Journal of Financial Therapy

Volume 6
Issue 2 *Volume 6, Issue 2*

Article 3

March 2016

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Recommended Citation

Taylor, C. D., Klontz, B., & Britt, S. L. (2016). Internal Consistency and Convergent Validity of the Klontz Money Behavior Inventory (KMBI). *Journal of Financial Therapy, 6* (2) 3. https://doi.org/10.4148/1944-9771.1101

Internal Consistency and Convergent Validity of the Klontz Money Behavior Inventory (KMBI)

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The Klontz Money Behavior Inventory (KMBI) is a standalone, multi-scale measure than can screen for the presence of eight distinct money disorders. Given the well-established relationship between mental health and financial behaviors, results from the KMBI can be used to inform both mental health care professionals and financial planners. The present study examined the internal consistency and convergent validity of the KMBI, through comparison with similar measures, among a sample of college students (n = 232). Results indicate that the KMBI demonstrates acceptable internal consistency reliability and some convergence for most subscales when compared to other analogous measures. These findings highlight a need for literature and assessments to identify and describe disordered money behaviors.

Keywords: money disorders; compulsive buying disorder; financial enabling; financial dependence; hoarding disorder; gambling disorder; workaholism; money behaviors

INTRODUCTION

The Klontz Money Behavior Inventory (KMBI; Klontz, Britt, Archuleta, & Klontz, 2012) was developed to address the need for an empirically-validated, single, standalone screening instrument to assess for the presence of a variety of disordered money behaviors. Prior to development of the KMBI, a limited number of assessments existed to measure specific money disorders (e.g., compulsive buying, pathological gambling), so practitioners had to administer several instruments to screen for multiple disorders and

ISSN: 1945-7774

psychometric research on these assessments was limited. Based on the research and clinical work of Klontz and Klontz (2009), the KMBI was designed to be a single, multi-scale instrument screened for the presence of eight distinct disordered money behaviors, including such issues as workaholism, financial dependence, and financial enmeshment.

The KMBI differs from its sister measure, the Klontz Money Scripts Inventory (KMSI; Klontz, Britt, Mentzer, & Klontz, 2011) in that the KMBI assesses problematic money behaviors, whereas the KMSI assesses money beliefs. Both measures are based on social learning theory (Bandura, 1977), which holds that social functioning involves the interaction of personal factors/attitudes/beliefs, environmental factors, and behaviors. Whereas the KMSI primarily measures personal factors/attitudes/beliefs surrounding money, the KMBI primarily measures money behaviors. Research has linked environmental factors, such as income, net worth, marital status, and childhood socioeconomic status to both measures.

Psychological beliefs have been linked to financial outcomes since the 1970s (Furnham, 1996), but psychology as a field has long viewed issues surrounding money as taboo (Klontz, Kahler, & Klontz, 2008). Sigmund Freud's quip that one of the strongest associations in Western culture is between feces and gold hints at the aversion of many mental health practitioners to issues involving money (Freud, 1908). In fact, recent research has found that when compared to other professions, mental health professionals have lower levels of financial health and are more likely to be money avoidant (Britt, Klontz, Tibbetts, & Leitz, 2015; Klontz & Britt, 2012). Ignoring financial behaviors may hamper the effectiveness of mental health providers in helping clients deal with the number one stressor in their lives - money (American Psychological Association, 2015). It also limits their ability to treat such issues as marital strife and depression, as financial issues are a major contributor to divorce (Dew, Britt, & Huston, 2012) and severe debt can lead to depression and suicide (Gerson, 2008). Conversely, it is important for financial advisors to account for the mental health needs of their clients. The KMBI was developed with the goal of efficiently screening for disordered money behaviors to better inform the practice of mental health care providers and financial advisors.

General Structure of the KMBI

The KMBI consists of 56 items divided among eight subscales: Compulsive Buying Disorder, Workaholism, Gambling Disorder, Hoarding Disorder, Financial Enabling, Financial Dependence, Financial Enmeshment, and Financial Denial. Each item asks respondents to select to what degree on a six-point Likert scale (strongly disagree, disagree, disagree a little, agree a little, agree, and strongly agree) they endorse a particular statement. Klontz et al. (2012) demonstrated acceptable internal consistency reliability for most KMBI subscales among a sample of 422 people (please see Table 1 to view items from the KMBI).

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Table 1

The Klontz Money Behavior Inventory (KMBI)

Compulsive Buying Disorder Subscale (*M* = 23.79; *SD* = 9.08)

1.) My spending feels out of control
2.) I obsess about shopping
3.) I buy more things than I need or can afford
4.) I feel irresistible urges to shop
5.) I shop to forget about my problems and make myself feel better
6.) I feel guilt and/or shame after making purchases
7.) I often return items because I feel bad about buying them
8.) I have tried to reduce my spending but have had trouble doing so
9.) I hide my spending from my partner/family
10.) I feel anxious or panicky if I am unable to shop
11.) Shopping interferes with my work or relationships

Workaholism Subscale (*M* = 29.96; *SD* = 10.03)

1.) I often feel an irresistible drive to work
2.) My family complains about how much I work
3.) I feel guilty when I take time off of work
4.) I feel a need to constantly stay busy
5.) I often miss important family events because I am working
6.) I have trouble finishing projects because I feel they are never quite perfect enough
7.) I have trouble falling or staying asleep because I am thinking about work
8.) I have made promises to myself or others to work less but have had trouble keeping them
9.) It is hard for me to enjoy time off of work
10.) People close to me complain that I am so focused on my "to-do" lists that I ignore them or brush aside their needs or concerns
11.) I have trouble saying "no" when asked to work extra hours or take on extra projects

Gambling Disorder Subscale (*M* = 8.61; *SD* = 4.23)

1.) I have trouble controlling my gambling
2.) I gamble to relieve stress or make myself feel better
3.) I have to gamble with more and more money to keep it exciting
4.) I have committed an illegal act to get money for gambling
5.) I have borrowed money for gambling or have gambled on credit
6.) My gambling interferes with other aspects of my life (e.g., work, education, relationships)
7.) I have hid my gambling from people close to me

Hoarding Disorder Subscale (*M* = 19.23; *SD* = 8.44)

1.) I have trouble throwing things away, even if they aren't worth much
2.) My living space is cluttered with things I don't use
3.) Throwing things away makes me feel like I am losing a part of myself
4.) I feel emotionally attached to my possessions
5.) My possessions give me a sense of safety and security
6.) I have trouble using my living space because of clutter
7.) I feel irresponsible if I get rid of an item
8.) I hide my need to hold onto items from others

Financial Enabling (*M* = 14.54; *SD* = 6.32)

1.) I give money to others even though I can't afford it
2.) I have trouble saying "no" to requests for money from family or friends
3.) I sacrifice my financial well-being for the sake of others

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4.) People take advantage of me around money
5.) I lend money without making clear arrangements for repayment
6.) I often find myself feeling resentment or anger after giving money to others

Financial Dependence (*M* = 10.50; *SD* = 4.47)
1.) I ask others for money when I am financially stressed
2.) I couldn't make ends meet without receiving non-work income
3.) I feel like the money I get comes with strings attached
4.) I often feel resentment or anger related to the money I receive
5.) A significant portion of my income comes from money I do nothing to earn (e.g., trust fund, compensation payments).
6.) I have significant fear or anxiety that I will be cut off from my non-work income
7.) The non-work income I receive seems to stifle my motivation, passion, creativity, and/or drive to succeed

Financial Denial (*M* = 4.95; *SD* = 2.32)
1.) I avoid thinking about money
2.) I try to forget about my financial situation
3.) I avoid opening/looking at my bank statements*

Compulsive Buying Disorder

The KMBI defines Compulsive Buying Disorder 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" (Klontz et al., 2012, p. 19). The Compulsive Buying Disorder subscale of the KMBI consists of 11 items and asks respondents to rate how much they agree with statements, such as (a) My spending feels like it is out of control; (b) I feel irresistible urges to shop; and (c) I hide my spending from my partner/family. Research suggests that compulsive buying is related to anxiety, depression, obsessive-compulsiveness, eating disorders, substance abuse, a tendency to try to escape from stress, low conscientiousness, and an external locus of control (Benson, 2000; Hanley & Wilhelm, 1992; Rodriguez-Villarino, Gonzalez-Lorenzo, Fernanez-Gonzalez, Lameiras-Fernandez, & Foltz, 2006). Klontz et al. found that respondents most likely to endorse items related to compulsive buying disorder were younger, female, non-married, and with lower levels of education. Further, Klontz et al. found that scoring highly on the Compulsive Buying Disorder subscale is associated with higher scores on the Financial Enabling and Financial Denial subscales of the KMBI. Klontz and Britt (2012) found a significant positive association between the KMSI Compulsive Buying Disorder scale and the KMSI Money Avoidance, Money Worship, and Money Status scales and a significant negative association with the Money Vigilance scale.

Workaholism

The KMBI defines Workaholism 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" (Klontz et al., 2012, p. 20). In addition to being a money disorder, workaholism is also associated with certain mental

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health disorders, such as anxiety disorders and Obsessive-Compulsive Personality Disorder. Workaholism might also function as a behavior that allows individuals to avoid psychological and social stressors. The Workaholism scale of the KMBI consists of 11 items, such as (a) I often feel an irresistible drive to work; (b) My family often complains about how much I work; and (c) It's hard for me to enjoy time off of work. Those scoring high on the Workaholism subscale tend to be males who earn high incomes and carry revolving credit card debt (Klontz et al., 2012). Klontz and Britt (2012) found a significant positive association between the KMBI Workaholism subscale and the KMSI Money Avoidance and Money Worship scales.

Gambling Disorder

Pathological gambling, now known as Gambling Disorder in the *DSM-5™*, is recognized as a mental disorder by the American Psychiatric Association (APA, 2013). The KMBI defines pathological gambling as "persistent and recurrent maladaptive gambling behavior that disrupts personal, family, or vocational pursuits" (APA, 2000, p. 674; Klontz et al., 2012). The Gambling Disorder subscale of the KMBI consists of seven items, asking individuals to what degree they endorse statements, such as (a) I have trouble controlling my gambling; (b) I gamble to relieve stress or make myself feel better; and (c) My gambling interferes with other aspects of my life. Those scoring high on the Gambling Disorder subscale tend to be males, unmarried, and of low-net worth (Klontz et al., 2012). Klontz and Britt (2012) found a significant positive association between the KMSI Gambling Disorder scale and the KMSI Money Status scale, and a significant negative association with the Money Vigilance scale.

Hoarding Disorder

The American Psychiatric Association recently delineated a new diagnosis of hoarding disorder, which had previously been subsumed under the diagnosis of Obsessive-Compulsive Disorder, through its release of the *DSM-5™* (APA, 2013). Awareness of compulsive hoarding behaviors has been heightened due to several popular television series centered on the disorder. However, increased attention has not been placed on hoarding behaviors related to money. The KMBI describes someone endorsing behaviors of compulsive hoarding as "a person who has trouble throwing items of little value away, has a living space cluttered with things that are not used, and feels emotionally attached to possessions" (Klontz et al., 2012, p. 28). The Hoarding Disorder subscale of the KMBI consists of eight items, such as (a) I have trouble throwing things away, even if they aren't worth much; (b) My living space is cluttered with things I don't use; and (c) I feel emotionally attached to my possessions. Klontz et al. found that males with lower levels of net worth tend to endorse higher levels of compulsive hoarding behaviors. Klontz and Britt (2012) found a significant positive association between the KMSI Hoarding Disorder scale and the KMSI Money Avoidance and Money Worship scales.

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Financial Enabling

Financial enabling is "the inability to say 'no' when someone, such as a family member, continues to ask for money" (Klontz et al., 2012, p. 21). Klontz and colleagues posited that financial enabling is not new, but is becoming increasingly common, as contemporary society lacks guidelines as to how parents should respond to requests for money from adult children. The Financial Enabling subscale of the KMBI consists of six items, such as (a) I give money to others even though I can't afford it; (b) I have trouble saying "no" to requests for money from family and friends; and (c) People take advantage of me around money. Younger, non-married individuals with both lower levels of education and lower levels of net worth who were raised in less wealthy families and maintain revolving credit card debt tend to endorse the highest levels of financial enabling (Klontz et al., 2012). Klontz and Klontz (2009) suggested that people who have relatively more money than their primary social group are vulnerable to financial enabling behaviors, as they may feel compelled to give away their money to maintain their status and affiliations in the group. Research has found that, when compared to earners making $80,000 per year, higher earners (those who make over $150,000 per year) are more likely to exhibit financial enabling behaviors (Klontz, Seay, Sullivan, & Canale, 2014). Klontz and Britt (2012) found a significant positive association between the KMBI Financial Enabling scale and the KMSI Money Avoidance and Money Worship scales and a significant negative association with the Money Vigilance scale.

Financial Dependence

The KMBI defines financial dependence 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" (Klontz et al., 2012, p. 21). While financial dependence is not a psychological disorder in itself, it may be associated with the *DSM-5™* diagnoses of Dependent Personality Disorder and Narcissistic Personality Disorder (APA, 2013). According to the *DSM-5™* diagnostic criteria, individuals with Dependent Personality Disorder have difficulty making decisions without excessive reassurance from others, need others to assume responsibility for themselves in major life areas, have difficulty doing things on their own, and have difficulty expressing disagreement with others for fear of loss of support (APA, 2013). Individuals with Narcissistic Personality Disorder often exaggerate their sense of self-importance, have fantasies of power and success, and have an unreasonable sense of entitlement. This sense of entitlement may cause certain individuals to justify their dependency as legitimate and result in adults intimidating their parents and siblings into not setting firm limits or boundaries. According to the *DSM-5™*, individuals with Narcissistic Personality Disorder "may begrudge others their successes or possessions, feeling that they better deserve those achievements, admiration, or privileges" (APA, 2013, p. 671). The Financial Dependence subtest of the KMBI consists of seven items, including (a) I feel like the money I get comes with strings attached; (b) I often feel resentment or anger to the money I receive; and (c) I have significant fear or anxiety that I will be cut off from my non-work income. Non-married individuals with lower levels of education and income tend to endorse the highest levels of financial dependence (Klontz et al., 2012).

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Klontz and Britt (2012) found a significant positive association between the KMBI Financial Dependence scale and the KMSI Money Worship and Money Status subscales.

Financial Enmeshment

Financial enmeshment, which has previously been referred to as "financial incest" (Klontz et al., 2008), "describes situations where parents involve children in adult financial affairs and decisions" (Klontz et al., 2012, p. 22). Financial enmeshment occurs in family systems that lack clear boundaries between parents and children and involves age-inappropriate inclusion of children in family finances and leads to increased anxiety in the family system (for a detailed discussion on financial enmeshment and financial therapy, see Kemnitz, Klontz, & Archuleta, 2016). The Financial Enmeshment subscale of the KMBI consists of three items: (a) I feel better after I talk to my children (under 18) about my financial stress; (b) I talk to my children (under 18) about my financial stress; and (c) I ask my children (under 18) to pass on financial messages to other adults. Males of higher income tend to endorse the highest levels of financial enmeshment (Klontz et al., 2012). Given the limitations of the current sample, which included traditional college students with an average age of 20, the financial enmeshment scale was not included in the study, as it asks about behaviors between the respondent and his or her children.

Financial Denial

The KMBI defines financial denial as the "attempt to cope by simply not thinking about money or trying not to deal with it" (Klontz et al., 2008, p. 97). Financial denial may act as a defense mechanism to alleviate anxiety due to financial stress, or it may be associated with beliefs that money is dirty, unenlightened, or unspiritual (Klontz et al., 2012). The Financial Denial subscale of the KMBI consists of three items: (a) I avoid thinking about money; (b) I try to forget about my financial situation; and (c) I avoid opening/looking at my bank statements. Only the last two items of this scale were used in the current study, as the first item was inadvertently omitted from administration. Financial denial and avoidance has been associated with lower levels of income, net worth, and knowledge about one's net worth (Klontz et al., 2011). Young, non-married females with lower levels of education, income, and net worth tend to score highest on the Financial Denial subscale (Klontz et al., 2012). Financial denial is also associated with revolving credit card debt. Klontz and Britt (2012) found a significant positive association between the KMSI Financial Denial scale and the KMSI Money Avoidance and Money Worship scales, and a significant negative association with the Money Vigilance scale.

METHOD

Purpose

The purpose of this study was twofold. First, to examine reliability of the KMBI among a sample of college students through comparing internal consistency correlations with those demonstrated in the Klontz et al. (2012) study. Secondly, this study examined the convergent validity of KMBI subscales through comparison to other measures of similar

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constructs. Several theoretical hypotheses were proposed related to the expected convergence of KMBI subscales with measures of analogous constructs. The Financial Dependence subscale of the KMBI was hypothesized to positively relate to the Desire for Financial Dependence subscale of the Money Scales. The Compulsive Buying subscale of the KMBI was hypothesized to positively relate to the Diagnostic Screener for Compulsive Buying. The Workaholism subscale of the KMBI was hypothesized to positively relate to both the Enjoyment and Drive dimensions of the WorkBAT. Finally, the Gambling Disorder subscale of the KMBI was hypothesized to positively relate to the item from the Investment Risk Tolerance Quiz.

Sample and Data

A sample consisting of 232 students enrolled at a four-year university in the Midwest region of the United States was recruited for participation in this study. Students were recruited from lecture classes and posters displayed in public locations on the campus, inviting students to participate in an online survey. At the end of the survey, respondents were invited to send an email to the researchers indicating that they completed the survey to participate in a drawing for 1 of 5 $20 gift cards. The average age of the sample was 20.82 years (*SD* = 2.10) with 11 students self-identifying as 30 years of age or older. The sample was majority female (*n* = 196), Caucasian (*n* = 183), and never married (*n* = 194). Please see Table 2 for full demographic information.

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Table 2

Demographic Data

Variable	Percent of Sample (n = 232)
Gender	
Male	19.5%
Female	79.7%
Race/Ethnicity	
Hispanic	9.8%
African-American	4.1%
Caucasian	74.4%
Asian-American	14.6%
Pacific Islander	8.1%
Native American	3.7%
Other	5.3%
Marital Status	
Married	7.1%
Never Married	80.8%
Not Married but Living with a Significant Other	10.0%
Separated	0.0%
Divorced	2.1%
Widowed	0.0%
Year in School	
Freshman	12.0%
Sophomore	22.3%
Junior	35.1%
Fourth Year Senior	21.9%
Fifth Year Senior or Beyond	6.2%
Master's Student	2.1%
Doctoral Student	0.4%
Current Work Status	
Full-Time Job	6.2%
Part-Time Job	61.3%
Seasonal Job	10.3%
No Job	22.2%
How Many Other People Rely on Income	
0	84.2%
1	9.6%
2	1.7%
3	2.9%
4	1.3%
5	0.4%
6 or more	0.0%
Childhood Socioeconomic Status (SES)	
Lower Class	7.0%
Lower-Middle Class	18.2%
Middle Class	50.4%
Upper-Middle Class	22.7%
Upper Class	1.7%

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Prior to analysis, data were screened for distributional properties. Skewness and kurtosis values for composite scores of all scales were within acceptable limits (i.e., less than |2.0|; Tabachnick & Fidell, 2012). All correlational analyses were conducted using listwise deletion to exclude missing values.

Comparison Measures

Money Scales. The Money Scales (Newcomb & Rabow, 1999) is a self-report measure consisting of 200 items presented on a five-point Likert scale. The Money Scales was one of the first measures to jointly assess socialization and money, and it explores people's beliefs about their money skills and money knowledge, as well as family teachings about money. The Monetary Equality, the Monetary Superiority, and the Desire for Financial Dependence subscales were used in the present study their internal consistencies have been measured among a sample of college students (Newcomb & Rabow, 1999). The Monetary Equality subscale consists of three items and has demonstrated questionable internal consistency (α = .63). The Monetary Superiority scale consists of two items and has demonstrated poor internal consistency (α = .50). The Desire for Financial Dependence subscale consists of three items and has demonstrated questionable internal consistency (α = .63).

Diagnostic Screener for Compulsive Buying. The Diagnostic Screener for Compulsive Buying (Faber & O'Guinn, 1992) is a unidimensional measure that consists of seven items presented on a five-point Likert scale. The measure was created for use among the general population and has demonstrated technical adequacy in a population of college students (Cole & Sherrell, 1995). The Diagnostic Screener for Compulsive Buying has demonstrated excellent internal consistency (α = .95) and was found to correctly classify 88% of test-takers into categories of compulsive and non-compulsive buyers (Faber & O'Guinn, 1992).

Workaholism Battery (WorkBAT). The WorkBAT (Spence & Robbins, 1992) is a 25-item, self-report assessment used to measure beliefs commonly associated with workaholism. These beliefs are measured through three dimensions: Work Involvement, Enjoyment, and Drive. The present study incorporated 14-items from the Enjoyment and Drive dimensions, eliminating the Work Involvement dimension, as recommended by Kanai, Wakabayashi, and Fling (1996). Each item was presented on a seven-point Likert scale. Dimensions of the WorkBAT demonstrated good internal consistency for the Enjoyment (α = .85) dimension and acceptable internal consistency for the Drive (α = .74) dimension, as well as convergent validity with related measures (McMillan, Brady, O'Driscoll, & Marsh, 2002).

Colorado Self-Report of Family Functioning Inventory (CSRFFI). The CSRFFI (Bloom, 1985) is a self-report measure consisting of two subscales, the cohesion subscale and the enmeshment subscale, and each contains five items measured on a four-point Likert scale. Only the enmeshment subscale was used in the present study. Factor analysis has confirmed the two-factor model of the CSRFFI. The measure has demonstrated poor internal consistency (α = .53; Barber & Buehler, 1996).

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Investment Risk Tolerance. Investment risk tolerance is the extent to which a person will engage in risk-taking behaviors related to finance (Grable & Lytton, 1999). Measures of investment risk tolerance commonly include at least one item, asking how someone else would rate their risk-taking behavior. The present study incorporated one-item from Grable and Lytton's (1999) Investment Risk Tolerance Quiz, asking how someone's best friend would describe his or her risk-taking behavior. This was a multiple-choice item consisting of four response choices, ranging from that their best friend would describe them as a "real gambler," to they would describe them as "a real risk avoider."

RESULTS

Internal Consistency

Internal consistency (Cronbach's alpha; α) was calculated for each subscale of the KMBI to examine the measure's reliability among a sample of college students. The internal consistency values could then be compared to those obtained by Klontz et al. (2012) which utilized a sample recruited through financial planners, coaches, and mental health professionals. See Table 3 for internal consistency comparisons. Using the suggestions for interpreting internal consistency values set forth by George and Mallery (2003), all of the subscales from the KMBI demonstrated acceptable internal consistency, with most scales demonstrating good to excellent internal consistency. Internal consistency values obtained in the present study largely align with those obtained by Klontz et al. (2012). Additionally, relationships between subscales of the KMBI were examined. Statistically significant, positive correlations were observed between all subscales of the KMBI and these correlations varied widely in strength from weak to strong (see Table 4).

Table 3

Internal Consistency of the KMBI

KMBI Subscale	Klontz et al., 2012	Present Study
Compulsive Buying Disorder	.92	.89
Workaholism	.87	.88
Gambling Disorder	.95	.97
Hoarding Disorder	.89	.91
Financial Enabling	.87	.87
Financial Dependence	.79	.74
Financial Denial	.86	.75

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Table 4

Correlations between KMBI Subscales

	Workaholism	Gambling Disorder	Hoarding Disorder	Financial Enabling	Financial Dependence	Financial Denial
Compulsive Buying Disorder	.17*	.28***	.34***	.36***	.43***	.39***
Workaholism	---	.20***	.27***	.22***	.25***	.15*
Gambling Disorder		---	.37***	.31***	.39***	.15*
Hoarding Disorder			---	.40***	.41***	.27***
Financial Enabling				---	.58***	.40***
Financial Dependence					---	.47***
Financial Denial						---

**** $p < .001$. * $p < .05$. $Df = 180$.*

Validity

Scores from subscales of the KMBI were compared to scores from subscales of the Money Scales (Table 5). The greatest convergence was observed between the KMBI and the Money Equality subscale of the Money Scales. Statistically significant, positive correlations were observed between all subscales of the KMBI and the Money Equality subscale of the Money Scales, with the exception of the Workaholism and Hoarding Disorder subscales. However, these correlations were generally weak in strength. Less convergence was observed in comparing the KMBI to the Money Superiority subscale of the Money Scales, as only the Compulsive Buying Disorder subscale from the KMBI exhibited a significant, positive, and weak correlation with Money Superiority. The Gambling Disorder subscale of the KMBI demonstrated significant, positive, and weak correlations with the Desire for Financial Dependence subscale of the Money Scales.

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Table 5

Convergent Validity between the KMBI and the Money Scales

KMBI Subscale	Money Scale Subscale	Correlation	*df*
Compulsive Buying Disorder	Money Equality	.27***	166
Workaholism		.14	
Gambling Disorder		.23***	
Hoarding Disorder		.15	
Financial Enabling		.17*	
Financial Dependence		.25***	
Financial Denial		.17*	
Compulsive Buying Disorder	Money Superiority	.20*	166
Workaholism		-.04	
Gambling Disorder		.08	
Hoarding Disorder		.02	
Financial Enabling		-.02	
Financial Dependence		.01	
Financial Denial		.13	
Compulsive Buying Disorder	Desire for Financial Dependence	.15	163
Workaholism		.07	
Gambling Disorder		.28***	
Hoarding Disorder		.07	
Financial Enabling		.03	
Financial Dependence		.10	
Financial Denial		.08	

**** $p < .001$. * $p < .05$.*

Select subscales of the KMBI were also purposefully compared to measures of similar constructs. Revisiting expected theoretical relations between measures, the Financial Dependence subscale of the KMBI was not found to significantly relate to the Desire for Financial Dependence subscale of the Money Scales (Table 5), which was contrary to our hypothesis. In examining items from both scales, the three-items of the Financial Dependence subscale of the Money Scale center upon whether one is the breadwinner in a relationship, whereas the Financial Dependence subscale of the KMBI assesses other dimensions of financial dependence, such as non-work income and the emotions associated with receiving financial assistance from others. While the hypothesis related to financial dependence was not supported through analyses, all other hypotheses were supported to some extent (see Table 6). The Compulsive Buying subscale of the KMBI was found to significantly and strongly correlate with the Diagnostic Screener for Compulsive Buying. The Workaholism subscale of the KMBI was found to significantly and positively correlate with the Enjoyment and Drive subscales as well as the composite score of the WorkBAT, and these correlations were moderate in strength for the Drive subscale and the composite score. A statistically significant, positive correlation was observed between the Gambling Disorder subscale of the KMBI and the item measuring investment

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risk tolerance, though this correlation was weak in strength. In addition to these hypothesized relations, several other significant relations were found to exist, as the Financial Enabling and Financial Denial subscales of the KMBI were found to significantly, positively correlate with the Enmeshment subscale of the CSRFFI, though these correlations were weak in strength.

Table 6

Convergent validity between select subscales of the KMBI and similar assessment

KMBI Subscale	Comparison Assessment	Correlation	*df*
Compulsive Buying Disorder	Diagnostic Screener for Compulsive Buying	.70***	161
Workaholism	WorkBAT Enjoyment	.17*	191
	WorkBAT Drive	.50***	
	WorkBAT Composite	.42*	
Financial Enabling	CSRFFI Enmeshment	.18*	167
Financial Denial	CSRFFI Enmeshment	.21***	
Gambling Disorder	Investment Risk Tolerance	.21***	167

*** $p < .001$. * $p < .05$.

Gender Effects

Prior research has found that gender is associated with vulnerability to some money disorders. For example, women are significantly more likely to exhibit compulsive buying behaviors (Lejoyeux & Weinstein, 2010), men are more likely to have gambling disorder (Canale, Archuleta, & Klontz, 2015), and women are more likely to be socialized to believe that financial dependence is acceptable (Newcomb & Rabow, 1999). To examine gender effects, a series of t-tests was conducted to determine whether the men and women sampled in the present study differed in their scores on the seven subscales of the KMBI. Comparisons indicate that men and women did not significantly differ in their scores on five of the seven subscales, but that they did significantly differ in their scores on the Gambling Disorder subscale, $t(205) = 2.63$, $p < .001$, and on the Financial Dependence subscale, $t(202) = 1.86$, $p = .014$. On both of these subscales, men reported more disordered money behaviors than women.

DISCUSSION

The KMBI addresses the need for a single assessment that can screen for the presence of multiple financially disordered behaviors. The KMBI helps to bridge the gap between psychopathological research and financial planning, and results from the KMBI can be used to guide a wide variety of professionals, including mental health providers and financial planners and advisors. The KMBI was developed using factor analysis, and subscales have now demonstrated strong internal consistency reliability after two separate

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studies. Recognizing that reliability is a necessary but insufficient requirement for validity (Elasy & Gaddy, 1998), the present study sought to further establish the technical adequacy of the KMBI through examining its convergence with similar measures.

Convergent validity results underscore the need for further alignment of definitions and terms when describing disordered financial behaviors. For example, the Financial Enabling and Financial Denial subscales of the KMBI demonstrated some alignment with the Enmeshment subscale of the CSRFFI. This indicates that both the KMBI and CSRFFI are able to detect the presence of disordered financial behaviors, but may be in disagreement over what to label the behaviors (e.g., enmeshment vs. enabling or denial). As research continues to examine disordered money behaviors, further empirical studies, including factor analysis, may lead to more standardized nomenclature to describe constellations of disordered money behaviors. Klontz et al. (2012) attempted to create such a nomenclature through their factor analysis of the KMBI, which isolated eight distinct money disorders. It should also be considered that the KMBI and the comparison measures used in this study were developed several decades apart, and that conceptions of disordered money behaviors have evolved over time, which could help explain some of the variability between measures.

While alignment between instruments is important, that subscales of the KMBI did not lend themselves to extremely high correlations with similar measures is partially encouraging. For example, the Compulsive Buying subscale demonstrates a very strong, while not overly high relation with the Diagnostic Screener for Compulsive Buying, indicating that the two measures share variance, but do not completely overlap one another. Extremely high correlations between measures may indicate redundancy of measures, and may indicate that assessments are not unique.

Limitations and Future Directions

The primary limitation of the present study is that validity demonstrated among a sample of college students may not generalize to the population at large. Internal consistency reliability from the present study largely align with reliability data from the Klontz et al. (2012) study, which employed a sample recruited through financial planners and coaches and mental health professionals, and future research should seek to determine whether validity data from the present study align with validity information from a sample not exclusively consisting of college students. A second limitation involves the Financial Denial subscale of the KMBI. Only two of three items from the Financial Denial subscale were used in the present study as the third item was unintentionally not included in administration of the assessment.

Another limitation of the study is that the sample is not representative of the population at large. Respondents were young, more likely to be female (79.7%), mostly Caucasian (74.5%), and consisted primarily of individuals who have never been married (80.8%). These demographics are not representative of the clients typically seen by financial planners. Also relating to sampling constraints, the Financial Enmeshment subscale of the KMBI was not included in analysis as items from the scale ask respondents

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about relationships with their children, and as the present study sampled from college students, this disordered money behavior could not be adequately examined in the current study. Future studies should explicitly examine technical adequacy of measures of financial enmeshment, especially considering that other measures of financial enmeshment, such as the CSRFFI, have demonstrated poor internal consistency.

Future studies may seek to examine whether the technical adequacy of the KMBI holds when broken down by certain demographic factors (e.g., age, socioeconomic status, marital status, and race/ethnicity). Especially important is that future studies use more representative samples that are heterogeneous in terms of race and socioeconomic status and include individuals who are married, have children, and are between the ages of 35- and 65 years, as these are the people who tend to seek out financial advisors. Future research may also seek to examine the sensitivity and specificity for each of the subscales of the KMBI and establish diagnostically accurate cut-scores and normative tables.

Conclusion

The KMBI demonstrates acceptable internal consistency for most of its subscales and converges to a limited extent with measures of similar constructs. Between KMBI subscales, there is a range of internal consistency values, as the Gambling Disorder and Hoarding Disorder subscales demonstrated excellent internal consistency, while the Financial Dependence and Financial Denial subscales only demonstrate acceptable internal consistency. Some subscales of the KMBI do not strongly converge with other measures of similar constructs, demonstrating a need for more standardized nomenclature in describing financially disordered behaviors, as well as further delineation between latent constructs that these assessments seek to measure. Results indicate that the KMBI has at least acceptable technical adequacy. Both mental health professionals and financial advisors may find the KMBI useful in assessment, in informing counseling, and in aiding in the development of financial/spending interventions. The KMBI can be found in the original Klontz, Britt, Archuleta, and Klontz (2012) study or by contacting Dr. Brad Klontz.

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ISSN: 1945-7774
