Financial Self-efficacy and Debt Behavior: The Difference Between Men and Women

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Research Questions

- What is the association between financial self efficacy and debt behavior?
- Is this association between financial self efficacy and debt behavior different for men and women?
Background

- A lot of attention in the past has been on enhancing financial literacy to improve financial behavior.
- However, managing personal finances also involves having a sense of self-assuredness or self-belief in one’s capabilities known as self-efficacy.
- Self-efficacy is the extent to which individuals feel they have influence and control over their environment (Bandura, 1997).
Financial self-efficacy is the belief in one’s capability of achieving one’s ultimate financial goals (Forbes and Kara, 2010)

Financial self-efficacy impacts financial behavior

- Investment behavior
  - Farrell et al. (2015); Chatterjee et al. (2011)

- Savings behavior
  - Lown et al. (2014); Asebedo and Seay (2018)

- Debt behavior (credit card behavior)
  - Joseph et al. (2015); Farrell et al. (2015)
Background

- However, limited research on the relationship between financial self-efficacy on other aspects of debt behavior asides credit card

- Contribution to literature:
  - Examine other aspects of debt behavior like mortgage and student loans.
  - Evaluate if this association is different between men and women
  - Using data from the 2018 National Financial Capability Study (NFCS)
Method - Data

2018 National Financial Capability Study (NFCS)

- Founded by the FINRA Investor Education Foundation
- Cross sectional data
- Cover a nationally representative sample of 27,091 American Adult
- Average 500 individuals per state with oversamples for Oregon and Washington
- Final analysis sample is 13,084 observations
Data

### AGE

- Under 18: 0%
- 18-24: 12%
- 25-29: 8%
- 30-34: 10%
- 35-39: 9%
- 40-44: 7%
- 45-49: 8%
- 50-54: 9%
- 55-59: 9%
- 60-64: 9%
- 65 or older: 19%

### GENDER

- Male: 51%
- Female: 49%

### RACE

- White non-Hispanic: 36%
- Others: 64%
Data

Education

- College or more
- Some College, No degree
- High School or Less

Marital Status

- Widowed/widower
- Divorced
- Separated
- Single
- Married
This study employed structural equation modeling (SEM) with a confirmatory factor analysis (CFA) measurement model.
Financial Self-efficacy

- Financial self-efficacy (FSE) is measured by a multi-item construct that includes financial control, influence and emotional resiliency (Bandura, 1997)

- The 2018 NFCS Data does not include a multi item FSE measure

- However, three separate variables were in the survey that measured financial control, financial satisfaction, and perceived financial difficulties
Financial Control: “How strongly you agree that you are good at dealing with day-to-day financial matters?”

- Ranging from 1 to 7 where 1 is strongly disagree while 7 is strongly agree
Financial Satisfaction: “Overall thinking of your assets, debts and savings, how satisfied are you with your current personal financial condition?”

- Ranging from 1 to 10 where 1 is not satisfied at all while 10 is extremely satisfied
Perceived bill pay ease: ‘In a typical month how difficult is it for you to cover expenses and pay all your bills?’

- Ranging from 1 to 3 where 1 is very difficult while 3 is not at all difficult
Common debts owed in the United States are credit cards, mortgage, and student loans

- 2018 Financial Capability report

Based on these, the indicators were selected
Student Loan Behavior: “How many times have you been late with a student loan payment in the past 12 months?”

- Not being late with student loan payment is treated as controlled student loan behavior, and recoded as 2
- Other response (once and more than once) are treated as unfavorable student loan behavior, recoded as 1
Credit card behavior: Six questions are asked to describe experience with credit cards usage

- Questions asked centered around
  - whether respondents always pay credit card in full,
  - experienced kinds of hardship of repayment,
  - used it for cash advance.
Credit card behavior: Six questions are asked to describe experience with credit cards usage

- Always paid in full is treated as favorable behavior, recoded as 2.
- Experienced any kind of hardship and using for cash advance is treated as unfavorable behavior, recoded as 1
- Parceling is used to average answers for six questions to create a credit card usage indicator
Mortgage behavior: “How many times have you been late with mortgage payments in the past 12 months?”

- Never late for payments is treated as favorable behavior, recoded as 2
- Other answers (once or more than once) is treated as unfavorable behavior, recoded as 1
Method – Model (RQ2)
Hypothesis

Positive relationship between controlled debt behavior and greater levels of financial self-efficacy

- Self-efficacy interacts with the psychological sub functions of the self-regulatory system to affect human behavior
- Financial self-efficacy is a domain specific self-efficacy
Results – RQ1

Model Fit: RMSEA = 0.089; SRMR = 0.046; CFI = 0.944; TLI = 0.931
### Partial Invariance Test Results

<table>
<thead>
<tr>
<th>Model Tested</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$p$</th>
<th>RMSEA</th>
<th>90%CI</th>
<th>CFI</th>
<th>∆CFI</th>
<th>TLI/NNFI</th>
<th>∆TLI</th>
<th>Pass?</th>
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</thead>
<tbody>
<tr>
<td>Null</td>
<td>13029.98</td>
<td>42</td>
<td>&lt;0.001</td>
<td></td>
<td>0.084,0.095</td>
<td>0.944</td>
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<tr>
<td>Configural Invariance</td>
<td>746.33</td>
<td>14</td>
<td>&lt;0.001</td>
<td>0.089</td>
<td>0.080,0.090</td>
<td>0.938</td>
<td>0.006</td>
<td>0.847</td>
<td>0.016</td>
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<tr>
<td>Loading Invariance</td>
<td>819.95</td>
<td>17</td>
<td>&lt;0.001</td>
<td>0.085</td>
<td>0.078,0.087</td>
<td>0.931</td>
<td>0.007</td>
<td>0.856</td>
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<td>Intercept Invariance</td>
<td>912.97</td>
<td>20</td>
<td>&lt;0.001</td>
<td>0.083</td>
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</tr>
<tr>
<td>Model Tested</td>
<td>$\chi^2$</td>
<td>$df$</td>
<td>$\Delta\chi^2$</td>
<td>$\Delta df$</td>
<td>$p$</td>
<td>Decide?</td>
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<td>Test of homogeneity of latent mean</td>
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<tr>
<td>Sem1 (mean and variance are freely estimated for male)</td>
<td>1045.3</td>
<td>36</td>
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<tr>
<td>Sem2 (constrains means)</td>
<td>1047.5</td>
<td>38</td>
<td>2.1214</td>
<td>2</td>
<td>0.346</td>
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<td>Test of homogeneity of latent variance - FSE</td>
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<td>Sem3a</td>
<td>1060.7</td>
<td>39</td>
<td>13.231</td>
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<td>$&lt;0.001^{***}$</td>
<td>Diff</td>
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<tr>
<td>Test of homogeneity of latent variance - DB</td>
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<tr>
<td>Sem3b</td>
<td>1077.9</td>
<td>39</td>
<td>30.42</td>
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<td>$&lt;0.001^{***}$</td>
<td>Diff</td>
<td></td>
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</tr>
</tbody>
</table>
Phantom Latent Variable

1

Phantom Debt Behavior

1

Phantom Financial Self-Efficacy

?(Compare between groups)

0

Education

0

Race

Debt Behavior

Financial Self-efficacy

Student Loan Behavior
Credit Card Behavior
Mortgage Behavior
Financial Control
Financial Sanctioning
Perceived Bill Pay Ease
### Phantom Latent Variable Results

#### Covariance

<table>
<thead>
<tr>
<th>Gender</th>
<th>PFSE ~ PDB</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0.87</td>
<td>0.932</td>
</tr>
</tbody>
</table>

#### Chi-square difference test results

<table>
<thead>
<tr>
<th>Mode test</th>
<th>$\chi^2$</th>
<th>$df$</th>
<th>$\Delta\chi^2$</th>
<th>$\Delta df$</th>
<th>$p$</th>
<th>Decide?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mod1</td>
<td>1047.5</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mod2 (covariances are constrained to be equal)</td>
<td>1053.5</td>
<td>37</td>
<td>5.9914</td>
<td>1</td>
<td>0.014***</td>
<td>Diff</td>
</tr>
</tbody>
</table>
Conclusion

- There is an association between financial self-efficacy and individuals’ debt behavior
  - Consistent with the result of Farrell et al. (2015) and Joseph et al. (2015)
- Compared to females, the association between financial self-efficacy and debt behavior is stronger for males
  - Consistent with result of Asebedo (2019)
- Developing and supporting clients’ financial self-efficacy throughout the planning process, especially for female clients
Thank you! 😊

Questions?