

7-24-2017

## Money Disorders and Locus of Control: Implications for Assessment and Treatment

Colby D. Taylor  
*Christian Brothers University*

Bradley Klontz  
*Creighton University*

Derek Lawson  
*Kansas State University*

Follow this and additional works at: <https://newprairiepress.org/jft>



Part of the [Business Commons](#), [Counseling Psychology Commons](#), [Family, Life Course, and Society Commons](#), [Social Psychology Commons](#), and the [Social Work Commons](#)



This work is licensed under a [Creative Commons Attribution-Noncommercial 4.0 License](#)

### Recommended Citation

Taylor, C. D., Klontz, B., & Lawson, D. (2017). Money Disorders and Locus of Control: Implications for Assessment and Treatment. *Journal of Financial Therapy*, 8 (1) 8. <https://doi.org/10.4148/1944-9771.1121>

This Article is brought to you for free and open access by New Prairie Press. It has been accepted for inclusion in Journal of Financial Therapy by an authorized administrator of New Prairie Press. For more information, please contact [cads@k-state.edu](mailto:cads@k-state.edu).

# **Money Disorders and Locus of Control: Implications for Assessment and Treatment**

**Colby D. Taylor, Ph.D.**  
*Christian Brothers University*

**Bradley T. Klontz, Psy.D.**  
*Creighton University*

**Derek R. Lawson, M.S.**  
*Kansas State University*

*Research has implicated locus of control (LOC) as a factor in the development of psychological disorders, but few studies have examined how LOC relates to money disorders, which occur when stress surrounding money negatively impacts financial health. The present study utilized hierarchical regression to examine how select demographic factors and LOC contribute to eight distinct money disorders among a sample of 164 college students. Results demonstrate that the link between external LOC and money disorders is stronger than indicated by previous research. Unlike demographic factors, which are static and were not found to predict money disorders in the present study, LOC is amenable to change, and both financial planners and mental health professionals may wish to incorporate locus of control into assessment and intervention.*

*Keywords: locus of control; money disorders; disordered money behaviors; compulsive buying disorder; hoarding disorder; gambling disorder; financial enabling; financial dependence; workaholism*

## **INTRODUCTION**

Financial issues are a major source of stress in contemporary society, and issues related to money are the primary stressors in both early marriage and early parenthood (Storaasli & Markman, 1990). While stress surrounding money seems ubiquitous, financial stress can become pathological in nature when financial health is impaired due to a money disorder. Money disorders are maladaptive 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, Kahler, & Klontz, 2016, p. 295-296).

Money disorders may require psychological intervention, and if ignored, can sabotage one's financial health (Klontz, Britt, Archuleta, & Klontz, 2012). Given the potentially detrimental effects of disordered money behaviors, it is important to assess for their presence and determine factors that may lead to their development.

Assessment instruments have been developed to screen for the presence of disordered money behaviors and one such comprehensive money disorder measure, the Klontz Money Behavior Inventory (KMBI; Klontz et al., 2012), has been empirically validated and has demonstrated technical adequacy (Taylor, Klontz, & Britt, 2016). The KMBI classifies eight distinct types of money disorders (see Table 1 for definitions of these disordered money behaviors). The increasingly precise measurement of money disorders creates an opportunity for quick identification and an impetus for intervention. Identifying possible causal factors of these disordered money behaviors may allow financial advisors and mental health practitioners to intervene at their source. Research has linked certain demographic factors to money disorders (Klontz et al., 2012), but such factors are largely unchangeable and are not feasible candidates for intervention. A factor has emerged, however, that is amenable to intervention and has been implicated in money disorders; this factor is called locus of control.

Table 1

*Money Disorders and their Definitions*

Money Disorders	Definition
Compulsive Buying Disorder	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
Workaholism	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
Gambling Disorder	Persistent and recurrent maladaptive gambling behavior that disrupts personal, family, or vocational pursuits
Hoarding Disorder	Trouble throwing items of little value away, having a living space cluttered with things that are not used, and feeling excessive emotional attachment to possessions
Financial Enabling	The inability to say 'no' when someone, such as a family member, continues to ask for money
Financial Denial	The attempt to cope by simply not thinking about money or trying not to deal with it
Financial Dependence	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
Financial Enmeshment	Situations where parents involve children in adult financial affairs and decisions

*Note.* Definitions of Money Disorders taken from Klontz et al., 2012.

## **Locus of Control (LOC)**

Locus of control (LOC) is a well-established psychological concept used to explain both behavior and personality. Julian Rotter, the psychologist who first explained the concept, found through his years of research that people's actions are reinforced by internal cognitive processes and by external factors. The extent to which people attribute these actions to internal cognitive processes is termed internal locus of control, and the extent to which people attribute these actions to external factors is termed external LOC (Rotter, 1966). In the United States, research has not found significant gender differences related to LOC (Schultz & Schultz, 2013). However, cultural differences have been found to exist. For example, research indicates that Asians tend to have more external LOC than Americans and the more contact Asians have with Americans, the more LOC shifts towards internal factors (Uba, 1994). Age differences have also been observed, as college students and individuals over the age of 70 have been found to have lower levels of internal LOC than other groups (Ryckman & Malikioti, 1975). Furthermore, lower levels of internal LOC have been linked to increased stress levels among college students in response to both actual and perceived negative life events (Lefcourt, Miller, Ware, & Sherk, 1981). In addition to cultural and age differences in socioeconomic status and LOC have been documented, as individuals of lower socioeconomic status tend to endorse higher levels of external LOC (Maqsood & Rouhani, 1991).

Having an internal LOC is generally associated with better life outcomes than having an external LOC. Individuals with an internal LOC exhibit higher levels of achievement motivation, meaning that they are driven to excel, strive for improvement, and pursue high standards (McClelland, Atkinson, Clark, & Lowell, 1976). Achievement motivation, in turn, is associated with both better grades in the classroom (Fortier, Vallerand, & Guay, 1995) and higher job satisfaction in the workplace (Wang, Bowling, & Eschleman, 2010). Furthermore, internal LOC has been found to be associated with higher income and wealth (Klontz, Seay, Sullivan, & Canale, 2014; Klontz, Sullivan, Seay, & Canale, 2015; Zagorsky, 2007). In contrast, people with external LOC tend to attribute their actions to fate, luck, or other people (Schultz & Schultz, 2013). External LOC is also linked to such diverse behaviors as seeking psychic consultation (Greenaway, Louis, & Hornsey, 2013), preferring stronger government control, and believing in the existence of God (Kay, Gaucher, Napier, Callan, & Laurin, 2008). External LOC may also lead people to perceive patterns in volatile stock markets where none actually exist (Whitson & Galinsky, 2008).

External LOC is often conceptualized as being intertwined with learned helplessness, which is related to how individuals will react emotionally, motivationally, and cognitively, when faced with a stressful situation perceived to be beyond their control (Peterson, Maier, & Seligman, 1995). Early research on learned helplessness focused on how animals seek to avoid aversive stimuli such as electric shock (Overmier & Seligman, 1967; Seligman & Maier, 1967), and evolved beyond animal subjects and physical aversions to how people handle common setbacks and frustrations. Learned helplessness develops when an individual fails to accomplish a goal, leading to lower expectancies about future performance, lower levels of motivation, and feelings that actions are outside of one's control (Kuhl, 1981). People with

high levels of learned helplessness often do not persevere at difficult tasks and are prone to anxiety, depression, and phobias (Seligman, 1975).

### **Confluence of Money Disorders and LOC**

Several studies have examined the confluence of financial behaviors and money disorders with LOC. LOC has been found to mediate the relationship between financial knowledge and financially responsible behaviors. For example, individuals with an internal LOC are more apt to tap into and utilize their financial knowledge to exhibit financially responsible behaviors than those with an external LOC (Perry & Morris, 2005). Most research linking LOC to disordered money behaviors has focused on the use of credit cards. External LOC has been associated with credit card users who report financial distress and use credit counseling services (Tokunaga, 1993), report higher tolerance related to debt (Davies & Lea, 1995), and endorse positive attitudes related to the use of credit cards (Joo, Grable, & Bagwell, 2003).

Britt, Cumbie, and Bell (2013) examined LOC among a sample of 937 college students from the National Longitudinal Survey of Youth 1986-2008 cohort and established that those who endorsed an external LOC demonstrated more disordered money behaviors. Britt et al. (2013) defined disordered money behaviors using a three-scale item that asked respondents to: (a) rate how often they put off buying something they need, (b) how much difficulty they have had paying bills over the past year, and (c) how much money they have had left over at the end of each month over the past year. External LOC was measured using a scale adapted from Pearlin, Lieberman, Menaghan, and Mullan (1981). Ordinary least squares regression was used to predict disordered money behaviors based on select demographic factors and LOC. An ANOVA was conducted prior to the regression analyses and determined that the sample did not significantly differ in their LOC scores based on parental income, year in school, gender, or race. While an external LOC was found to be the best predictor of disordered money behaviors ( $\beta = -0.20, p < .001$ ); being Black ( $\beta = -0.10, p < .01$ ) or Hispanic ( $\beta = -0.16, p < .001$ ), female ( $\beta = -0.10, p < .001$ ), and/or of lower-socioeconomic status ( $\beta = 0.18, p < .001$ ) was also found to predict disordered money behaviors.

### **Purpose**

Given that demographic factors as well as LOC have been linked to money disorders, the present study sought to examine to the strength of these associations. Britt et al. (2013) predicted a limited number of disordered money behaviors based on available demographic factors and LOC using ordinary least squares regression. The present study examined money disorders using a more comprehensive measure and predicted the presence of these behaviors by examining demographic factors and LOC through hierarchical regression. Based on the findings of Britt et al. (2013), it was hypothesized that participants who are non-White, female, and grew up in low socioeconomic status families would exhibit higher levels of money disorders. However, we hypothesized that having an external LOC would be the strongest predictor of the presence of money disorders. A second objective of this study was to examine how specific money disorders relate to LOC. Based on previous research

related to external LOC and credit card usage, we hypothesized that Compulsive Buying Disorder would exhibit the strongest relations with external LOC.

## METHODS

### Participants

This sample was recruited from a larger sample of 232 students enrolled at a 4-year university in the Midwestern region of the United States. Of this larger sample assessed for several other research projects, 164 students completed the measures of interest for the present study. Students were recruited from lecture classes and through poster advertisements on campus. Students opting to participate were asked to complete an online survey, and upon completion of the survey, could email researchers indicating that they had completed the survey for a chance to enter a drawing for one of five \$20 gift cards. Please refer to Table 2 for full sample demographic information.

Table 2.

#### *Demographic Characteristics of the Sample*

Variable	Percent of Sample ( <i>n</i> = 164)
Gender	
Male	21.3%
Female	78.7%
Race/Ethnicity	
Hispanic	7.9%
African-American	3.7%
Caucasian	73.2%
Asian-American	15.9%
Pacific Islander	6.7%
Native American	1.8%
Other	2.4%
Childhood Socioeconomic Status (SES)	
Lower Class	6.7%
Lower-Middle Class	19.5%
Middle Class	47.6%
Upper-Middle Class	25.0%
Upper Class	1.2%
Year in School	
Freshman	12.9%
Sophomore	19.6%
Junior	38.7%
Fourth Year Senior	20.2%
Fifth Year Senior or Beyond	6.1%
Master's Student	1.8%
Doctoral Student	0.6%
Employment Status	
Full-time Employment	4.9%
Part-time Employment	61.0%
Seasonal Employment	11.0%
No Employment	23.2%

## Predictor Variables

**Gender.** Students were asked to self-identify as either male or female. Seventy-nine percent of the sample identified as female ( $n = 129$ ).

**Race and Ethnicity.** Students were asked to self-identify as Hispanic, African-American, Caucasian, Asian-American, Pacific Islander, Native American, and other. Students could identify as multiple categories. Seventy-three percent of the sample ( $n = 120$ ) identified as Caucasian. Based on the findings of Britt et al. (2013), binary predictor variables for race and ethnicity were created dividing the sample into students identifying as Caucasian and non-Hispanic or those identifying as non-Caucasian and Hispanic.

**Socioeconomic Status.** A Likert-type survey item asked students “Which of the following best describes your family’s financial status during your growing up years?” Students could select from five options: lower class ( $n = 11$ ), lower middle class ( $n = 32$ ), middle class ( $n = 78$ ), upper middle class ( $n = 41$ ), and upper class ( $n = 2$ ). This type of question has been used in previous studies as an indicator of socioeconomic status in childhood (Klontz et al., 2012; Klontz, Britt, Mentzer, & Klontz, 2011).

**External Locus of Control Scale.** The External Locus of Control Scale is a 7-item assessment that presents items on a 5-point Likert-type scale ranging from “Almost Never” to “Almost Always.” The External Locus of Control Scale was adapted from Rotter (1975) and includes items such as “I am helpless in dealing with the problems of life” and “I have little control over the things that happen to me” (see Table 3 for the full scale). This assessment has demonstrated strong internal consistency (Cronbach’s  $\alpha = .87$ ; Perry & Morris, 2005). The mean item-level score in the present study was found to be 1.89 ( $SD = 0.64$ ), with higher scores indicating higher levels of external locus of control.

Table 3.

### *External Locus of Control Scale (Rotter, 1975)*

- 
1. There is really no way I can solve some of my problems
  2. I am being pushed around in life
  3. There is little I can do to change the important things in my life
  4. I can do anything I can set my mind to\*
  5. What happens in the future depends on me\*
  6. I am helpless in dealing with the problems of life
  7. I have little control over the things that happen to me

\*Indicates an item that is reverse-scored

---

## Outcome Variables

**Money Disorders.** Disordered money behaviors were assessed using the Klontz Money Behavior Inventory (KMBI; Klontz et al., 2012). Fifty items from the KMBI were included in the present study. A summary score consisting of scores from the Compulsive

Buying Disorder (11-items), Workaholism (11-items), Gambling Disorder (7-items), Hoarding Disorder (8-items), Financial Enabling (6-items), Financial Dependence (5-items), and Financial Denial (2-items) subscales was computed. Each item asks respondents to select to what degree on a 6-point Likert scale they endorse a particular statement (“Strongly Disagree,” “Disagree,” “Disagree a little,” “Agree a Little,” “Agree,” and “Strongly Agree”). The KMBI has demonstrated robust reliability with internal consistency of subscales ranging from .74 to .97 (Taylor et al., 2016; Klontz, et al., 2012). The Financial Enmeshment subscale was not included in the present study as the sample consisted primarily of young college students and this scale asks about behaviors between the respondent and his or her children.

## RESULTS

### Regression Analysis

Prior to running analyses, assumptions of hierarchical regression were examined. All continuous variables were observed to be normally distributed as skewness and kurtosis values were within acceptable limits (i.e., less than |2.0|; Tabachnick & Fidell, 2012) with the exception of scores on the Gambling Disorder subscale of the KMBI. Large skewness and kurtosis values were likely observed on this subscale due to relatively low levels of endorsement for items related to Gambling Disorder (please refer to Table 4 for descriptive statistics related to the assessments administered in this study). List-wise deletion was used in conducting correlation and regression analyses. Visual examination of scatterplots revealed no issues related to heteroscedasticity and collinearity statistics revealed no issues related to multicollinearity (e.g., all variance inflation factors were less than 1.1).

Table 4.

#### *Descriptive Statistics of Measures*

	Mean	Standard Deviation	Skewness	Kurtosis
<b>KMBI Subscale</b>				
Compulsive Buying Disorder	2.16	0.83	0.76	0.37
Workaholism	2.72	0.91	0.40	0.18
Gambling Disorder	1.22	0.60	3.17	10.41
Hoarding Disorder	2.40	1.06	0.41	-0.70
Financial Enabling	2.42	1.05	0.37	-0.77
Financial Dependence	2.10	0.89	0.76	0.54
Financial Denial	2.47	1.61	0.58	-0.28
KMBI Composite	2.22	0.57	0.48	0.23
<b>External Locus of Control</b>	1.89	0.64	0.55	0.22

*Note.* The mean for each KMBI subscale indicates the average Likert score out of a total of possible score of 6. Higher scores indicate greater endorsement of financially disordered behaviors. The mean for External Locus of Control indicates the average Likert score out of a total possible score of 5. Higher scores indicate greater endorsement of external locus of control.

A three-step hierarchical multiple regression was conducted to examine how LOC contributed uniquely to the presence of money disorders. The KMBI was used as the criterion outcome variable. In Step 1 of the hierarchical regression, race/ethnicity and

gender were entered as covariates to control for potential confounding effects. In Step 2 of the hierarchical regression, childhood socioeconomic status was added. In Step 3 of the hierarchical regression, the LOC variable was entered to examine main effects on money disorders after controlling for race/ethnicity, gender, and childhood socioeconomic status.

Table 5 shows that, in Step 1, race/ethnicity and gender failed to account for significant variance towards the presence of money disorders ( $R^2 = .010$ ,  $p = .50$ ). In Step 2, the addition of childhood socioeconomic status also failed to account for significant variance towards money disorders ( $R^2 = .030$ ,  $p = .26$ ). The addition of LOC in Step 3 accounted for a significant amount of variance towards explaining the presence of money disorders and this final model including all predictor variables accounted for roughly 21% of the variance of money disorders,  $R^2 = .21$ ,  $p < .001$ . Inspection of beta coefficients in the final model indicate that after controlling for all predictor variables, LOC was associated with the presence of money disorders ( $\beta = .43$ ,  $p < .001$ ).

Table 5.

*Hierarchical Regression Analysis*

Predictor	<i>B</i>	<i>SE B</i>	Beta	R squared
Step 1				.010
Race/Ethnicity	-4.32	23.70	-.02	
Gender	-7.12	6.20	-.10	
Step 2				.030
Race/Ethnicity	-6.77	23.61	-.03	
Gender	-7.31	6.17	-.10	
SES	4.59	2.82	.14	
Step 3				.21**
Race/Ethnicity	-10.12	21.33	-.04	
Gender	-5.70	5.58	-.08	
SES	6.39	2.57	.19	
LOC	2.78	0.50	.43**	

**Correlational Analysis**

Pearson product-moment correlations were conducted to determine the relation between LOC and money disorders. All money disorders assessed, with the exception of Workaholism ( $p = .14$ ), were found to have significant positive correlations with external LOC (please refer to Table 6). The strength of these correlations was generally moderate, and Financial Dependence demonstrated the greatest relation with external LOC.

Significant correlations were then converted to *Z* values using the Fisher's *r* to *Z* transformation to determine whether they significantly differ from one another. Only one statistically significant difference in correlational strength was found at the  $p < .05$  level, as LOC correlated more strongly with Financial Dependence than with Hoarding Disorder. With the exception of Workaholism and Hoarding Disorder, LOC was not found to differentially relate to the disordered money behaviors assessed in this study.

Table 6.

*Correlations between LOC and Disordered Money Behaviors*

KMBI Subscale	
Compulsive Buying Disorder	.29**
Workaholism	.09
Gambling Disorder	.37**
<b>Hoarding Disorder</b>	<b>.23**</b>
Financial Enabling	.38**
<b>Financial Dependence</b>	<b>.42**</b>
Financial Denial	.31**

*Note.* Bold text indicates a significant difference in correlation strength at the  $p < .05$  level. Df = 163.

## DISCUSSION

From those struggling to make ends meet to the wealthy, money can have a profound effect on psychological wellbeing (Klontz, Sullivan, Seay, & Canale, 2015; Mani, Mullainathan, Shafir, & Zhao, 2013). When financial stress adversely impacts financial and psychological health, it is important to rule-out the presence of a money disorder. Mental health professionals and financial planners can now screen for the money disorders in their clients, as empirically-validated measures of money disorders have been developed in recent years. LOC can also be quickly and easily measured. Few financial planners likely include measures of LOC in their assessment toolkits, despite the fact that LOC is a well-known construct in psychology and a frequently explored consideration in financial planning research. However, using LOC in conjunction with a money disorder measure may allow financial planners and mental health practitioners alike to determine whether their clients currently exhibit disordered money behaviors and to assess their client's risk for developing them in the future. Perhaps most importantly, LOC can be targeted through financial-therapy informed interventions (e.g. Klontz, Britt, & Archuleta, 2015) to prevent and/or help treat disordered money behaviors.

Although it was expected that having an external LOC is significantly related to money disorders, the findings of the present study reveal that external LOC may be more closely tied to these behaviors than was previously thought. Results from the Britt et al. (2013) study offer a basis of comparison for our findings.

The regression model of Britt et al. (2013) found that demographic factors, childhood socioeconomic status, and LOC combined accounted for 13% of the variance in predicting disordered money behaviors, as opposed to the model in the present study which accounted for 21% of the variance. Other differences in findings between the two studies become evident when parsing apart each model to determine the unique contributions of each predictor variable towards disordered money behaviors. Gender, childhood socioeconomic status, and race/ethnicity all uniquely contributed towards explaining disordered money behaviors in the Britt et al. (2013) study, but did not contribute unique variance towards

explaining money disorders in the present study, though the sample of the present study was composed primarily of female and White/non-Hispanic participants, which may partially explain these discrepancies in results. LOC contributed more variance towards predicting money disorders in the final model of the present study ( $\beta = 43\%$ ) than in the final model of the Britt et al. (2013) study ( $\beta = 20\%$ ). An important difference between the Britt et al. (2013) study and the present study is the extent to which the specific money behaviors are problematic. Britt and colleagues identified what are arguably problematic, potentially self-destructive financial behaviors, while the present study included a more robust measure of what have been identified as money disorders, which are more severe in nature. While the Britt et al. (2013) study found that problematic money behaviors are partially explained by LOC, it appears that LOC is a much stronger predictor of money disorders.

As both the Britt et al. (2013) study and the present study found that external LOC is predictive of disordered money behaviors, we were further interested in whether specific disordered money behaviors were most closely related to external LOC. All disordered money behaviors assessed in the present study, with the exception of Workaholism, were significantly associated with having an external LOC. This indicates that having an external LOC is a risk factor for many disordered money behaviors. However, having an external LOC may be more of a risk factor for certain disordered money behaviors (e.g., Financial Dependence) than for others (e.g., Hoarding Disorder).

### **Limitations and Future Directions**

Sample composition was a limitation in the present study, as it consisted overwhelmingly of college aged females and White/non-Hispanic participants. Given that demographic variables were used as predictors in the present study, over-representation of these groups may explain why race/ethnicity and gender failed to significantly predict disordered money behaviors in the present study, but were significant predictors in the Britt et al. (2013) study, which employed a more diverse sample. Gender effects towards money disorders were examined and comparisons revealed significant differences only as they relate to Gambling Disorder and Financial Dependence, with men exhibiting more disordered money behaviors in these two categories. Despite concerns about sample composition, sampling error does not account for why childhood socioeconomic status predicted disordered money behaviors in the Britt et al. (2013) study, but did not predict these behaviors in the present study, as participants in both studies endorsed a range of childhood socioeconomic statuses representative of the general population.

As both the samples from the present study and from the Britt et al. (2013) study were comprised entirely of college students, financial planners and counselors may justifiably be hesitant to generalize the results from these studies to their own clientele. While the Financial Enmeshment subscale was omitted from our study, as it was believed not be relevant to many college students, one may wonder whether other categories of disordered money behaviors (e.g., Workaholism, Gambling Disorder, Hoarding Disorder) are applicable to college students and whether prevalence rates in such a sub-population differ from prevalence rates of the population at-large. Now that research has supported the link

between LOC and money disorders, future research would benefit from examining this association in a more diverse sample.

In addition to sampling differences between the Britt et al. (2013) study and the present study, the studies also differed in their measurement of disordered money behaviors (with the former creating a three-item scale and the latter employing the KMBI) and external LOC (with the former employing a scale from Pearlin et al. (1981) and the latter employing an adapted scale from Rotter (1975)). These differences in scaling may explain, in part, the discrepancy between the two studies in how much external LOC was found to contribute to disordered money behaviors.

Although there were some differences in results between the two studies, both Britt et al. (2013) and the present study found that external LOC is related to disordered money behaviors. As these behaviors become more severe, it appears that LOC becomes even more important. With regard to interventions, research has shown that LOC is malleable and individuals with an external LOC can shift towards a more internal LOC through the use of group therapy (Peterson, Chang, & Collins, 1997). It is worthy to note that similar to Britt et al. (2013), the sample of Peterson et al. (1997) was more diverse in terms of demographic characteristics than the present study. The Peterson et al. study further differs from the present study in that the former utilized the complete Rotter Internal-External Scale (Rotter, 1966), which is a more stable measure of LOC than the measures used by Britt et al. and in the present study.

In addition to group therapy, individual therapy and cognitive restructuring techniques have also been found to increase levels of internal LOC (Ariso & Reyero, 2014). Future research should seek to determine whether interventions aimed at increasing internal LOC are effective at reducing disordered money behaviors. LOC may also be conceptualized as a mediating factor in both receptivity to intervention and response to intervention. As Britt et al. (2013) hypothesized, while those exhibiting external LOC may be at greatest risk for developing disordered money behaviors, they also are most likely to believe they don't have the agency necessary to change their financial situation and may be less inclined to proactively pursue intervention.

## **Conclusion**

While research has linked LOC to a host of behaviors and life outcomes, two studies have now implicated external LOC as a contributing factor in disordered money behaviors. The present study differed from Britt et al. (2013) in that demographic variables were not found to significantly relate to disordered money behaviors, though sampling limitations may account for these differences. Despite sampling concerns, these results can be viewed with cautious optimism, as the factor most closely associated with money disorders, LOC, is amenable to intervention, whereas demographic factors are not. Given the findings of these two studies, mental health practitioners and financial planners may want to consider adding a measure of LOC into their battery of assessments to identify which of their clients may be at the most risk for developing disordered money behaviors and to inform preventative and intervention-based strategies.

## REFERENCES

- Ariso, J. M., & Reyer, J. M. (2014). Reconsidering the scenario of cyberbullying: Promoting the internalization of the locus of control in adolescents through cognitive restructuring. *Adolescent Psychiatry, 4*(2), 98-103.
- Britt, S. L., Cumbie, J. A., & Bell, M. M. (2013). The influence of locus of control on student financial behavior. *College Student Journal, 47*(1), 178-184.
- Davies, E., & Lea, S.E.G. (1995). Student attitudes to student debt. *Journal of Economic Psychology, 16*(4), 663-679.
- Fortier, M. S., Vallerand, R. J., & Guay, F. (1995). Academic motivation and school performance: Toward a structural model. *Contemporary Educational Psychology, 20*(3), 257-274.
- Greenaway, K. H., Louis, W. R., & Hornsey, M. J. (2013). Loss of control increases belief in precognition and precognition increases control. *PLOSOne, 8*(8). doi: 10.1371/journal.pone.0071327
- Joo, S. H., Grable, J. E., & Bagwell, D. C. (2003). Credit card attitudes and behaviors of college students. *College Student Journal, 37*(3), 405-419.
- Kay, A.C., Gaucher, D., Napier, J.L., Callan, M.J., & Laurin, K. (2008). God and the government: Testing a compensatory control mechanism for the support of external systems. *Journal of Personality and Social Psychology, 95*(1), 18-35.
- Klontz, B. T., Britt, S. L., & Archuleta, K. L. (Eds.). (2015). *Financial therapy: Theory, research, and practice*. New York, NY: Springer.
- Klontz, B. T., Britt, S. L., Archuleta, K. L., & Klontz, T. (2012). Disordered money behaviors: Development of the Klontz Money Behavior Inventory. *The Journal of Financial Therapy, 3*(1), 17-42. doi: 10.4148/jft.v3i1.1485
- Klontz, B., Britt, S. L., Mentzer, J., & Klontz, T. (2011). Money beliefs and financial behaviors: Development of the Klontz Money Script Inventory. *The Journal of Financial Therapy, 2*(1), 1-22. doi: 10.4148/jft.v2i1.451
- Klontz, B., Kahler, R., & Klontz, T. (2016). *Facilitating financial health: Tools for financial planners, coaches, and therapists* (2<sup>nd</sup> ed.). Cincinnati, OH: The National Underwriter Company.
- Klontz, B. T., Seay, M. C., Sullivan, P., & Canale, A. (2014). The psychology of wealth: Psychological factors associated with high income. *Journal of Financial Planning, 27*(12), 46-53.
- Klontz, B. T., Sullivan, P., Seay, M. C., & Canale, A. (2015). The wealthy: A financial psychological profile. *Consulting Psychology Journal: Practice and Research, 67*(2), 127-143.
- Kuhl, J. (1981). Motivational and functional helplessness: The moderating effect of state versus action orientation. *Journal of Personality and Social Psychology, 40*(1), 155-170.
- Lefcourt, H. M., Miller, R. S., Ware, E. E., & Sherk, D. (1981). Locus of control as a modifier of relationship between stressors and moods. *Journal of Personality and Social Psychology, 41*(2), 357-369.
- Mani, A., Mullainathan, S., Shafir, E., & Zhao, J. (2013). Poverty impedes cognitive functioning. *Science, 341*(6149), 976-980.

- Maqsud, M., & Rouhani, S. (1991). Relationships between socioeconomic status, locus of control, self-concept, and academic achievement of Batswana adolescents. *Journal of Youth and Adolescence*, *20*(1), 107-114.
- McClelland, D. C., Atkinson, J. W., Clark, R. A., & Lowell, E. L. (1976). *The achievement motive*. Oxford, England: Irvington.
- Overmier, J. B., & Seligman, M. E. P. (1967). Effects of inescapable shock on subsequent escape and avoidance learning. *Journal of Comparative Physiology and Psychology*, *63*(1), 28-33.
- Pearlin, L., Lieberman, M., Menaghan, E., & Mullan, J. (1981). The stress process. *Journal of Health and Social Behavior*, *22*(4), 337-356.
- Perry, V. G., & Morris, M. D. (2005). Who is in control? The role of self-perception, knowledge, and income in explaining consumer financial behavior. *The Journal of Consumer Affairs*, *39*(2), 299-313. doi: 10.1111/j.1745-6606.2005.00016.x
- Peterson, C., Maier, S.F., & Seligman, M.E.P. (1995). *Learned helplessness: A theory for the age of personal control*. New York, NY: Oxford University Press.
- Peterson, A. V., Chang, C., & Collins, P. L. (1997). The effects of reality therapy on locus of control among students in Asian universities. *Journal of Reality Therapy*, *16*(2), 80-97.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external locus of control of reinforcement. *Psychological Monographs*, *80*(1), 1-28.
- Rotter, J. B. (1975). Some problems and misconceptions related to the construct of internal versus external control of reinforcement. *Journal of Consulting and Clinical Psychology*, *43*(1), 56-67.
- Ryckman, R. M., & Malikiosi, M. (1975). Relationship between locus of control and chronological age. *Psychological Reports*, *36*(2), 665-658. doi: 10.2466/pr0.1975.36.2.655
- Schultz, D. P., & Schultz, S. E. (2013). *Theories of personality* (10<sup>th</sup> ed.). Belmont, CA: Wadsworth.
- Seligman, M. E. P. (1975). *Helplessness: On depression, development, and death*. San Francisco, CA: W. H. Freeman.
- Seligman, M. E. P., & Maier, S. F. (1967). Failure to escape traumatic shock. *Journal of Experimental Psychology*, *74*(1), 1-9.
- Storaasli, R. D., & Markman, H. J. (1990). Relationship problems in the early stages of marriage: A longitudinal investigation. *Journal of Family Psychology*, *4*(1), 80-98.
- Tabachnick, B. G., & Fidell, L. S. (2012). *Using multivariate statistics* (6<sup>th</sup> ed.). New York: Pearson.
- Taylor, C., Klontz, B., & Britt, S. (2016). Internal consistency and convergent validity of the Klontz Money Behavior Inventory (KMBI). *Journal of Financial Therapy*, *6*(2), 1-13.
- Tokunaga, H. (1993). The use and abuse of consumer credit: Application of psychological theory and research. *Journal of Economic Psychology*, *14*(3), 285-316.
- Uba, L. (1994). *Asian Americans: Personality patterns, identity, and mental health*. New York: The Guildford Press.
- Wang, Q., Bowling, N.A., & Eschleman, K.J. (2010). A meta-analytic examination of work and general locus of control. *Journal of Applied Psychology*, *95*(4), 761-768. doi: 10.1037/a0017707

Whitson, J. A., & Galinsky, A. D. (2008). Lacking control increases illusory pattern perception. *Science*, 322(5898), 115-117.

Zagorsky, J. L. (2007). Do you have to be smart to be rich? Impact of IQ on wealth, income and financial distress. *Intelligence*, 35(5), 489-501.