Title: Promoting women’s ventures: Role model use to encourage implicit approach responses among women and investors

Enav Friedmann and Merav Weiss-Sidi

Background
The under-representation of women in business ventures is still evident in 2021 (Elitzur & Solodoha, 2021). Although the number of women participating in such ventures has increased remarkably worldwide, there large gender disparities remain (De Bruin et al., 2006; Global Entrepreneurship Monitor, 2019; Motoyama et al., 2014; U.S Census Bureau, 2018). For example, only 10%–15% of American startups are founded by women (Brush et al., 2014; Gompers and Wang, 2017). Moreover, women are granted less credit by banks than men (Brana, 2013; Fletschner, 2009). In addition, men reach higher valuations when they evaluate their self-perception and when they are evaluated by third parties such as angel investors (Hohl et al., 2021).

Increasing the representation of women in business ventures may promote social justice and equal employment opportunities, innovation, economic vibrancy, and organizational competitiveness (Jamali, 2009; Verheul et al., 2006). Women’s new venture creation also empowers them socially and economically through income generation (Hameed et al., 2021). However, women find it more difficult to raise funding (Hebert, 2020), and there are fewer new startups initiated by women (Elitzur & Solodoha, 2021). Hence, their under-representation in beginning new ventures and gaining investment is circular (Ewens & Townsend, 2021).

Gender inequality in venture leadership and investment is deeply rooted in socialization processes and social structures (Fairlie & Robb, 2009). Barriers to women’s participation mainly originate from women’s socialization into stereotypical gender roles (Kleemann et al., 2008). Thus, there are fewer successful female role models in entrepreneurship (Hohl et al., 2021), which relates to less willingness to initiate new ventures (Harrison, 2020; Hebert, 2020).
Because examination of gender-sensitive subjects using traditional self-report measures is known to be influenced by social desirability (Fisher & Dubé, 2005), we suggest an innovative proposal that will bypass stereotypes and social desirability by using bio-psychological sensors that implicitly measure emotions, arousal, and approach tendency to reveal the most effective strategies to encourage women and investors to promote women’s initiatives.

The purpose of the research is twofold: to encourage women to approach venture initiation and to encourage investors to approach investments in women’s ventures. In addition, the study will contribute to the understanding of whether using a female role model may increase women’s willingness to initiate a venture and increase investors' willingness to invest in such ventures. If indeed effective, this simple manipulation could change the social environment and promote women’s ventures.

**Methodology**

Two studies will examine the effect of female role models on women’s willingness to initiate a venture (Study 1) and investors' willingness to invest in them (Study 2). In Study 1, we will use online visual Affectiva to measure emotional facial responses (Lei et al., 2017). Study 2 will comprise a laboratory experiment, where participants will be connected to three sensors: 1. GSR – Galvanic Skin Response, to measure stress 2. Visual Affectiva, to measure implicit emotions (Lei et al., 2017) 3. EEG – Electroencephalography, for measuring frontal alpha asymmetry, to indicate approach versus avoidance motivation (Coan & Allen, 2004).

Study 1 will be an experimental laboratory study using online Affectiva (n=100 Prolific respondents). The research design will be 3 (female/male/control – no role model) by 2 (genders: men and women). We will randomly present a book review of an autobiography of a successful female or male entrepreneur. Participants will be asked about venture ideas they might have had in the past and will read about an idea for a new business venture. The dependent variables will be the Affectiva biopsychological responses when viewing the venture idea (the % of different emotional responses, including the % of positive emotions) and self-report of willingness to initiate the venture.
Study 2 will be an experimental laboratory study (n=100 students) with a 3 (female/male/control – no role model) by 2 (female’s/women’s ventures) by 2 (genders: men and women) research design. We will randomly present a banner of female and male entrepreneurs as a keynote for a major entrepreneur’s conference on a crowdfunding page (designed by us in the lab). Participants will view six ventures: three led by men, and three led by women (all will be pre-tested for comparability in the amount of money that needs to be raised, field, etc.). The dependent variables will be the three biopsychological responses participants demonstrate when viewing each venture (the % of different emotions), arousal as measured by peak counts and amplitude of the peaks, and approach region activation, as indicated in the alpha asymmetry score), self-report willingness to invest, and actual investment. We expect female role model manipulation to increase women’s positive emotions and willingness to initiate a venture compared to male role models or control conditions. Furthermore, female role model manipulation will increase both women’s and men’s positive emotions, arousal, and activation in approach regions in the brain compared to the male role model or control condition., and will increase their willingness to invest in a female venture.

**Time schedule and work-plan**

<table>
<thead>
<tr>
<th>Study (sample size)</th>
<th>Start date</th>
<th>End date</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (n=100, 50% women)</td>
<td>October 2021</td>
<td>December 2021</td>
<td>Prolific platform</td>
</tr>
<tr>
<td>2 (n=100, 50% women)</td>
<td>December 2021</td>
<td>June 2022</td>
<td>BGU Neuromarketing lab</td>
</tr>
<tr>
<td>Analysis and writing</td>
<td>June 2022</td>
<td>October 2022</td>
<td>BGU Neuromarketing lab</td>
</tr>
</tbody>
</table>

**Sample and financial needs**

For Study 1, we will recruit participants with webcams to participate in a Prolific online study. For Study 2, we will recruit 120 students from all departments of Ben-Gurion University (BGU).
The financial needs of the project:

<table>
<thead>
<tr>
<th>Expense</th>
<th>Per unit</th>
<th>Details</th>
<th>Total budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment to subjects</td>
<td>40 ILS</td>
<td>40 ILS *200 participants</td>
<td>8,000 ILS</td>
</tr>
<tr>
<td>Payment for online Affectiva tool services</td>
<td>11,000</td>
<td>(2,900 Euros)</td>
<td>11,000 ILS</td>
</tr>
<tr>
<td>Editing</td>
<td></td>
<td>17% overhead</td>
<td>500 ILS</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>22,850 ILS</td>
</tr>
</tbody>
</table>

**Contextual elements**

The Neuromarketing lab runs experiments with the sensors (only COVID-19 vaccinated students can visit the lab, and 85% of the students at BGU are vaccinated). The research lab aims to collaborate with business firms on changing behaviors for the benefit of society, specifically focusing on promoting diversity in organizations. The PI, Dr. Enav Friedmann, is a researcher and a lecturer in Business Administration at BGU, specializing in marketing. Her expertise focuses on consumer behavior, gender marketing, and social-behavioral marketing, promoting women in traditionally masculine roles. Each year, the lab manager, Dr. Merav Weiss-Sidi, recruits five research students, who serve as research assistants for several research projects. The lab team has already started pre-testing various role model manipulations. The PI and lab manager are a productive and experienced team who have collaborated on several research projects in the past.
References


Appendix – Researchers’ Curriculum Vitae

CURRICULUM VITAE

• Personal Details

Name: Dr. Enav Friedmann
Date and place of birth: 13/10/1978, Beer Sheva
Regular military service: 1996-1998
Address - Work: Department of Business Administration
Ben Gurion University
PO Box 653, Beer Sheva, 8410501
Phone: +972-8-6479738
Fax: +972-8-6477691
E-mail: enavfrie@bgu.ac.il
Address - Home: PO Box 1255
Kil Hachoresh 19
Omer, Israel, 8496500
Phone: +972-52-6091235

• Education

Ben-Gurion University of the Negev, Israel
Department: Behavioral Science

Ben-Gurion University of the Negev, Israel
Business Administration, Marketing.
Advisor: O. Lowengart

Ph.D. 2010 – 2014
Ben-Gurion University of the Negev, Israel
Business Administration, Marketing
Advisor: O. Lowengart
Title of thesis: “Gender differences in consumers' multi-attribute product choice processes.”

• Employment History

10/2019-present Lecturer, Marketing, Business Administration
Guilford Glazer Faculty of Business and Management,
Ben-Gurion University of the Negev

9/2019 Erasmus, Ca’ Foscari University,
Management Department, Venice, Italy

2/2019 Erasmus, Ca’ Foscari University,
Management Department, Venice, Italy

9/2018 Visiting Scholar, Ca’ Foscari University,
Management Department, Venice, Italy
2015- 2019  Instructor, Marketing, Business Administration, Bar Ilan University

2010- 2019  Adjunct Lecturer  
Department of Business Administration  
Guilford Glazer Faculty of Business and Management, Ben-Gurion University of the Negev

2004-2014  Teaching Assistant  
Department of Business Administration  
Guilford Glazer Faculty of Business and Management, Ben-Gurion University of the Negev

2001-2010  Head of Social and Cultural Department  
Southern Region, Student Authority, Jewish Agency, Israel

6/2000; 6/2001  Summer Camp Manager  
Magen Avraham, Omer

• Professional Activities
  2019 - Present  Member of Association for Consumer Research (ACR)  
  2019 - Present  Member of European Academy of Management (EURAM)  
  2019 - Present  Member of Academy of Business and Retail Management (ABRM)  
  2017 - Present  Member of Marketing Science Institute (MSI)

• Educational Activities
  Courses Taught
  Marketing Practicum  Graduate  Ben Gurion University
  Pricing Methods  Graduate  Bar Ilan and Ben-Gurion Universities
  Marketing Management  Graduate  Ben-Gurion University of the Negev
  Marketing Research  Undergraduate  Ben-Gurion University of the Negev
  Advanced Methods in Market Research  Graduate  Bar Ilan University
  Marketing Practicum  Graduate  Bar Ilan University
  Consumer Behavior  Graduate  Bar Ilan University
  Behavioral Science for Managers  Undergraduate  Ben-Gurion University of the Negev

  Research Students
  2023 (expected)  Noam Dagan  M.A.

• Awards, Citations, Honors, Fellowships
  2006  Ben-Gurion University of the Negev, M.A in Business Administration. Graduated with honors
  2010-2014  The Negev-Zin Scholarship, Ben-Gurion University of the Negev
  2021  iMotion certified- Academy training for biosensors
• Scientific Publications

**Refereed Articles**


9. Efrat-Treister, D. Altman, D., **Friedmann**, E., Lev-Arai Margalit, D. and Teodorescu, K. (2020). Exploring the Usefulness of Medical Clowns in Elevating Satisfaction and Reducing Aggressive Tendencies in Pediatric and Adult Hospital Wards. *BMC Health Services Research*. (1 Citation; IF= 1; Q1; A).


**Book chapters**

**Articles in Conferences proceedings**


- **Accepted research grants:**
  - Guilford Glazer Faculty, Ben Gurion University (1.5K$)- a Grant to encourage submission to competitive research funds. This fund helped in collecting additional preliminary results for the ISF grant (9/20)
  - US Department of Education, Undergraduate International Studies and Foreign Language Program, research stipend (1K$) application for research pertaining to “PATHWAYS TO MENA at Bridgewater State University”, our joint work on BSF was submitted by Diana Fox, with the purpose of using this fund for collecting preliminary results for the BSF grant (10/20)
  - “The Women and Science Chair at Paris Dauphine-PSL University” for impacting the presence of women in scientific studies and careers. 10K Euros (10/21)
  - Guilford Glazer Faculty, Ben Gurion University (2.2K$)- a Grant to encourage submission to competitive research funds. This fund will aid in collecting additional preliminary results for the ISF grant (9/21)

- **Submitted Research Grants:**
  - ISF- The effect of offensive ads on consumer responses over-time (10/2021)
  - Eli Horowitz - Social marketing to encourage women’s entrepreneur venture (7/2021)
  - Templeton grant - The ripple effects of the “Golden Experts” volunteer program: a holistic assessment (7/2021)
• Present Academic Activities

Submitted for publication


Research in Progress


Friedmann, E., Solodoha, E., (2021). Offensive ads and long term approach toward the advertised brand by those who are discriminated against: Disidentification tendency in action. *International Journal of Advertising* (IF= 2.1; Q1; A).


- **Lectures and Presentations at Meetings and Invited Seminars**

  (a) **Invited Seminars**


  Friedmann, (2018). Are the brand choice considerations of men and women really different?. Tel Aviv University, Israel.

  Friedmann, E. (2019). Why consumers buy products whose advertisements are offensive?” Consumer behavior workshop, Bar Ilan University, Israel.

  (b) **Presentation of papers at conferences/meetings**


  Friedmann, E. (June 2017). Are the brand choice considerations of men and women really different? Marketing Science, LA, USA.


Friedmann, E. (April 2019). Why consumers buy “products” whose advertisements are offensive? The Global Marketing Conference, Academy of Business and Retail Management (ABRM), NYC, USA. Best presenter certificate in branding and marketing session.

Friedmann, E. (June 2019). The influence of ads structure and content on purchase intentions of low and high context cultures. European Academy of Management (EURAM), Lisbon, Portugal.


• Publications in the media

News, Channel 12 (interview on 2021):
https://us02web.zoom.us/rec/play/1UVkZc_VYP75e80o764nDxeSMWxmBDY_p8toES6VhI5XSiVPA1V8oKO0MZNMIjP1eAT0KoJfJ_rK0TmzF.kNfr2DhZM1XatNFY?autoplay=true&startTime=1610545108000


CURRICULUM VITAE

• Personal Details

Name: Merav Weiss-Sidi
Date and place of birth: February 25, 1979; Haifa, Israel
Work address: Guilford Glazer Faculty of Business and Management
Ben-Gurion University of the Negev
POB 653
Beer-Sheva 84105, Israel
Office: 972-8-6475016
E-mail: weissid@post.bgu.ac.il
Home address: 10 Barkan Street
Omer 8496500, Israel
Mobile: 972-52-5220102

• Education

Postdoc Fellow 2021, Tel-Aviv University, Coller School of Management
Project managers: Prof. Daniel Hellr, Dr. Ilanit Simantov-Nachlieli

Ph.D. 2020, Ben-Gurion University of the Negev, the Guilford Glazer Faculty of Business and Management GGFBM, Management Department
Advisors: Prof. Oded Lowengrat, Dr. Hila Riemer
Title of Thesis: Help Others Be Happy? - Prosocial Behavior and Related Emotions across Cultures

M.B.A. – 2013, The College of Management Academic Studies, the School of Business Administration; Marketing and Branding, Thesis cum laude
Advisor: Prof. Oren Kaplan
Title of Thesis: Value Messaging through Logo, Their Characterization and Contribution – Case study: an examination "Israeliness" as it appears in the logos of Israeli companies


• Employment History

2021- Present
Lab manager- The BGU Marketing Lab
Ben-Gurion University of the Negev

2016-Present
Adjunct Lecturer
Ben-Gurion University of the Negev

September 2019
Erasmus, Ca’ Foscari University,
Management Department, Venice, Italy

2008-2016
Co-Founder & Exc. manager
Infogan.co.il
2008-2015
Adjunct Lecturer
The Faculty of the Arts at Kibbutzim College of Education, The College of Management Academic Studies.

2010-2011
Member of the steering committee of the high school curriculum in communication studies

2005-2010
Teaching Assistant and Co-Teaching for methodical seminars
The College of Management Academic Studies

2003–2005
Media planner and buyer
Zenith media- (for P&G account)

- **Professional Activities**
  
  (a) Editor or member of editorial board of scientific or professional journal

  2019, *The Academy of Management Conference* (PNP and SIM Divisions) - Ad hoc reviewer
  2021, *Journal of Retailing and Consumer Services* - Ad hoc reviewer

(b) **Membership in professional/scientific societies**

  2016– Society of Consumer Psychology
  2017, 2018 – The Society for Personality and Social Psychology
  2018, 2019 – The Academy of Management
  2019 – The European Association for Decision Making
  2019 – American Marketing Association
  2021 – INFORMS
  2021 - The International Association for Cross-Cultural Psychology (IACCP)

- **Educational activities**

  (a) **Courses taught**

  Prosocial Marketing, for undergraduate students, Ben-Gurion University of the Negev, The Faculty of the Arts at Kibbutzim College of Education

  Marketing Principals, for undergraduate students, Ben-Gurion University of the Negev, The College of Management Academic Studies.

  Strategic Brand Management, for undergraduate students, Ben-Gurion University of the Negev, The Faculty of the Arts at Kibbutzim College of Education.

  Advertising Principals, for undergraduate students, The College of Management Academic Studies, The Faculty of the Arts at Kibbutzim College of Education.

  Services Marketing – MBA program, Ben-Gurion University of the Negev.

  Strategic Marketing and Communication for Social Goals – MBA program, Ben-Gurion University of the Negev
Lectures and Presentations at Meetings and Invited Seminars

(a) Presentations of papers at conferences/meetings (oral or poster)


August 18-22, in Amsterdam, Netherlands (Oral presentation).


17. Fridmann, E. Weiss-Sidi, M., and Vescovi, T. “Cross-Cultural Market Segmentation Scale. Towards a High- and Low-Context Culture Scale”, has been accepted for presentation to the 14th Annual Conference of the EuroMed Academy of Business (EMAB) that will be held online on September 22-24, 2021.

(b) Seminar presentations at universities and institutions
1. June 2016, Research presentation presented Kent B. Monroe (The John M. Jones Distinguished Professor of Marketing Emeritus at University of Illinois) in special seminar, at the Guilford Glazer Faculty of Business and Management, Ben-Gurion University of the Negev, Israel, “Emotional Antecedents and Consequences of Prosocial Behavior”.

2. January 2017, Research presentation presented Vithala R. Rao (Deane Malott at Samuel Curtis Johnson Graduate School of Management, Cornell University) in special seminar, at the Guilford Glazer Faculty of Business and Management, Ben-Gurion University of the Negev, Israel, “Help Others, Be Happy! A Cross-cultural Examination of the Effect of Prosocial Behavior on Happiness”.

Scientific Publications

Publication of Abstracts or Extended Abstracts Only:
Note: In the Management field, researchers often submit full length papers for review, but after acceptance ask to publish extended abstracts only, due to copy right considerations.


Accepted for publication:


Under review:

Status: under review, Submitted for European Journal of International Management.
(SJR 2020 impact factor: 0.66, Q2; 106 of 1742 in Business, Management and Accounting).

(SJR 2020 impact factor: 0.98, Q1; ABDC: A; 46 of 194 in Marketing).

Friedmann, E. and Alfayumi-Zeadna, S. and Weiss-Sidi, M. “Use of social marketing techniques to increase care utilization among women with postpartum depression”.
Status: under review, Submitted for the Journal of Clinical Medicine.
(JCR 2020 impact factor: 4.241, Q1).

Work in progress:

“Give a Fishing Rod, Not a Fish: The Impact of Help Type on Support for the Helper’s Leadership”
Chernyak-HaiCI, L., SimanTov-NachlieliPI, I., HellerCo-PI, D, and Weiss-SidiCo-PI, M.
Status: final writing, expected date of completion: November 2021

“Help others – be happy? The effect of prosocial behavior on happiness across cultures”
Weiss-Sidi, M. and Riemer, H.
Status: final writing, expected date of completion: November 2021

“Do I really need to think about it? How donors’ involvement and organizations’ credibility affect the donation decision process”.
Weiss-Sidi, M. Gutman, G, Peleg, G. and Lowengart, O.
Status: final writing, expected date of completion: December 2021

“Family supportive initiatives at work, who are they good for?”. FridmannPI, E. and Weiss-SidiCo-PI, M.
Status: In the data collection and analysis stage; expected date of completion: March 2022

"Values and Happiness When Helping Other - The Cultural Differences aspects”.
Weiss-SidiS, M, and RiemerPI, H.
Status: In the data collection and analysis stage; expected date of completion: May 2022.
• **Research Grants**

  2021, *Partnership Foundation Paris-Dauphine- Grant*, 10,000 Euro.

  2020, *Sawtooth Academic Grant*, Sawtooth Software, 3,000USD.

  2019, Ben-Gurion University of the Negev, “**Third-sector research center**” grant for **non-for profit research**, ICTR Center Ben-Gurion University, 4,000NIS.

  2019, “**ERASMUS+ ICM**” for Mobility at Ca’ Foscari University, Management Department, Venice, Italy, 1,500Euro.

  2016, Ben-Gurion University of the Negev, “**Third-sector research center**” grant for **non-for profit research**, ICTR Center Ben-Gurion University, 5,000NIS.

• **Community service**

  2019–2020 - Voluntary marketing consulting for Friends of the Negev
  (advancement of children with autism in the Negev area)

  2018-2019 - Voluntary marketing consulting for Municipal Food Policy, The Authority for Environmental Quality and Sustainability, Tel Aviv-Jaffa Municipality

  2010-2015 - Board of directors – Topaz- Enhancing Civil Society

  2011-2012 - Voluntary marketing consulting for Yevulim Permaculture

  2007-2008 - Voluntary marketing consulting for Brit Olam (International Volunteering and Development)

  1997-2000 - Executive officer (First Lieutenant) in the Israel Defense Forces, for 3 years in the Israeli Air Forces