relation to Disordered money behavioral of Iranian psychology. Therefore, the questions of the research can be propounded as: how financial literacy influence on disordered money behavioral to identify and solve them in the financial therapy concepts? According to the question, one major hypothesis and eight sub-hypotheses are proposed to answer the question of the research. The main hypothesis of the current research is:

The high financial literacy will improve disordered money behavioral.

Also, this study follows the following sub-hypotheses:

1) The high financial literacy will improve compulsive buying disorder.
2) The high financial literacy will improve compulsive hoarding disorder.
3) The high financial literacy will improve financial denial disorder.
4) The high financial literacy will improve financial dependence disorder.
5) The high financial literacy will improve financial enabling disorder.
6) The high financial literacy will improve financial enmeshment disorder.
7) The high financial literacy will improve pathological gambling disorder.
8) The high financial literacy will improve workaholism disorder.

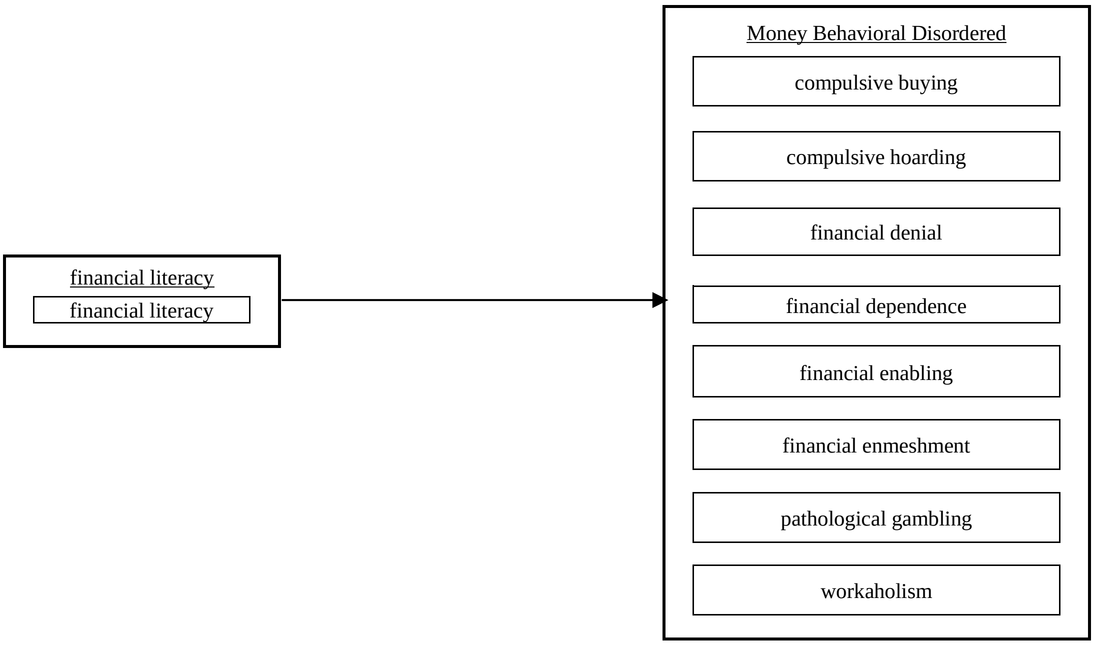

Fig.1: Conceptual Model

3. Research Methodology

In terms of thought system, this is positivist research with quantitative approach and descriptive survey strategy. Moreover, it is quantitative research tactically. Individuals are surveyed and analyzed in this research. In a quantitative approach, a researcher makes use of different techniques to observe and gather data on a particular subject and after analysis, he/she confirms or rejects scientific hypotheses and presents a model. In this research, to test the research model, an online survey was conducted. An online questionnaire was designed using active server pages. The questionnaire included a set of 25 questions was relied on to calculate the financial literacy index. The overall score for financial literacy is the sum of the score's financial knowledge, include: money basics, investing, borrowing, and protecting resources. hence takes values between 1 and 25 (Yaghoubnejad et al., 2014), and items for measuring disordered money behavioral that employed the Likert five-point scale, where 1 indicates strongly disagree and 5 indicates strongly agree (Klontz et al, 2012). The questionnaire webpage was in HTTP protocol and was hosted on a nonprofit server.

This research received 405 responses. Twenty-six responses were deleted; they (1) were completed within 15 minutes (since the survey was estimated to take 25 to 30 minutes), and/or (2) had the same answer to all questions (e.g., all 3's). Accordingly, the final sample consisted of valid 384 responses. To test the nonresponse bias, a wave analysis was conducted to compare the first and last quartile of respondents in terms of key study variables (Armstrong & Overton, 1977). The results indicated that the later respondents were quite similar to the early ones. Thus, the nonresponse bias is not a concern for this study.

Smart PLS software was used for screening data by pre-process tests in two external and internal models and for investigation of reliability and validity (convergent and divergent validity) and investigation of the quality of external model. The items that have a loading, lower than 0.50, and was dropped. Table 1 shows that all of the remaining factor loadings are larger than the suggested threshold of 0.500 (Tenhause et al., 2005).

Table 1: outer loading, t-value and other variables of first-order constructs

Reflective First order Constructs	items	Outer Loading	T-value	Alpha	CR	AVE
Compulsive Buying	ComBuy3	0/757	22/433	0/826	0/828	0/547
	ComBuy4	0/801	25/077			
	ComBuy6	0/840	31/631			
	ComBuy7	0/871	43/571			
	ComBuy9	0/820	23/687			
Compulsive Hoarding	ComHoard2	0/766	19/093	0/804	0/795	0/500
	ComHoard3	0/822	25/377			
	ComHoard4	0/806	24/570			
	ComHoard5	0/758	19/739			
	ComHoard6	0/796	24/764			
Financial Denial	FiDenial1	0/810	23/513	0/801	0/799	0/577
	FiDenial2	0/849	30/273			
	FiDenial3	0/871	36/578			
Financial Dependence	FiDepend1	0/866	34/734	0/761	0/762	0/616
	FiDepend2	0/881	43/017			
	FiDepend3	0/712	13/766			
Financial Enabling	FiEnabl2	0/720	14/170	0/773	0/778	0/547
	FiEnabl3	0/768	17/817			
	FiEnabl4	0/878	52/287			
	FiEnabl5	0/701	14/800			
	FiEnabl6	0/785	20/221			
Financial Enmeshment	FiEnmesh1	0/836	25/114	0/858	0/859	0/678

Reflective First order Constructs	items	Outer Loading	T-value	Alpha	CR	AVE
	FiEnmesh2	0/895	44/471			
	FiEnmesh3	0/907	57/967			
Pathological Gambling	PathGam1	0/786	17/070	0/907	0/908	0/663
	PathGam2	0/855	24/373			
	PathGam3	0/819	18/959			
	PathGam4	0/849	24/241			
	PathGam5	0/893	33/838			
	PathGam6	0/800	16/279			
	PathGam7	0/716	10/612			
Workaholism	Workaho2	0/712	18/384	0/876	0/864	0/524
	Workaho3	0/759	22/880			
	Workaho4	0/772	26/796			
	Workaho5	0/785	22/223			
	Workaho6	0/780	25/400			
	Workaho7	0/797	24/276			
	Workaho8	0/760	23/046			
	Workaho9	0/815	31/619			

Cronbach's alpha coefficient was used to test reliability and factor analysis coefficient was used to test validity. Cronbach's alpha coefficient is a method for testing model reliability. According to table 2, it can be seen that research constructs coefficients are greater than 0.7, as approved by Tenhause et al. (2005). This is true for reliability coefficient rh_a or Spearman correlation which should be greater than 0.7, as stated by Ringle et al. (2015). The closest reliability to reality is composite reliability which is the most important one, and should be greater than 0.7 as stated by Henseler et al. (2009). Contrary to the previous three tests, shared reliability test is not similar to them in form and formula type. In this test, each question is monitored separately to assure that whether the results of factor loading of that question has generalizability or repetition from a sample to another or a model to another model. this generalizability is measured by shared index and its average is calculated for every construct and this average must be greater than 0.5 for every construct.

A summation of the above indices reveals that the primary external model of the research has construct reliability and now the researcher can evaluate the validity of the model.

Construct validity is the most important section of analysis in every statistical and quantitative analysis. In other words, a researcher must be sure that he/she has measured the constructs properly before investigation of mutual impacts and relationships. Validity means to measure what must be measured (Delavar, 2014). Construct validity is made up of convergent and divergent validity. Convergent validity means indices of a construct must be correlated in reflective model towards each other and divergent (discriminative) validity refers to discrimination of indices of every construct towards indices of another construct.

Table 2: Reliability Coefficients of Research Variables

Variables	Cronbach's alpha	rho_a	CR	AVE
ComBuy	0.826	0.882	0.828	0.547
ComHoard	0.804	0.853	0.795	0.500
FiDenial	0.801	0.822	0.799	0.577
FiDepend	0.761	0.802	0.762	0.616
FiEnabl	0.773	0.865	0.778	0.547
FiEnmesh	0.858	0.867	0.859	0.678
PathGam	0.907	0.920	0.908	0.663
Workaho	0.876	0.905	0.864	0.524

Hensler et al. (2009) believed that average variance extracted (AVE) for each construct should be greater than 0.5, and mohsenin and Esfidani (2015) stated that the second condition for a convergent validity to hold is that composite reliability (CR) be greater than AVE for every construct. According to the information in Table 2, convergent validity preconditions hold and it can be said that the research has convergent validity and all questions within the model have convergence with each other. To investigate divergent validity indices, we formed a table out of correlation table and AVE table. This new table is called Forner-Larker table. Square root of AVE is placed on the main diagonal of the table and the square root of AVE for each construct should be greater than the correlation of that construct with other constructs. According to table 3, it can be observed that divergent validity of the constructs is confirmed by Forner-Larker test.

Another important index in investigation of validity is Heterotrait-monotrait ratio Test (HTMT) which was introduced in 2009 by Henseler. In this test, divergent validity of a semantic block from another semantic block is measured simultaneously, every construct is a trait and every question is a method and divergent validity of each semantic block is measured against other blocks mutually. Henseler considered a critical point of 0.9 for this index. As it can be seen in table 4, all construct pairs of the present research have values less than 0.9 and are very appropriate.

Partial least square (PLS) was utilized to accommodate the exploratory nature of the research model and the presence of a large number of variables (Diamantopoulos & Winklhofer, 2001). An advantage of PLS over covariance-based SEM techniques (e.g., LISREL) is that PLS can readily handle formative factors and can avoid the problem of identification of such factors (Petter et al., 2007). Moreover, recently argued that "PLS path modeling can also be used for hierarchical models with formative constructs or a mix of formative and reflective constructs", as is the case in the present study.

Table 3: Discriminant validity (Fornell-Larcker Criterion)

	Compulsive Buying	Compulsive Hoarding	Financial Denial	Financial Dependence	Financial Enabling	Financial Enmeshment	Pathological Gambling	Workaholism
Compulsive Buying	0/739							
Compulsive Hoarding	0/556	0/707						
Financial Denial	0/339	0/222	0/759					
Financial Dependence	0/492	0/488	0/464	0/785				
Financial Enabling	0/474	0/516	0/413	0/607	0/740			
Financial Enmeshment	0/298	0/291	0/377	0/379	0/497	0/824		
Pathological Gambling	0/307	0/349	0/233	0/470	0/386	0/281	0/815	
Workaholism	0/480	0/342	0/311	0/470	0/438	0/249	0/314	0/724

Table 4: Discriminant validity (Heterotrait-Monotrait Ratio Test (HTMT))

	Compulsive Buying	Compulsive Hoarding	Financial Denial	Financial Dependence	Financial Enabling	Financial Enmeshment	Pathological Gambling	Workaholism
Compulsive Buying								
Compulsive Hoarding	0/562							
Financial Denial	0/332	0/206						
Financial Dependence	0/493	0/489	0/458					
Financial Enabling	0/476	0/522	0/420	0/613				
Financial Enmeshment	0/296	0/303	0/381	0/388	0/498			
Pathological Gambling	0/310	0/352	0/235	0/468	0/383	0/277		
Workaholism	0/476	0/353	0/307	0/470	0/454	0/256	0/308	

Jarvis et al. (2003) proposed four criteria for deciding whether a construct is formative or reflective: (1) causal direction from construct to indicators, (2) interchangeability of indicators, (3) covariation among the indicators, and (4) nomological net of the construct indicators. Based on these criteria, Disordered Money Behavioral was modeled as formative factor (Table 5). Financial Literacy (FL), is a first-order reflective construct that has twenty-five indicators. Disordered Money Behavioral (DisMB), on the other hand, is a two-order formative latent construct that has eight first-order formative factors. Each of the eight first-order factors/indicators has several reflective items. The latent variable scores (LVS) were utilized for the formative indicator of DisMB, as suggested by prior research (Rai et al., 2006). Bootstrapping analysis was performed to test the structural model (Chin, 1998b). The independent variable (FL) was added to the model and linked to the dependent variable.

To assess the multicollinearity of DisMB, variance inflation factor (VIF) statistics were examined; these should be lower than 3.3 for formative factors (Diamantopoulos & Winklhofer, 2001) as seen in table 5. The VIF values for the first-order formative indicators. Hence, desired low multicollinearity was observed.

Table 5: Measurement of High-order Constructs

Latent Construct	Level	Type	First-order Sub-construct	Type	Number of items	Weights	Sig.>1.96	VIF<3.3
DisMB	Second-order	Formative	Compulsive Buying	Reflective	5	0/8	6/209	1/513
			Compulsive hoarding	Reflective	5	0/482	0/108	1/27
			Financial denial	Reflective	3	0/593	2/479	1/445
			Financial Dependence	Reflective	3	0/623	1/361	1/408
			Financial Enabling	Reflective	5	0/52	0/079	1/625
			Financial Enmeshment	Reflective	3	0/612	2/92	1/635
			Pathological Gambling	Reflective	7	0/613	3/3	1/271
			Workaholism	Reflective	8	0/466	0/118	1/306

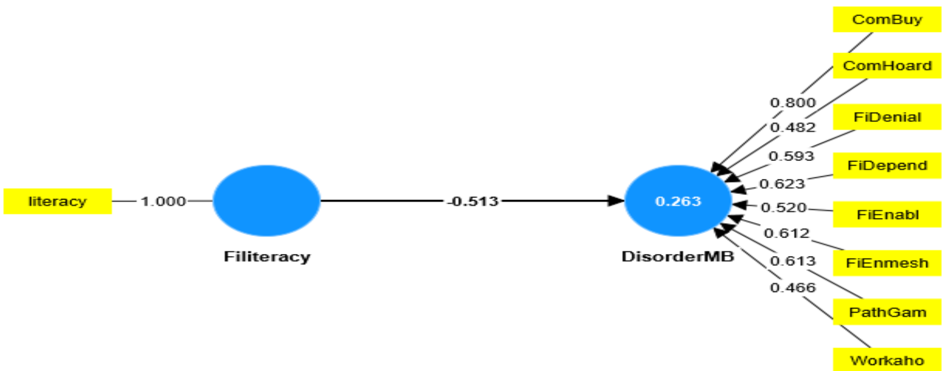

Fig. 2: The model in the state of (effectiveness of) standard estimation coefficients for major hypothesis

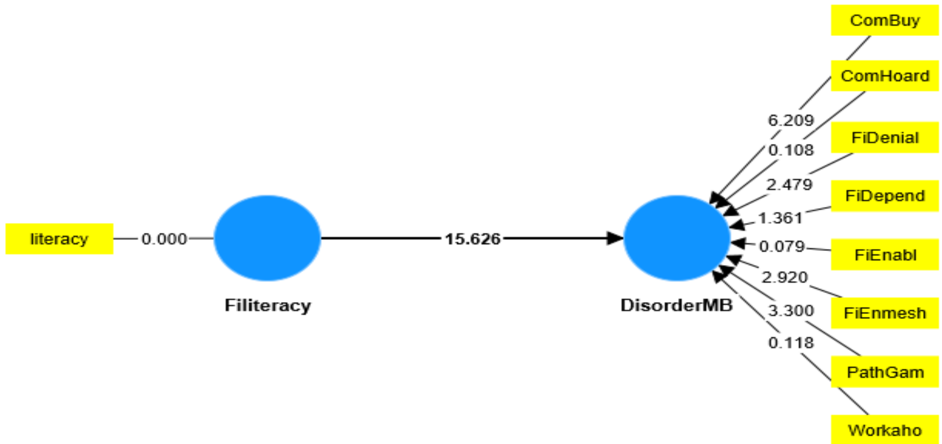

Fig. 3: The model in the state of significant coefficients for major hypothesis

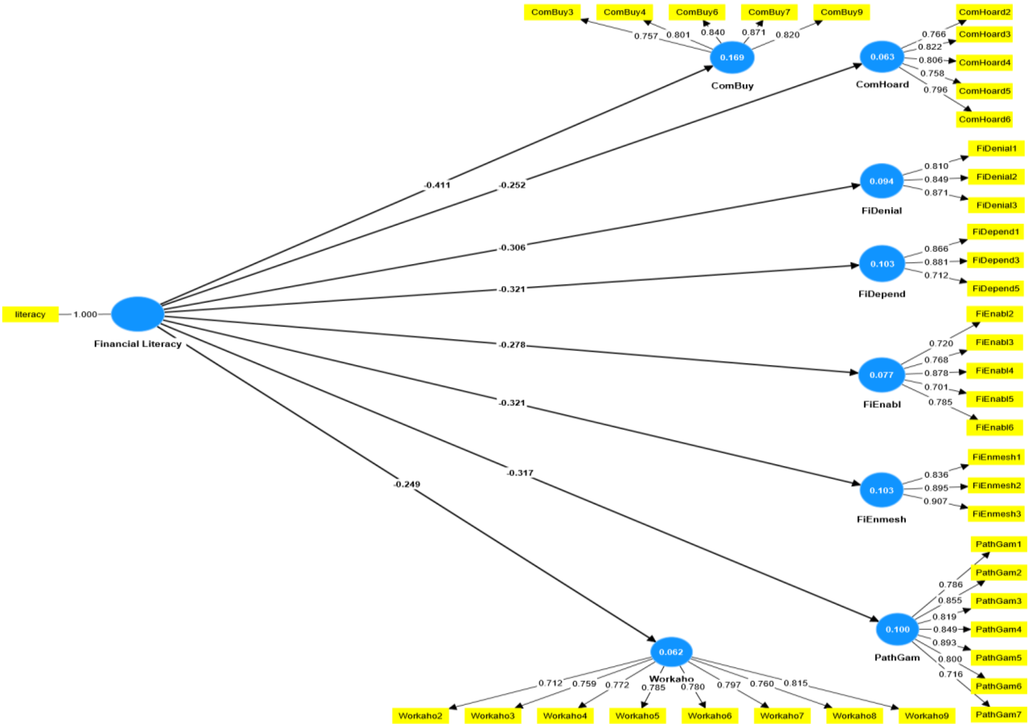

Fig. 4: The model in the state of (effectiveness of) standard estimation coefficients for sub-hypotheses

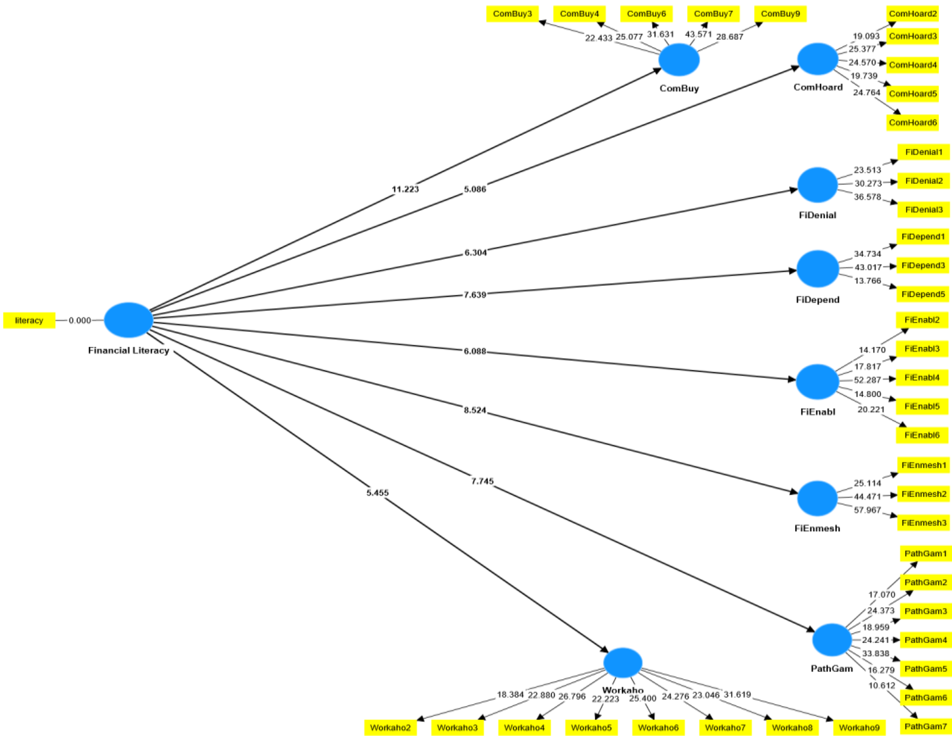

Fig. 5: The model in the state of significant coefficients for sub-hypotheses

The results of hypotheses testing are summarized in table 6. A structural model with the direct effect of the financial literacy on DisMB was first examined.

The weights of the formative indicators are similar to the beta coefficients in a standard regression model and indicate the relative importance of formative indicators (Cenfetelli & Bassellier, 2009). The formative indicators of DisMB have significant weight (b=0/534, t=16/566, p<0.001). The eight first-order factors of DisMB are also significant at the 0.01 level.

The proposed structural model was examined for all the relationships. To evaluate the structural model, beta, t-values, coefficient of determination (R2), effect size and predictive relevance are assessed. For t-values bootstrapping procedure (with 5000 re- samples) was employed. Fig. 5, PLS-SEM is shown with t-values.

The results of hypotheses testing are summarized in Table 6. A structural model with the direct effects of the financial literacy on the disordered money behavioral constructs was examined. The direction of influence of all path coefficients are negative, which are in accordance with the research hypotheses. The results in Table 6 show that Financial literacy has a negative and significant impact on Compulsive buying (β = 0/411, p $\leq$ 0.000), Compulsive hoarding (β = 0/252, p $\leq$ 0.000), Financial denial (β = 0/306, p $\leq$ 0.000), Financial dependence (β = 0/321, p $\leq$ 0.000), Financial enabling (β = 0/278, p $\leq$ 0.000), Financial enmeshment (β = 0/321, p $\leq$ 0.000), Pathological gambling (β = 0/317, p $\leq$ 0.000) and Workaholism (β = 0/249, p $\leq$ 0.000). Therefore, all sub-hypothesizes were supported. Also, the main hypothesis, the impact of financial literacy on Disordered money behavioral patterns (β = 0/513, p $\leq$ 0.000) was a negative and significant impact. Hence, major hypothesize was also supported.

According to the information related to Figure 4 structural model in the case of estimating standard coefficients and Figure 5 structural model in the case of significance of coefficients, it is quite clear what the values of path coefficients are and what results the significance of path coefficients leads to the present research hypotheses.

For evaluate matching the observed model in the sample with the expected model in real society we must use SRMR Fit test. Only SRMR index has enough stability and reliability to match the observations with the realities of the society from among all fit indices presented for PLS. Ringle et al. (2015) proposed a less than 0.08 value for this index. The results of the present research indicate that this index value is equal to 0.043. therefore, fit is confirmed by this test.

Table 6: Hypothesis testing

Relationships	Hyp. No	ß	Sig.>1.96	P-value	Decision
Financial Literacy → Disordered Money Behavioral	H1	-0/513	15/426	0/000	Accepted
Financial Literacy → Compulsive Buying	H1-1	-0/411	11/223	0/000	Accepted
Financial Literacy → Compulsive Hoarding	H1-2	-0/252	5/086	0/000	Accepted
Financial Literacy → Financial Denial	H1-3	-0/306	6/304	0/000	Accepted
Financial Literacy → Financial Dependence	H1-4	-0/321	7/639	0/000	Accepted
Financial Literacy → Financial Enabling	H1-5	-0/278	6/088	0/000	Accepted
Financial Literacy → Financial enmeshment	H1-6	-0/321	8/524	0/000	Accepted
Financial Literacy → Pathological Gambling	H1-7	-0/317	7/745	0/000	Accepted
Financial Literacy → Workaholism	H1-8	-0/249	5/455	0/000	Accepted

4. Results

This study used a large-scale, national data set from the Iran 2020 to examine associations between financial literacy and disordered money behavioral. Financial literacy was measured using 25 questions. disordered money behavioral was used with 53 items which are located in 8 subscales, including compulsive buying, pathological gambling, compulsive hoarding, workaholism, financial dependence, financial enabling, financial denial and financial enmeshment. All eight subscales were found to have high reliability in measuring disordered behaviors, and were associated with negative financial literacy indicators. The findings of this study indicate that having higher financial literacy is negatively associated with disordered money behavioral, which is consistent with hypothesizes. This evidence shows multiple benefits of having higher levels of financial literacy, which can boost its positive main effect when working together: Financial literacy can relieve consumers' disordered money behavioral and reinforce the role of their financial literacy if it is at higher levels and can help people respond to financial anxiety.

This study gives implications to researchers and financial therapy and counseling practitioners in household finances that financial literacy should be considered when disordered money behavioral is estimated. For instance, practitioners in front of clients with higher financial literacy should be cautious of the sensitive response about disordered money behavioral when their financial self-efficacy level is low and help them improve their financial self-efficacy. As a result, Practitioners should assess financial literacy before implementing therapeutic practices.

Emotional and physiological responses could be associated with how people perceive and engage in a stressful situation and assessment of their life, which is subject to psychological mechanisms and circumstances. Studies based on financial therapy concepts suggest that financial literacy can complement the knowledge and actual capability and ease the emotional and physiological state through goal orientation. Our findings add empirical insights into the interactions and highlight the importance of financial literacy at high levels. Studies also suggest that financial literacy increases the capacity to manage behavior and face challenges, pushing people to perform more persistently (Bandura, 1991). These attitudes, beliefs, and behavioral tendencies can form psychological hardiness that buffers against stress, and one's satisfaction with life.

Effective financial decision-making and behavioral involvement improving commitment and control with financial literacy can deal with disordered money behavioral. This implies that psycho-social intervention, such as Cognitive Behavioral Therapy and financial therapy, is useful on the practical side. Based on Cognitive Behavioral Therapy, positive emotion leads to positive thoughts, behavioral changes, and a balanced life (Beck, 2011). Educators and practitioners in financial therapy and counseling can note our findings to empower students through improved financial literacy. Students can utilize their financial literacy more proactively in their financial life and handle financial stress better, resulting in life satisfaction.

5. limitations and conclusion

Financial therapists should be aware of the psychological, emotional, relational, and financial symptoms of the money disorders outlined in this research. Several money disorders have recently been recognized as mental illnesses by the mainstream mental health community. This encourages research and treatment efforts, and it is hoped that this trend towards recognizing money-related disorders continues. Financial planners frequently come into contact with money disorders and their consequences, and are asked to intervene using standard financial planning methods. Proper referrals and treatment can be administered as a result of recognizing salient characteristics, and financial planners are in a key position to be first responders. Although limited literature and research exists on many money disorders described, these problematic behaviors can negatively impact not only the individual but family, friends, and society at large. As such, it is hoped that research efforts continue to define, describe, and develop interventions for these often-debilitating money disorders.

Due to the data availability, our financial literacy and disordered money behavioral measures were limited to the questions asked in the survey, although these were based on previous literature. Depending on the research context, purpose, and literature selected, other methods may be used to measure financial literacy and disordered money behavioral in a more direct and diverse way, such as an experiment or other survey questions. Another limitation is that the data are cross-sectional. Thus, the results only show associations between dependent and independent variables that only imply potential effects of financial literacy and disordered money behavioral. This study did not address a causal relationship between the variables. Future studies using longitudinal data or other research designs, such as well-controlled field studies or lab studies, could further explore the potential causality of the variables. For example, researchers can assess whether financial literacy and disordered money behavioral can be manipulated experimentally in future studies.

Even though this study has the limitations noted above, it highlights significant associations between financial literacy and disordered money behavioral based on a large-scale data set and methodological diversification and justification of measures and analyses, in which further exploration, application, and discussion are expected by financial therapists, consumer educators, policymakers, and researchers. Additional research can explore associations between financial anxiety and financial knowledge using this nationally representative sample with comprehensive financial literacy and behavior measures. For example, similar research can be replicated among different demographic groups to generate useful information for financial educators working with diverse populations.

References:

* Aquilino, W., Supple, A. (2001). Long term effects of parenting practices during adolescence on well-being outcomes in young adulthood. Journal of Family Issues, 22, 289-308.
* Allgood, S., Walstad, W. (2011). The effect of perceived and actual financial knowledge on credit card behavior, NFI Working Papers, Indiana State University.
* American Psychiatric Association (APA). (2013). Diagnostic and statistical manual of mental disorders: DSM-5™. Washington: American Psychiatric Publishing.
* Anderson, M. A., Gillig, P. M., Stitaker, M., McCloskey, K., & Grigsby, N. (2003). Why doesn`t the just leave? A descriptive study of victim reported impediments to her safety. Journal of family Violence, 18(3), 151-155.
* Armstrong, J. S., Overton, T. S. (1977). Estimating Nonresponse Bias in Mail Surveys. Journal of Marketing Research, 14(3), 396-402.
* Archuleta, K. L., Burr, E. A., Dale, A. K., Canale, A., & Danford, D. (2012). what is Financial Therapy? Discovering Mechanisms and Aspect of an Emerging Field. Journal of Financial Therapy, 2 (3), 56-78.
* Archuleta, K. L., Dale, A. K., & Spann, S. M. (2013). College students and financial distress: Exploring debt, financial satisfaction, and financial anxiety. Financial Counseling and Planning, 24 (2), 50-62.
* Asebedo, S. D., & M. J. Wilmarth. (2017). Does how about financial matter for mental health? The journal of Financial Therapy. 8 (1): 22-24.
* Australian Securities and Investments Commission (ASIC). (2013). Review of the National Financial Literacy Strategy, report: 339, 1-32.
* Bandura, A. (1991). Social cognitive theory of self-regulation. Organizational Behavior & Human Decision Processes, 50, 248-287.
* Beck, J. S. (2011). Cognitive behavior therapy: Basics and beyond (2nd ed.). New York, NY: The Guilford Press.
* Britt, S. L., Klontz, B. T., & Archuleta, K. L. (2015). Financial therapy: Establishing an Emerging field. Journal of Financial Therapy, 1 (1), 42–60.
* Canale, C., Archuleta, K. L. & Klontz, B. T. (2015). Money Disorders. Journal of Financial Therapy, 2 (1), 1-22.
* Cenfetelli, R. T., & Bassellier, G. (2009). Interpretation of Formative Measurement in Information Systems Research, MIS Quarterly, 33(4), 689-707.
* Chin, W. W. (1998b). The Partial Lease Squares Approach for Structural Equation Modeling: in Modern Methods for Business Research., Lawrence Erlbaum, 295-336.
* Delavar, A. (2014). Scientific and theoretical foundations of research in humanities and social sciences, Tehran: Roshd Publications.
* Diamantopoulos, A., & Winklhofer, H. M. (2001). Index Construction with Formative Indicators: An Alternative to Scale Development, Journal of Marketing Research. 38(2), 269-277.
* Elliehausen, G. (2019). Behavioral Economics, Financial Literacy, and Consumers’Financial Decisions. In The Oxford Handbook of Banking. London: Oxford University Press.
* Faregh, N., & Dervensky, J. (2012). Epidemiology of problem gambling in a canadian community. Community Mental Health Journal. 49 (1), 230-235.
* Ford, M.R., Baptist, J. A., & Archuleta, K. L. (2011). A theoretical approach of the Ford financial empowerment model. Journal of Financial Therapy, 2 (2), 20-40.
* Forman, N. (1984). Mind over Money. Tronto: Doubleday.
* Gallen, R. (2002). The money trap: A practical program to stop self-defeating financial habits so you can reclaim your grip on life. New York: Harper Collins Publishers.
* Gerardi, K., Goette, L. & Meier, S. (2010). Financial literacy and subprime mortgage delinquency: evidence from a survey matched to administrative data. Federal Reserve Bank of

Atlanta Working Paper, 1(10), 22-25.

* Henseler, J., Ringle, C.M., Sarstedt, M. (2013). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of Academic Marketing Science. 43 (1), 115–135.
* Henseler, J., Ringle, C., & Sinkovics, R. (2009). The use of Partial least squares path modeling in international marketing. Advances in International Marketing (AIM), 20(1), 277–320.
* Jae Min, L., Rabbani, A. & Wookjae, H. (2023). Examining financial anxiety focusing on interactions between financial knowledge and financial self-efficacy. Journal of financial therapy, 1(14), 20-41.
* Jarvis, B., Mackenzie, S., & Podsakoff, P. (2003). A critical review of construct indicators and measurement model misspecification in marketing and consumer research. Journal of consumer research, 30(2), 199-218.
* Jumpstart coalition. (2009). National Standard in K-12 Personal Financial Education. Washington: American Psychiatric Publishing.
* Karimkhani, M. & eslami, S. (2015). Examination of the factors affecting financial literacy and its relation with participation in the Tehran Exchange Market. Postgraduate Dissertation. Tehran: Shahid Beheshti University.
* Klont, B. T., & Bolton, J. V. (2009). Compulsive buying: A cognitive-behavioral model. Clinical Psychology and Psychotherapy. 16 (2), 83-99.
* Klontz, B. T., Britt, S. L., & Archuleta, K. L. (2015). Financial therapy: Theory, research, and practice. New York: Springer, 70-84.
* Klontz, B., Britt, S. L., Mentzer, J., & Klontz, T. (2011). Money beliefs and financial behaviors: Development of the Klontz Money Script Inventory. Journal of financial Therapy, 2(1), 1-22.
* Klontz, B. T., Bivens, A., Klontz, P. T., Wada, J., and Kahler, R. (2014). The treatment of disordered money behaviors: Results of an open clinical trial. Psychological Services. 5 (3), 295–308.
* Klontz, B. T., Britt, S. L., Archuleta, K. L., and Klontz, B. T. (2012). Disordered money behaviors: Development of the Klontz Money Behavior Inventory. The Journal of Financial Therapy. 3 (1), 17-42.
* Klontz, B. T., Kahler, R., and Klontz, T. (2008b). Facilitating financial health: Tools for financial planners, coaches, and therapists. Cincinnati: The National Underwriter Company.
* Klontz, B. T., and Klontz, T. (2009). Mind over money: Overcoming the money disorders that threaten our financial health. NewYork: Crown Business.
* Lawson, D., Klontz, B. T. and Britt, S. L. (2015). Money scripts. Journal of Financial Therapy. 32 (1), 14-18.
* Medintz, S. (2004). Secrets lies and money, Journal of financial therapy. 34(4), 121-128.
* Mohsenin, Sh. & Esfidani, M. R. (2015). Structural equations based on partial least squares approach using smart-PLS software. Tehran: Mehrian Publishing.
* Muris, P. (2002). Relationships between self-efficacy and symptoms of anxiety disorders and depression in a normal adolescent sample. Personality & Individual Differences, 32(2), 337-348.
* Nichols, M. P., & Schwartz, R. C. (2007). The essentials of family therapy. Boston: Pearson Education.
* Nofsinger, J. R. (2014). The Psychology of Investing, Pearson Prentice Hall. New Jersey: Upper Saddle River.
* Nuriyev, N., & Azizov, A. (2019). Mental Accounting: The Impact Of Human Psychology On Financial Decisions. Economic and Social Development: Book of Proceedings, 1043-1050.
* Paulus, D., Wadsworth, L., & Hayes-Skelton, S. (2015). Mental health literacy for anxiety disorders: How perceptions of symptom severity might relate to recognition of psychological distress. Journal of Public Mental Health, 14(2), 94-106.
* Petter, S., Straub, D., and Rai, A. (2007). Specifying Formative Constructs in Information Systems Research. MIS Quarterly, 31(4), 623-656.
* Rai, A., Patnayakuni, R., and Seth, N. (2006). Firm Performance Impacts of Digitally Enabled Supply Chain Integration Capabilities. MIS Quarterly, 30(2), 225-246.
* Ringle, C. M., Sarstedt, M., & Schlittgen, R. (2015). Genetic algorithm segmentation in partial least squares structural equation modeling. OR Spectrum, 36(1), 251–276.
* Sages, R. A., T. S. Griesdorn, C. G. Gudmunson, and K. L. Archuleta. (2015). Assessment in

Financial Therapy. The journal of Financial Therapy. 3 (2): 6-11.

* Schneider, J. (2000). The increasing financial dependency of young people on their parents. Hournal of Youth Studies, 3(1), 5-20.
* Shirazian, Z. (2018). Investigating the role of financial literacy and money management on personal financial management of Tehran Stock Exchange investors. Financial Knowledge of Securities Analysis, 11(38), 145-163.
* Tavakoli, N. Z., Taherinia, M., Jalali, D. & Givaki, E. (2022). The Effectiveness of Acceptance and Commitment Group Financial Therapy on Financial Literacy, Personal Financial Management and Mental Accounting. Journal of finance and managerial Accounting. 24(7), 227-239.
* Tenenhaus, M., Amato, S., & Esposito Vinzi, V (2005). A global goodness-of-fit index for PLS structural equation modeling. In Proceedings of the XLII SIS Scientific Meeting. 739–742.
* Tolin, D., Frost, R., & Steketee, G. (2007). Buried in treasures: Help for compulsive acquiring, saving and hoarding. England: Oxford University Press. 11-12
* Vanwijhe, C., Peeters, M., & Schaufeli, W. (2013). Irrational beliefs at work and their implications for workaholism. Journal of Occupational Rehabilitation. 22 (4), 1–11.
* Yaghoubnejad, A., Nikoomaram, H., and Moinuddin, M. (2014). Developing the Financial Literacy Education Model in Iran using the Fuzzy Delphi Approach. Journal of Finance and Managerial Accounting. 2(8), 1-49.