

Money and Mental Health: Spending as a Mental Health Indicator - Psychological, Behavioral, Economic Perspectives and Data Collection

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Symptomatic financial behavior in bipolar disorder can increase stress, worsen symptoms, and hinder recovery. While spending sprees signal high mood states, research on personal experiences remains limited. This study explores mood-spending dynamics through semi-structured interviews in Ireland and Nigeria (N=5, projected N=10), assessing geo-economic influences and data-sharing preferences for future research. Participants reported varied impulsive spending patterns and emphasized privacy, security, and transparency in financial data sharing. These findings highlight the need for protective financial technologies for vulnerable individuals.

Additional Key Words and Phrases: Bipolar disorder, Financial Behaviour, Financial Technologies, Data Collection

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1 Introduction

People with bipolar disorder (BD) are susceptible to negative life events such as financial difficulty due to risky financial behaviors [1][2]. For example, in a population research study of Bipolar 1 Disorder (BPI) and Schizophrenia patients, with 65% percent having BPI, it was discovered that patients with BPI were more likely to experience any of the financial disruptive life events [3]. In [4], 70% of people with BD reported overspending during high mood states. The advent of contactless payment modes make it easier and quicker to spend money [5] and therefore can exacerbate negative harm to individual finances during mood episodes. For this reason, it is vital that protective fintech solutions are developed to support this population.

Objective mental health assessment faces data limitations. While financial difficulties in depression and bipolar disorder have been studied, only one study has used objective financial data (N=1) [6]. [7] explored financial data sharing preferences among bipolar disorder individuals, focusing on participants in the USA, UK, and Ireland. However, data on preferences in non-Western countries remains limited.

This study expands the geographic focus and qualitative depth through semi-structured interviews in Ireland and Nigeria, exploring how economic and cultural factors shape financial behaviors during manic/hypomanic and depressive episodes. A deeper understanding of these factors will help identify key variables for financial technology research and

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tailored financial management solutions for this population. This study aims to answer the following questions: 1) How does mood influence spending and vice versa? 2) What spending patterns signal mood changes? 3) What factors affect financial data-sharing preferences for research on mood and spending relationships?

2 Methods

We adopted a methodology that prioritized a deep qualitative understanding of behaviors leading to symptomatic states, complementing large-scale studies that have explored financial patterns via surveys [7]. We recruited participants who had a clinical diagnosis of bipolar disorder, 18 years of age or older, spoke and understand English and lived in Ireland or Nigeria. All participants provided informed consent and completed a screening questionnaire to gather demographic and diagnosis data. Semi-structured interviews were conducted either in person or via Zoom depending on participants' preference. The interviews were recorded and transcribed using Zoom and WhisperX, with anonymized transcripts shared with participants for review. The study received ethical approval from University College Dublin Human Research Ethics Committee and the Federal Neuropsychiatric Hospital, Yaba, Lagos, Nigeria. Participants in Ireland received an €11.50 gift card based on the Irish hourly wage, while those in Nigeria were compensated with ₦5000 in cash for participation costs. The six stage thematic analysis method described in [8] was used to review and code the interview transcripts, identify and confirm themes that are reported.

3 Results

The study includes five male participants (three in Ireland, two in Nigeria), all self-reporting a bipolar disorder diagnosis by a medical professional. Ages range from 18 to 54, with four living in urban/suburban areas and having some university education. Demographic data is missing for one participant. All were euthymic (i.e. stable mood state) during the interviews. Participants were coded with prefix *P-Nig* for Nigeria and *P-Ire* for Ireland.

3.1 Financial Behaviour and Spending Patterns

We explored the mode of financial behaviour and influence of economic environments in both countries. Participants in Nigeria reported spending more cash and using ATMs, whereas participants in Ireland reported using the contactless digital method most often. Participants spent money on basic essentials like food, personal needs, entertainment and on family. Participants self-reported a high confidence in their finances (Mean = 7[1 - 10]). However, in hindsight, P-Ire-1 acknowledged feeling self-confident during past elevated mood states, despite impulsive spending. P-Ire-1 reflected, *"I thought it was [confident about spending when high]. I thought everything was grand because I was guaranteed my wages every month"*. This may reveal how expected income shapes financial perception in future HCI-driven financial management.

3.2 Mood's influence on Spending

The effect of high moods on spending due to impulsivity [4] was widely reported by all participants. P-Ire-3 explained *"you don't have any kind of restrictions. and your behaviour becomes more uncontrolled"*. P-Nig-2 also notes *"No matter if I want to try not to spend, that thing[high mood] push me"*. This highlights how bipolar disorder can amplify spending tendencies and suggests financial technologies that enable controlled delegation to caregivers during high-risk periods, with safeguards against financial abuse based on spending severity assessment. Some additional reasons for spending as reported by the participants are an urge to spend, seeking joy or happiness, desire to be loved and having the money to

spend. Excessive generosity[9] also emerged in our interviews as a reason participants spent money. P-Ire-2 emphasized *“I get very generous as well [when high]”*.

Some participants reported spending during low moods in an attempt to elevate their mood to a higher state. P-Nig-1 stated *“I would say it just depends on what I feel like when I am feeling depressed, and maybe I am able to get something for myself that elevate my mood a bit”* and P-Ire-1 posited *“I would have to try at times to try and get me out of the depression or to make myself feel better. But the majority of the spending would be when I was on a high”*. This illustrates how spending motives may shift from impulsive to comfort-driven, highlighting the need for adaptive financial tools that account for these changes. However, participant P-Ire-2 reported being averse to risk and spending when in a low mood. . This highlights the variability in individual spending patterns and the need for financial technologies that adapt to these differences.

3.3 Spending’s influence on mood

The aftermath of hypomanic spending involved guilt, regret, anxiety, and depression for most participants. P-Ire-2 noted *“whereas when I’m on a down cycle, it’s the complete opposite. You know, [I] get very guilty about things that I’ve spent money on”*. Maxing out credit cards, remortgaging or selling houses, repossessing cars, and parental divorce were some consequences reported by participants. These results are consistent with debt and guilt worsening depression and anxiety outcomes in bipolar disorder[9].

3.4 Spending Patterns as Mood Indicators

Based on participants’ responses, we were able to contrast between normal mood and bipolar moods, and its effect on spending. In an euthymic mood, participants often spend wisely and make constrained financial decisions. For example, P-Nig-1 noted *“I think I make careful decisions on how I use money, and I don’t use money [recklessly]. My mood doesn’t really detect[affect] how I use money during that time, so I use money carefully on what I need to use it for”*. P-Ire-3 also identified non-reckless spending in a normal mood: *“I wouldn’t spend loads of money on clothes. I wouldn’t spend loads of money on going out”*. This is in contrast to more purchases made during hypomanic states. Behaviours such as clubbing, traveling, socializing and spending increase in high mood. P-Ire-1 noted *“if I was going into a fishing shop now, I might only spend 10 or €15 or €20. But whereas in the past, as I said, it could be spending a hundred, €200”*. Future financial technologies should allow users to set alerts or require approvals for category-based purchases to detect impulsive spending.

We explored the influence of seasonality on spending behaviour. P-Ire-1 noted *“I would spend a lot at Christmas. So I got into a trend of spending large amounts of money at Christmas”*. P-Ire-3 also noted *“certainly through the winter, because, let’s say, cost of oil and heating and stuff all those things you need for a family that brings a lot more pressures”*. This highlights the expectation of increased spending during festive seasons and the need to distinguish mood-driven expenditures from regular seasonal spending. Meanwhile, P-Nig-2 and P-Ire-2 did not observe variation with seasonality or time of day on their mood and spending. P-Ire-1 stated that their spending did not decrease despite the economic recession following Ireland’s early 2000s rapid growth (Celtic Tiger), while P-Ire-2 reported a similar trend of recent inflation in Ireland not causing him to spend more. More research is expected to understand the influence of seasonality and economic factors on spending.

When asked about the indicators used to detect mood-related spending changes, P-Ire-1 emphasized the evaluation of purchases based on necessity and noted a personal bank balance threshold, where falling below it signals a mood change. Receiving income or commissions also increased spending tendencies for some participants. Future financial

technologies could use post-purchase need assessments to curb additional impulsive spending and leverage balance thresholds to enhance mood-based financial data assessment. Two participants avoided having credit cards, highlighting the need for financial technologies that support responsible credit management and overall financial well-being. However, P-Ire-2 noted that an inability to meditate, rather than spending, signals a mood change. P-Nig-2 and P-Ire-3 highlighted sleep as a key factor. Other influences stated include stress, exercise, sunlight, and increased low moods with age.

3.5 Willingness to Share Data For Objective Data Collection

Privacy and confidentiality emerged as primary concerns, alongside the need for transparency and the ability to verify shared data (e.g. in Excel format). Security was also a key theme, and P-Ire-2 highlighted the risk of data breaches leading to fraud or scams. These risks could be mitigated through robust anonymization, data pre-processing, and secure feature storage. P-Ire-3 recommended data minimization to limit the collection of excessive personal information.

4 Discussion

This study explored financial behaviors in individuals with bipolar disorder, examining how mood influences spending, its impact on mood, and factors affecting data sharing. We found that high moods often led to impulsive spending, excessive generosity, while depressive states triggered comfort spending or spending reductions. Post-high spending frequently resulted in guilt, anxiety, and financial distress, including maxed-out credit cards and debt. This study revealed that certain spending patterns are unique to individuals, while others are country-specific, emphasizing the importance of HCI systems in accounting for these critical aspects. For example, fintech systems in Nigeria and Ireland vary in accessibility and spending convenience. Future HCI research could investigate incorporating materiality into digital transactions, such as visual coin representations and haptic feedback, to improve spending awareness. P-Ire-2 suggested financial technology solutions with layered spending controls, including mood-based alerts and tools to manage finances for someone struggling with budgeting. Future work could facilitate personalization such as category-based alerts and second party approvals to control spending. Finally, we found that participants managed their spending by avoiding credit cards or relying on support from partners, further emphasizing the need for HCI research to design software interfaces that enhance financial management and collaborative caregiver support.

While geo-economic factors were not universally influential, some participants reported seasonal spending spikes, especially during Christmas. Although two participants reported that their economic environment had no impact on their spending, factors like credit availability, employment, and inflation likely influence financial behavior. Participants had mixed attitudes toward financial data sharing, with privacy and security concerns being central. HCI research has the potential to expand on existing privacy work to develop transparent and concise methods that foster trust in financial software.

The limitations of the study include its small sample size and the homogeneous sex of the participants which might not generalize. Nonetheless, these insights offer a deeper understanding of mood-linked financial behaviors, highlighting the potential for data-driven financial modeling and the need for tailored financial management strategies for individuals with bipolar disorder.

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