

YOUNG LEADERS YOUNG WOMEN  
RESEARCH AND DESIGN OF A GAME TO HELP ADOLESCENT GIRLS UNLOCK  
THEIR LEADERSHIP POTENTIAL

by  
Aahd Alanqar

Bachelor of Science in Interior Design, Abu Dhabi University, 2011

A major research project  
presented to Ryerson University

in partial fulfillment of the requirements for the degree of  
Masters in the program of  
Digital Media

Toronto, Ontario, Canada, 2020

© Aahd Alanqar, 2020

## **Author's Declaration**

### **AUTHOR'S DECLARATION FOR ELECTRONIC SUBMISSION OF AN MRP**

I hereby declare that I am the sole author of this MRP. This is a true copy of the MRP, including any required final revisions. I authorize Ryerson University to lend this MRP to other institutions or individuals for the purpose of scholarly research. I further authorize Ryerson University to reproduce this MRP by photocopying or by other means, in total or in part, at the request of other institutions or individuals for the purpose of scholarly research. I understand that my MRP may be made electronically available to the public.

YOUNG LEADERS YOUNG WOMEN  
RESEARCH AND DESIGN OF A GAME TO HELP ADOLESCENT GIRLS UNLOCK  
THEIR LEADERSHIP POTENTIAL

Master of Digital Media, 2020

Aahd Alanqar

Digital Media

Ryerson University

**Abstract**

Adolescence is one of the most rapid changes that happen across the human life span, where physical, psychological, emotional, and personality changes happen. Especially for young girls, it's a critical time to describe themselves, make decisions, and be confident around their peers. Many young girls struggle with their transition from childhood to adulthood. Girls navigate puberty differently than boys, not due to biological or psychological changes only, but to the gendered cultural meanings that they absorb and learn from their world. Contemporary adolescent development requires a new approach to involve adolescents in more active, engaging, and leadership roles. This project aims to create a game for young girls to explore challenging situations, and how they might respond can lend them an important degree of confidence and resilience. The educational game contains a series of prompts, questions, and challenging scenarios, where girls are not always meant to know the answer. The game will provide a guide to young girls to understand more about leadership identities and their thoughts, by making sense of their emotions and assembling them to allow them to thrive.

Keywords:

Female Leadership | Game Design | Adolescent Girls | Board Game | Educational Game | Playful Leadership | Young Leaders | Product Design

## **Dedication**

For my parents, Hana and Fouad. Thank you for always believing in me, creating a safe environment to be the woman who I am today and in doing so, teaching me to believe in myself. I am forever grateful.



## **Acknowledgements**

I would like to express my gratitude to my advisor, Dr. David Chandross and my second reader, Dr. Wilson Leung. Their guidance and insight helped make this project a reality. I am thankful for their encouragement and friendship, their commitment to my success, and their kind spirit.

Many thanks go to my family in Toronto, I could never have completed this program without your great support throughout this journey. Thank you to my peers and to the faculty of the Master of Digital Media at Ryerson University for their unflagging support throughout my program.

Finally, I would like to thank every woman who I have met and inspired me to create this project. For my mother, the strongest woman in my life. Through this research and project, I hope to inspire young girls and to encourage as many future leaders as I can.

## Table of Contents

<b>Author's Declaration .....</b>	<b>ii</b>
<b>Abstract.....</b>	<b>iii</b>
<b>Dedication .....</b>	<b>iv</b>
<b>Acknowledgements .....</b>	<b>v</b>
<b>Appendices.....</b>	<b>1</b>
<b>Appendix A - Description of Technologies Used.....</b>	<b>1</b>
<b>Appendix B: The Young Leaders Young Women Design Document .....</b>	<b>2</b>
<b>Appendix C: The Young Leaders Young Women Website .....</b>	<b>110</b>
<b>Appendix D: The Young Leaders Young Women Video 1 .....</b>	<b>111</b>
<b>Appendix E: The Young Leaders Young Women Video 2 .....</b>	<b>113</b>
<b>Appendix G: The Young Leaders Young Women Instagram Page .....</b>	<b>115</b>
<b>Introduction.....</b>	<b>117</b>
<b>Literature Review .....</b>	<b>121</b>
<b>A look at Adolescent Girls .....</b>	<b>121</b>
<b>Leadership Education .....</b>	<b>125</b>
<b>Leadership for Adolescent Girls.....</b>	<b>127</b>
<b>The Importance of Influencing Leadership .....</b>	<b>129</b>
<b>Gamification in Education .....</b>	<b>130</b>
<b>Playful Leadership.....</b>	<b>133</b>
<b>Methodology .....</b>	<b>137</b>
<b>Action Research Methodology.....</b>	<b>137</b>
<b>Problem Identification and Inquiry .....</b>	<b>137</b>
<b>Action and Design Development .....</b>	<b>138</b>
<b>Prototype .....</b>	<b>139</b>

<b>Conclusion .....</b>	<b>142</b>
<b>    Implications for Future Research .....</b>	<b>142</b>
<b>    Implications for Practice &amp; Recommendations Limitations .....</b>	<b>143</b>
<b>    Summary .....</b>	<b>144</b>
<b>References .....</b>	<b>146</b>

## Appendices

### Appendix A - Description of Technologies Used

#### Description of Technologies Used Throughout the Development Process

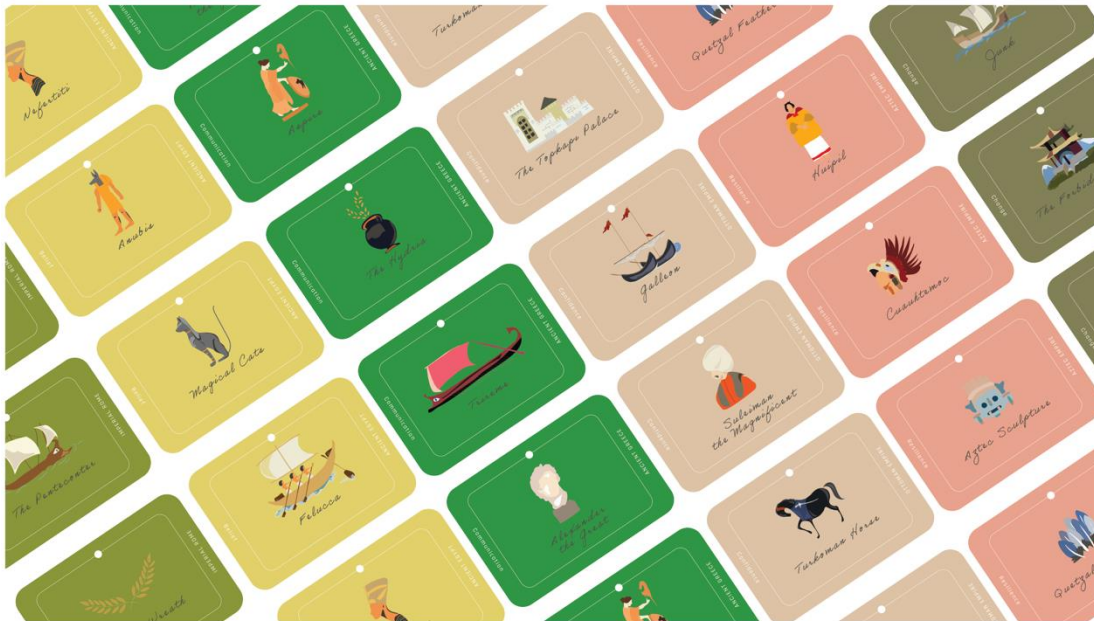
Technology Category	Technology	Description
Programs	Adobe Illustrator CC	A software for creating vector graphics, logo, and illustrations.
	Adobe Photoshop CC	An editing and imaging software.
	Adobe Dimension CC	is an application to create and render three-dimensional images.
	Adobe Premiere Pro	is a real-time, timeline-based video editing software application.
	Adobe Fresco CC	A drawing and painting software.
	iMovie	A video clip editing tool for macOS (Mac Operating System).

Table A1: Description of technologies used.

## Appendix B: The Young Leaders Young Women Design Document

## YOUNG LEADERS YOUNG WOMEN

# A Major Research Project Design Document



Toronto, Ontario, Canada, 2020  
© Aahd Alanqar, 2020

Figure B1: Cover page.

---

01.

---

## Playful Leadership

Identity & Branding

### Logo Form

Pictorial Mark & Word Mark

Playful leadership is helping people to learn leadership, find perspective and resilience in the face of life's challenges. Currently it offers a leadership game for young women to help them gain leadership skills and find sources of fulfillment.

#### Pictorial Mark & Word Mark

These are the two primary expressions of Playful Leadership logo and are the preferred representation across all media. Where possible, the pictorial mark should be given preference over word mark.

#### Full Color Logo

Wherever full color printing/display is possible the standard white Pantone logo is highlighted with Sherpa Blue background.

#### Pictorial Mark

The brand and logo symbol. It's the image that represents Playful Leadership. The logo is an outline of a young girl.

#### Word Mark

Is used together with the image logo when possible to ensure that the brand name is communicated effectively.

#### Smaller Size

An altered form of the vertical orientation.

01 |

Figure B2: Identity and branding description.



Figure 1.1: Playful Leadership Pictorial Mark



Figure 1.2: Playful Leadership Word Mark



Figure 1.4: Playful Leadership Pictorial Mark & Word Mark (Black & White)



Figure 1.3: Playful Leadership Smaller Size

---

02.

---

## Young Leaders Young Women

Game Identity

Game Branding

Young Leaders Young Women is a game designed for young girls who are 10 years and above to get the very best out of adolescence.

### Word Mark

Vertical and stacked orientation is the primary expression of Young Leaders Young Women and is the preferred representation across all media.

### Horizontal Orientation

An additional horizontal orientation is included for use only where space is limited.

### Full Color Logo

Black and white Pantone color logo to align with the Playful Leadership brand.

03 |

Figure B4: Game identity description.





**Figure 2.1:** Young Leaders Young Women Vertical Stacked Word Mark (the background is used to show white wordmark).



**Figure 2.2:** Young Leaders Young Women Vertical Oriented Word Mark (the background is used to show white wordmark).



**Figure 2.3:** Young Leaders Young Women Horizontal Oriented Word Mark (the background is used to show white wordmark).

04 |

Figure B5: Game identity.

---

03.

---

## Young Leaders Young Women

Board Game Box Design

### Game Branding

The box is designed to hold 60 printed challenging situations | 60 printed inspiring female characters | Instruction booklet | leadership guide | response sheet pad | 2 dice | 6 pencils.

#### Box Dimension

Length: 31.75cm, width: 31.75cm, depth: 7.62cm

#### Outside Box Color

Zircon color is the main color of the packaging. Each side of the box will have information about the game.

The logo is positioned on the bottom left side with the game volume number. The age group and the number of players is positioned on the bottom right.

Six colored circles are used as subset colors to distinguish leadership skills that will be covered in this volume of the game. Leadership skills identification will be covered later in this document.

#### Inside Box Color

The inside of the box top will be in Sherpa Blue color with Playful Leadership logo centered.

The bottom side in Zircon color will neatly hold all the box items in place.

05 |

Figure B6: Board game box design description.

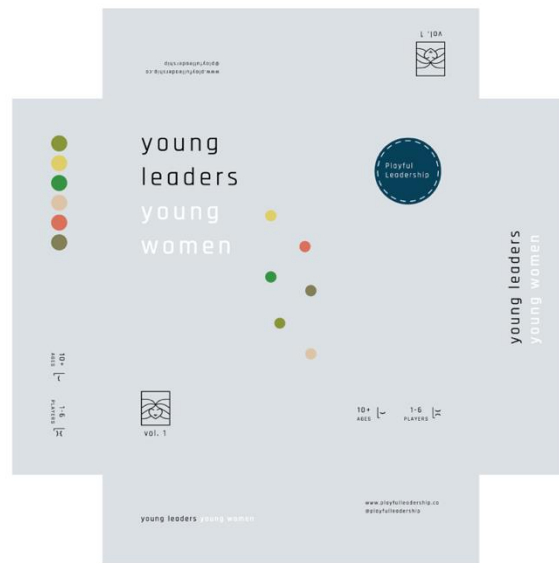


Figure 3.1: Game Box Design (Outside Cover)



Figure 3.2: Game Box Design. Left: the inside of the top cover, right: the bottom side with the items inside.

Figure B7: Board game box design.

---

04.

---

## Young Leaders Young Women

Typefaces

Game Typography  
Individual Game Branding

Adobe Handwriting Ernie  
Typography  
The game uses two type families.

**Rajdhani**  
Rajdhani is a type family that is used for titles, headlines and body copy.  
Used in the young Leader Young Women logo form and other major titles/-  
headlines. Can also be used in all caps for taglines.

Adobe Handwriting Ernie  
Is used to display different historical characters in the game.

07 |

Figure B8: Typefaces description.

---

Lorem ipsum dolor sit  
amet, consectetur  
adipiscing elit, sed diam

Figure 4.1: Rajdhani Medium Font

*Lorem ipsum dolor sit  
amet, consectetur  
adipiscing elit, sed*

Figure 4.2: Adobe Handwriting Ernie

08 |

Figure B9: Typefaces.

---

**05.**

---

**Young Leaders Young Women**

Color Palette

Game Design Brand Color

**Main Brand Colors**

Zercon and Sherpa Blue are the two key brand colors and are used when representing Young Leaders Young Women.

**Font Colors**

Black is used for text in addition to the main brand colors.

**Subset Colors**

The game colors are supported by six subset colors that are used to distinguish leadership skills.

09 |

Figure B10: Color palette description.



Figure 5.1: Main Brand Colors



Figure 5.2: Font Color

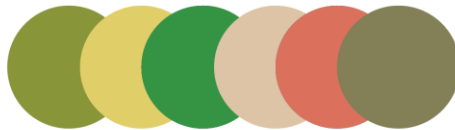


Figure 5.3: Subset Colors

Figure B11: Color palette.

---

06.

---

## Young Leaders Young Women

Board Game Box Component

### Leadership Cards

Card Design

#### 6 Sets of 10 Cards

Each leadership skill card deck has its own color branding, with an illustration to identify different characters.

#### Rounded Corner Card Size

Width: 8.89cm, height: 6.35cm, 0.7cm corner radius.

#### Front Side

Color: Different color assigned to different leadership skill (subset colors).

Primary title 1: Leadership skill

Primary title 2: Historical empire

Header: Character name

Rich media: Character illustration

#### Back Side

Color: White Pantone color.

Leadership skill number, challenge number

Body text: challenge description

Supporting text: character of the card

Leadership Leadership approach description

11

---

Figure B12: Board game box components. Leadership cards description.





Figure 6.1: Leadership Card Template Design.  
Left: front side, right: back side.



Figure 6.2: Confidence Skill Card Design. Left: front side,  
right: back side.

---

07.

---

## Young Leaders Young Women

Board Game Box Component

### Game Board Design

#### Game Board Dimension

Width: 60.96cm, height: 60.96cm

#### Design

The game board has an illustration of six historical empires with their characters.

#### Leadership Skill Set Acronym

C.B.C.C.R.C

Courage, Belief, Communication, Confidence, Resilience, Change

#### Card 1

Leadership cards

#### Card 2

Wall of Fame cards

#### Logo

Playful Leadership logo

#### Game Logo

Young Leaders Young Women (horizontal orientation)

#### Historical Map & Characters

Illustration of historical map and their characters.

#### Leadership Skill Name

Different leadership skill assigned to each historical map.

13

Figure B14: Board game box components. Game board description.

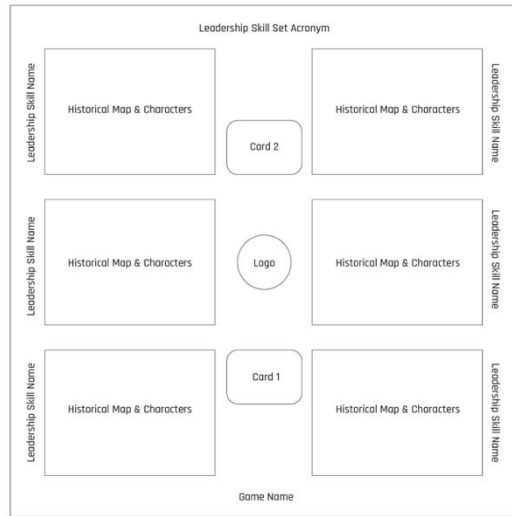


Figure 7.1: Game Board Template Design



Figure 7.2: Game Board Colored Design

Figure B15: Board game box components. Game board.

---

**08.**

---

**Playful Leadership**

Board Game Box Component

**Wall of Fame Set of Cards**  
Design

60 printed inspiring female characters

**Rounded Corner Card Size**  
Width: 8.89cm, height: 6.35cm, 0.7cm corner radius

**Front Side**  
Color: Sherpa Blue and Pantan White  
Primary title 1: Wall of Fame  
Rich media: Playful Leadership Logo

**Back Side**  
Color: Pantan White  
Body text: An inspiring female character description  
Year  
Character name

15 |

Figure B16: Board game box components. Wall of fame set of cards description.

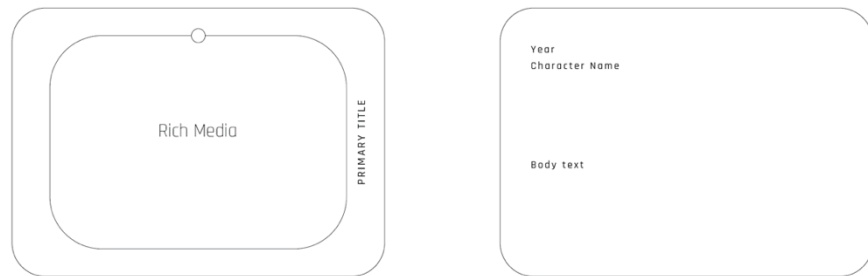


Figure 8.1: Wall of Fame Template Design. Left: front side, right: back side.

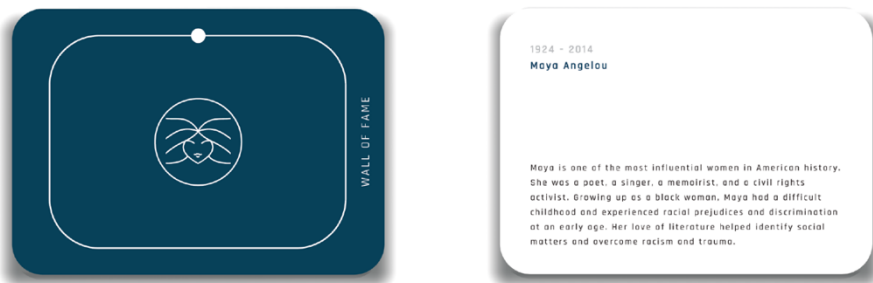


Figure 8.2: Maya Angelou Wall of Fame Card Design. Left: front side, right: back side.

Figure B17: Board game box components. Wall of fame set of cards.

---

**09.**

---

**Young Leaders Young Women**

Board Game Box Component

**Challenging Situations Set of Cards**

Color & Illustrations

Each historical empire represents a different leadership skill.  
Different colors are used to distinguish each group.

Imperial Rome - Courage  
Ancient Egypt - Belief  
Ancient Greece - Communication  
Ottoman Empire - Confidence  
Aztec Empire - Resilience  
Ancient China - Change

Each group has five different characters to represent leadership approaches.

Figure B18: Board game box components. Challenging situations set of cards description.



Figure 9.1: Imperial Rome characters & card set color.



Figure 9.2: Ancient Egypt characters & card set color.



Figure 9.3: Ancient Greece characters & card set color.



Figure 9.4: Roman Empire characters & card set color.



Figure 9.5: Aztec Empire characters & card set color.



Figure 9.6: Ancient China characters & card set color.

Figure B19: Board game box components. Challenging situations set of cards.

---

10.

---

**Young Leaders Young Women**

Board Game Box Component

**Leadership Guide**

Design & Content

**Rounded Corner Accordion Booklet**

Width: 8.83 cm, height: 13.9 cm, 0.7 cm corner radius

Color: Sherpa Blue and Pantan white.

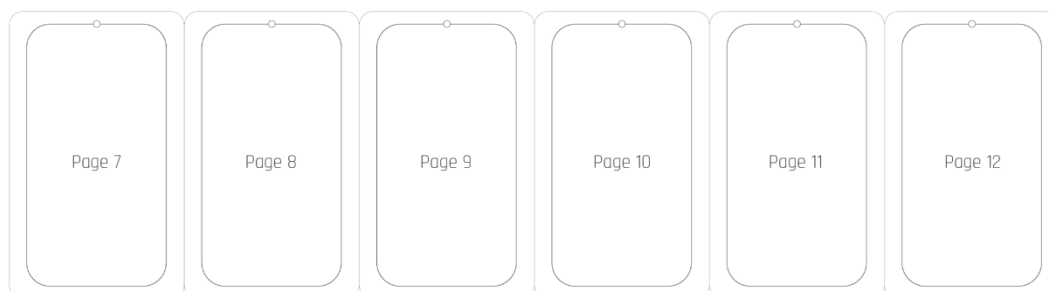
19 |

Figure B20: Board game box components. Leadership guide description.



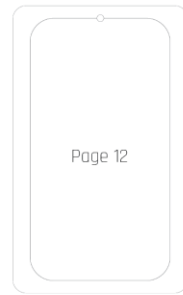


**Figure 10.1:** Game Manual Accordion Booklet, Unfolded Template Design (Front Side).

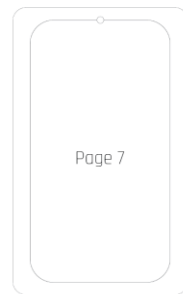


**Figure 10.2:** Game Manual Accordion Booklet, Unfolded Template Design (Back Side).

Figure B21: Board game box components. Leadership guide template.



**Figure 10.3:** Game Manual Accordion Booklet.  
Folded Template Design (Front Side).



**Figure 10.4:** Game Manual Accordion Booklet.  
Folded Template Design (Back Side).

Figure B22: Board game box components. Leadership guide template front and back.



**Figure 10.5:** Young Leaders Young Women Game Manual Content, Pages 1 & 2 (Front Side).

**Figure B23:** Board game box components. Leadership guide page 1 and 2.

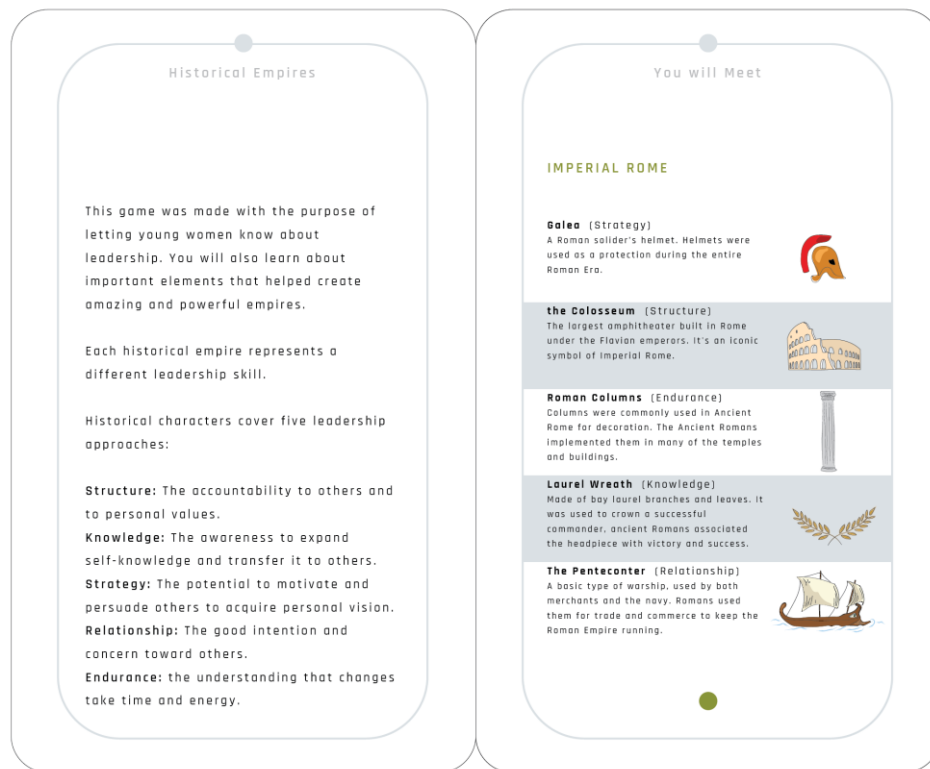


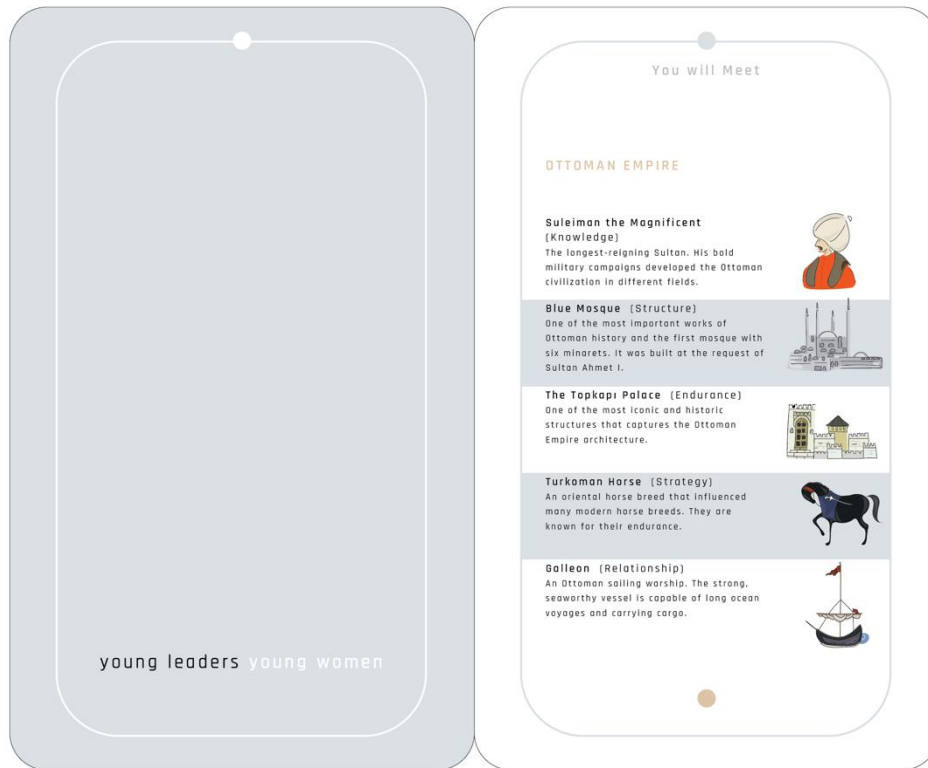
Figure 10.6: Young Leaders Young Women Game Manual Accordion Booklet, Pages 3 & 4 (Front Side).

Figure B24: Board game box components. Leadership guide page 3 and 4.



Figure 10.7: Young Leaders Young Women Game Manual Accordion Booklet, Pages 5 & 6 (Front Side).

Figure B25: Board game box components. Leadership guide page 5 and 6.



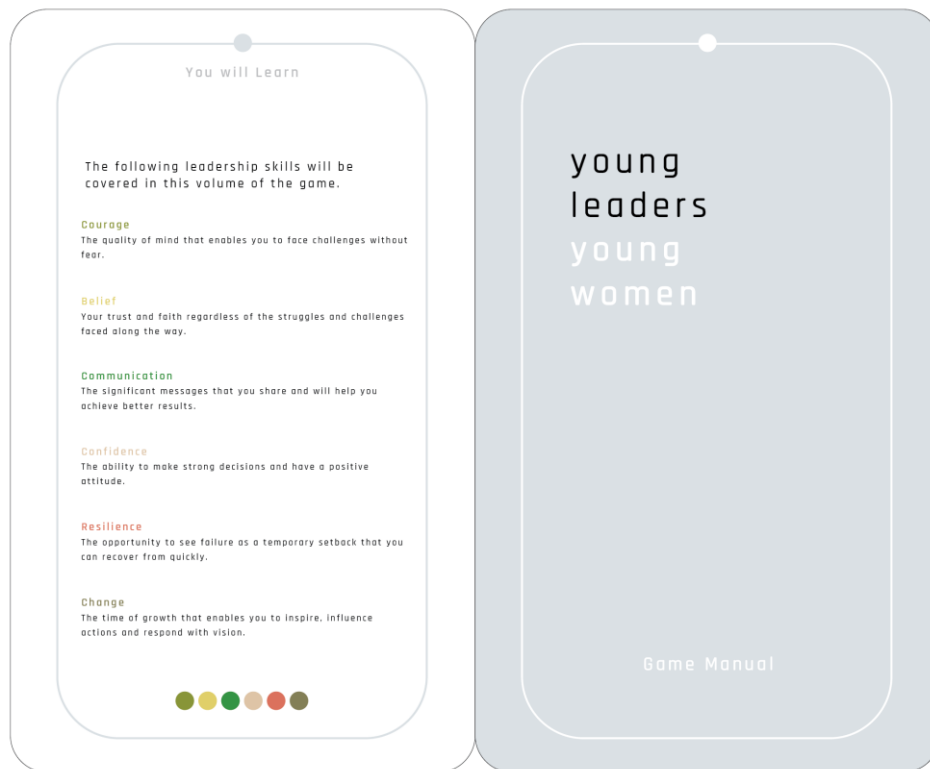
**Figure 10.8:** Young Leaders Young Women Game Manual Accordion Booklet, Pages 7 & 8 (Back Side).

**Figure B26:** Board game box components. Leadership guide page 7 and 8.



Figure 10.9: Young Leaders Young Women Game Manual Accordion Booklet, Pages 9 & 10 (Back Side).

Figure B27: Board game box components. Leadership guide page 9 and 10.



**Figure 10.10:** Young Leaders Young Women Game Manual Content, Pages 1 & 2 (Back Side).

**Figure B28:** Board game box components. Leadership guide page 11 and 12.



---

11.

---

## Young Leaders Young Women

Board Game Box Component

Leadership Skill Set of Cards - Courage  
Design & Content

Historical Empire: Imperial Rome

Leadership Skill Description: The quality of mind that enables you to face challenges without fear.

Characters:

- The Penteconter
- Galea
- The Colosseum
- Roman Columns
- Laurel Wreath

28 |

Figure B29: Board game box components. Leadership set of cards. Courage skill description.



Figure 11.1: Courage Skill Card 1. Left: front side, right: back side.



Figure 11.2: Courage Skill Card 2. Left: front side, right: back side.



Figure 11.3: Courage Skill Card 3. Left: front side, right: back side.

Figure B30: Board game box components. Leadership set of cards. Courage skill 1.

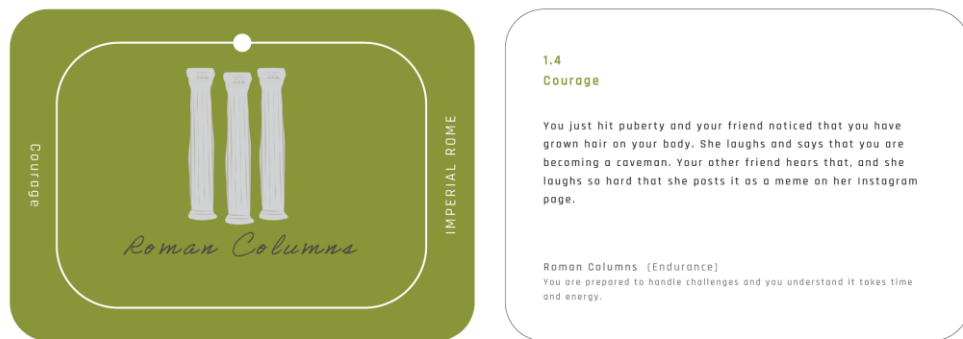


Figure 11.4: Courage Skill Card 4. Left: front side, right: back side.



Figure 11.5: Courage Skill Card 5. Left: front side, right: back side.



Figure 11.6: Courage Skill Card 6. Left: front side, right: back side.

Figure B31: Board game box components. Leadership set of cards. Courage skill 2.

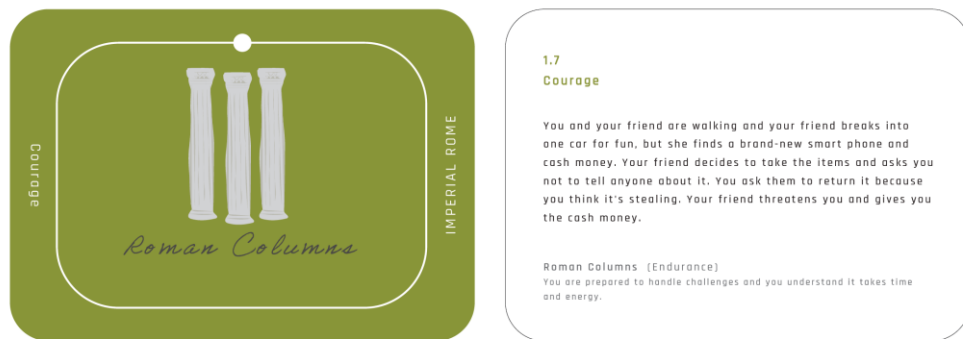


Figure 11.7: Courage Skill Card 7. Left: front side, right: back side.



Figure 11.8: Courage Skill Card 8. Left: front side, right: back side.



Figure 11.9: Courage Skill Card 9. Left: front side, right: back side.

Figure B32: Board game box components. Leadership set of cards. Courage skill 3.

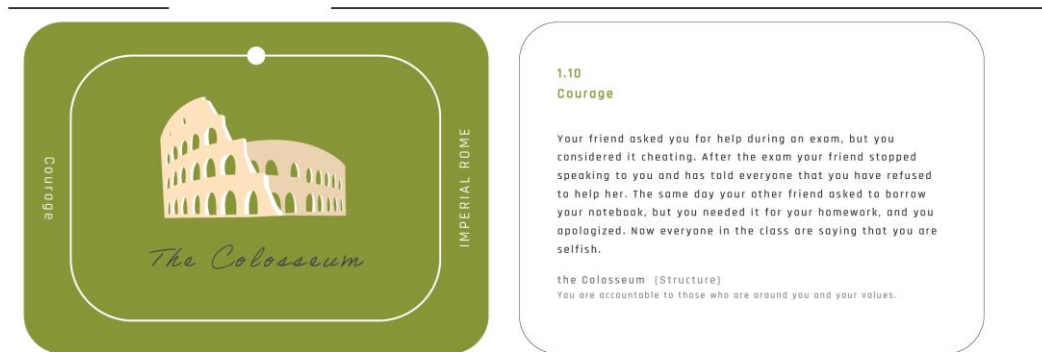


Figure 11.10: Courage Skill Card 10. Left: front side, right: back side.

Figure B33: Board game box components. Leadership set of cards. Courage skill 4.

---

12.

---

## Young Leaders Young Women

Board Game Box Component

Leadership Skill Set of Cards - Belief  
Design & Content

Historical Empire: Ancient Egypt

Leadership Skill Description: Your trust and faith regardless of the struggles  
and challenges faced along the way.

Characters:

- The Pyramids
- Nefertiti
- Magical Cats
- Felucca
- Anubis

Figure B34: Board game box components. Leadership set of cards. Belief skill description.



Figure 12.1: Belief Skill Card 1. Left: front side, right: back side.

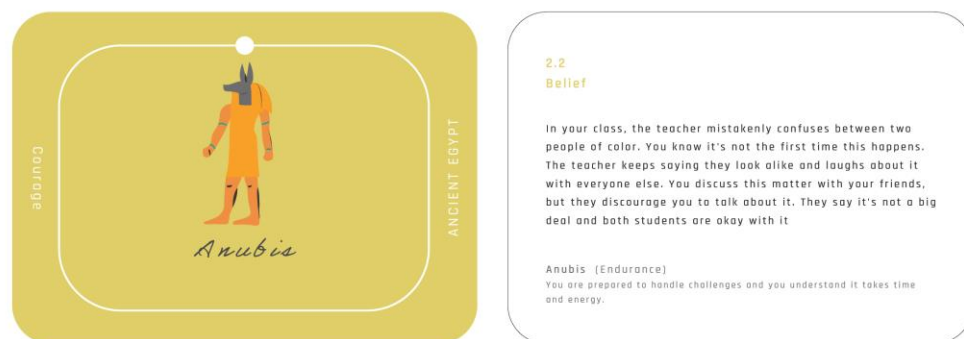


Figure 12.2: Belief Skill Card 2. Left: front side, right: back side.



Figure 12.3: Belief Skill Card 3. Left: front side, right: back side.

Figure B35: Board game box components. Leadership set of cards. Belief skill 1.

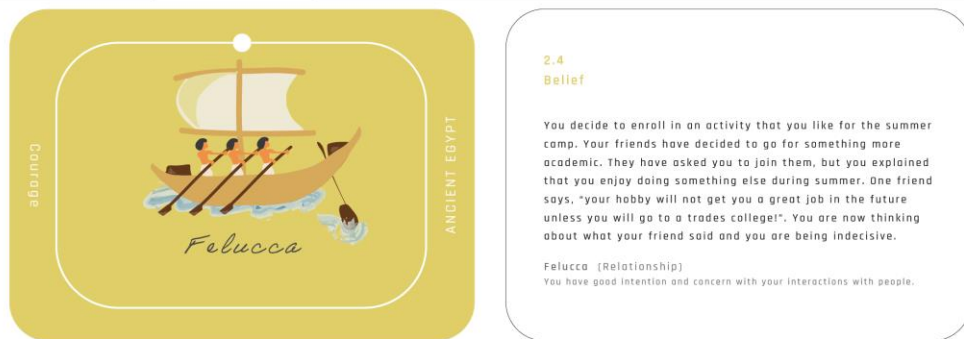


Figure 12.4: Belief Skill Card 4. Left: front side, right: back side.

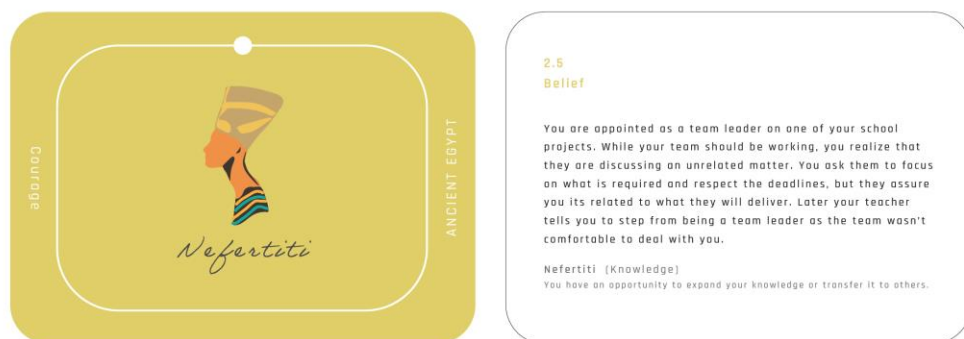


Figure 12.5: Belief Skill Card 5. Left: front side, right: back side.

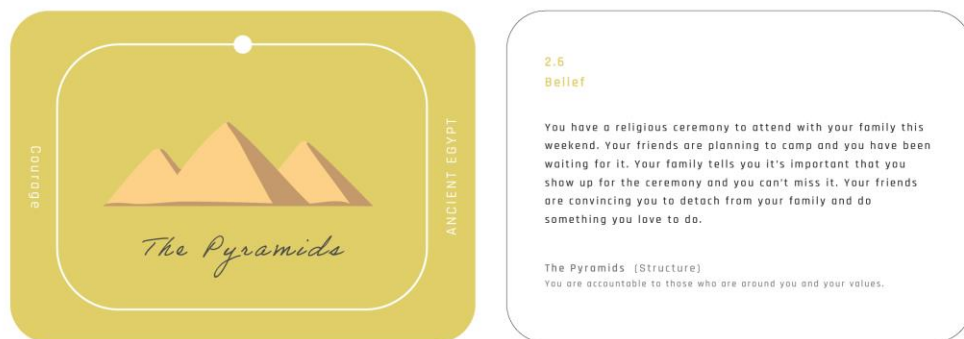


Figure 12.6: Belief Skill Card 6. Left: front side, right: back side.

Figure B36: Board game box components. Leadership set of cards. Belief skill 2.



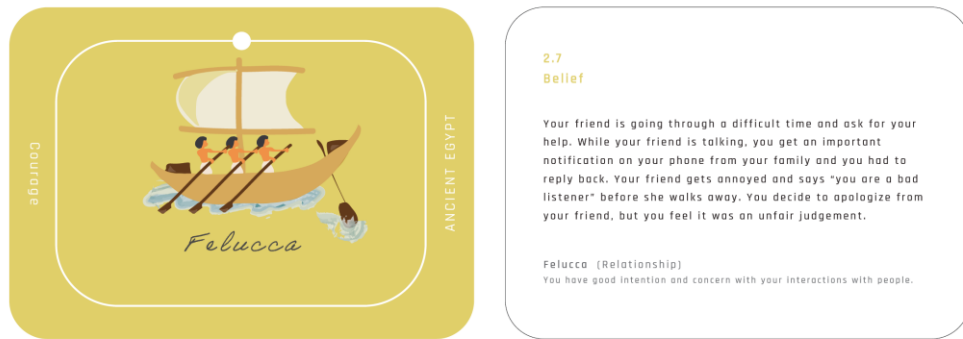


Figure 12.7: Belief Skill Card 1. Left: front side, right: back side.



Figure 12.8: Belief Skill Card 2. Left: front side, right: back side.



Figure 12.9: Belief Skill Card 3. Left: front side, right: back side.

Figure B37: Board game box components. Leadership set of cards. Belief skill 3.

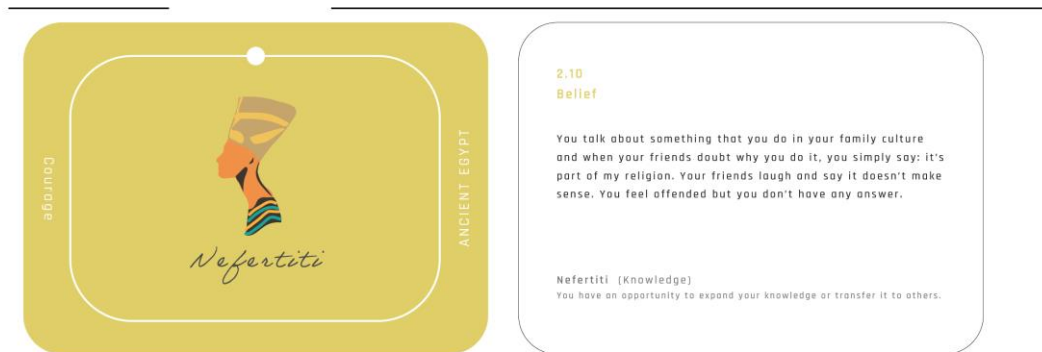


Figure 12.10: Belief Skill Card 5. Left: front side, right: back side.

Figure B38: Board game box components. Leadership set of cards. Belief skill 4.

---

13.

---

### Young Leaders Young Women

Board Game Box Component

Leadership Skill Set of Cards- Communication  
Design & Content

Historical Empire: Ancient Greece

Leadership Skill Description: The significant messages that you share and will help you achieve better results.

Characters:

- Alexander the Great
- The Parthenon
- Hydria
- Trireme
- Aspires

38 |

Figure B39: Board game box components. Leadership set of cards. Communication skill description.



Figure 13.1: Communication Skill Card 1. Left: front side, right: back side.



Figure 13.2: Communication Skill Card 2. Left: front side, right: back side.



Figure 13.3: Communication Skill Card 3. Left: front side, right: back side.

Figure B40: Board game box components. Leadership set of cards. Communication skill 1.

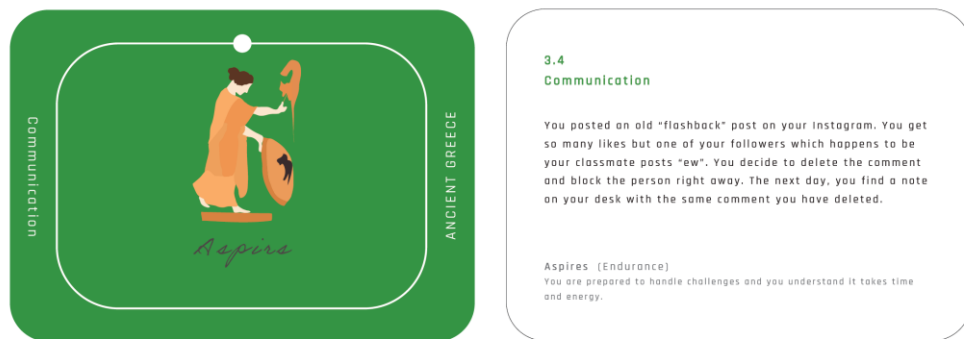


Figure 13.4: Communication Skill Card 4. Left: front side, right: back side.



Figure 13.5: Communication Skill Card 5. Left: front side, right: back side.



Figure 13.6: Communication Skill Card 6. Left: front side, right: back side.

Figure B41: Board game box components. Leadership set of cards. Communication skill 2.



Figure 13.7: Communication Skill Card 7. Left: front side, right: back side.



Figure 13.8: Communication Skill Card 8. Left: front side, right: back side.

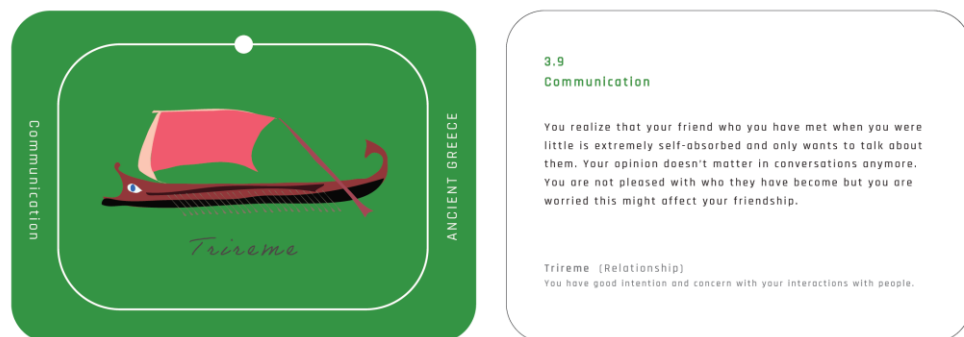


Figure 13.9: Communication Skill Card 9. Left: front side, right: back side.

Figure B42: Board game box components. Leadership set of cards. Communication skill 3.



Figure 13.10: Communication Skill Card 10. Left: front side, right: back side.

Figure B43: Board game box components. Leadership set of cards. Communication skill 4.

---

14.

---

### Young Leaders Young Women

Board Game Box Component

Leadership Skill Set of Cards- Confidence  
Design & Content

Historical Empire: Ottoman Empire

Leadership Skill Description: The ability to make strong decisions and have a positive attitude.

Characters:

- Blue Mosque
- Suleiman the Magnificent
- Turkoman Horse
- Galleon
- The Top Kapi Palace

Figure B44: Board game box components. Leadership set of cards. Confidence skill description.



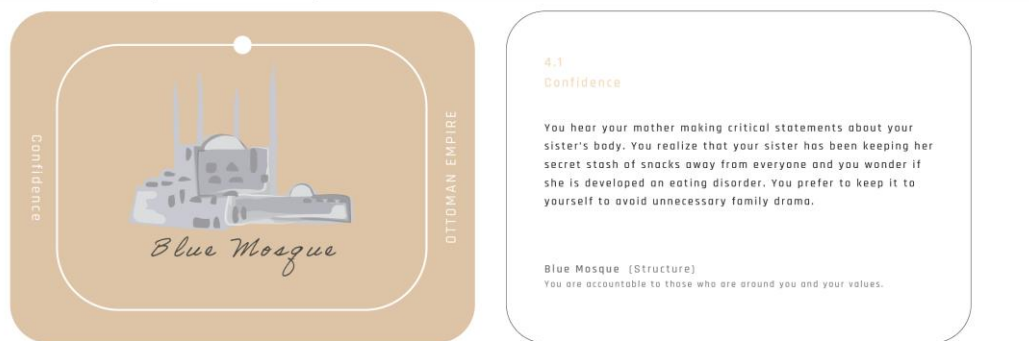


Figure 14.1: Confidence Skill Card 1. Left: front side, right: back side.



Figure 14.2: Confidence Skill Card 2. Left: front side, right: back side.



Figure 14.3: Confidence Skill Card 3. Left: front side, right: back side.

Figure B45: Board game box components. Leadership set of cards. Confidence skill 1.

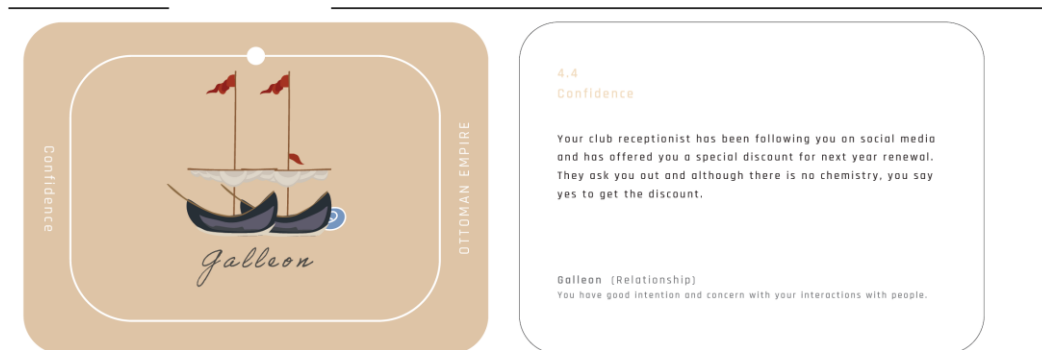


Figure 14.4: Confidence Skill Card 4. Left: front side, right: back side.

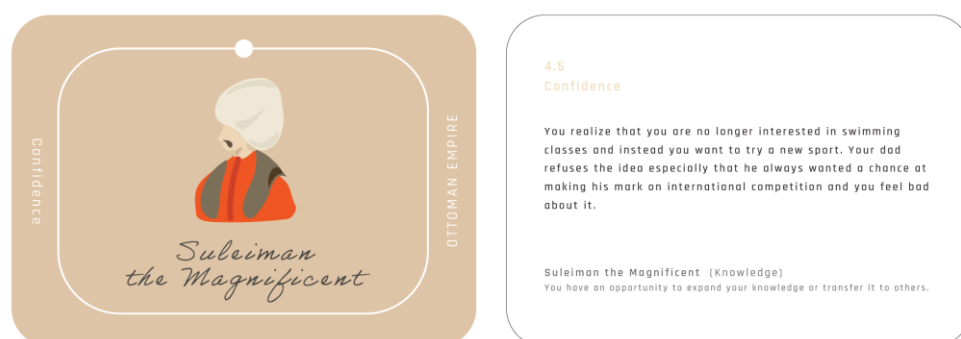


Figure 14.5: Confidence Skill Card 5. Left: front side, right: back side.



Figure 14.6: Confidence Skill Card 6. Left: front side, right: back side.

Figure B46: Board game box components. Leadership set of cards. Confidence skill 2.

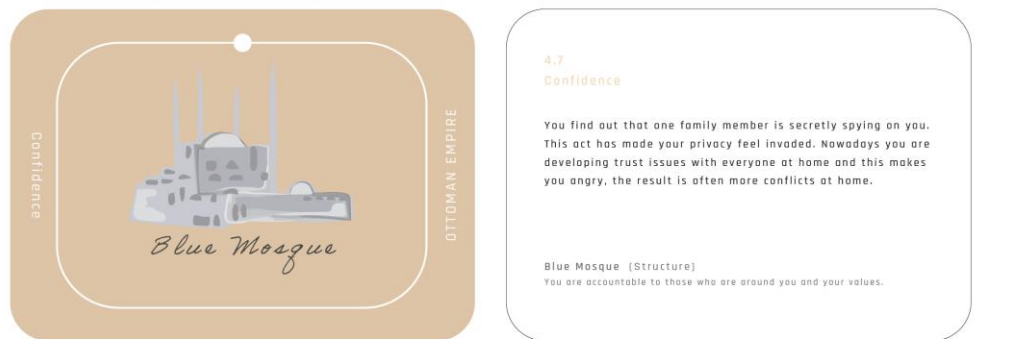


Figure 14.7: Confidence Skill Card 1. Left: front side, right: back side.



Figure 14.8: Confidence Skill Card 2. Left: front side, right: back side.



Figure 14.9: Confidence Skill Card 9. Left: front side, right: back side.

Figure B47: Board game box components. Leadership set of cards. Confidence skill 3.



Figure 14.10: Confidence Skill Card 10. Left: front side, right: back side.

Figure B48: Board game box components. Leadership set of cards. Confidence skill 4.

---

15.

---

## Young Leaders Young Women

Board Game Box Component

Leadership Skill Set of Cards- Resilience  
Design & Content

Historical Empire: Aztec Empire

Leadership Skill Description: The opportunity to see failure as a temporary setback that you can recover from quickly.

Characters:

- Teocalli
- Cuauhtémoc
- Quetzal Feathers
- Aztec Sculpture
- Huipil

Figure B49: Board game box components. Leadership set of cards. Resilience skill description.

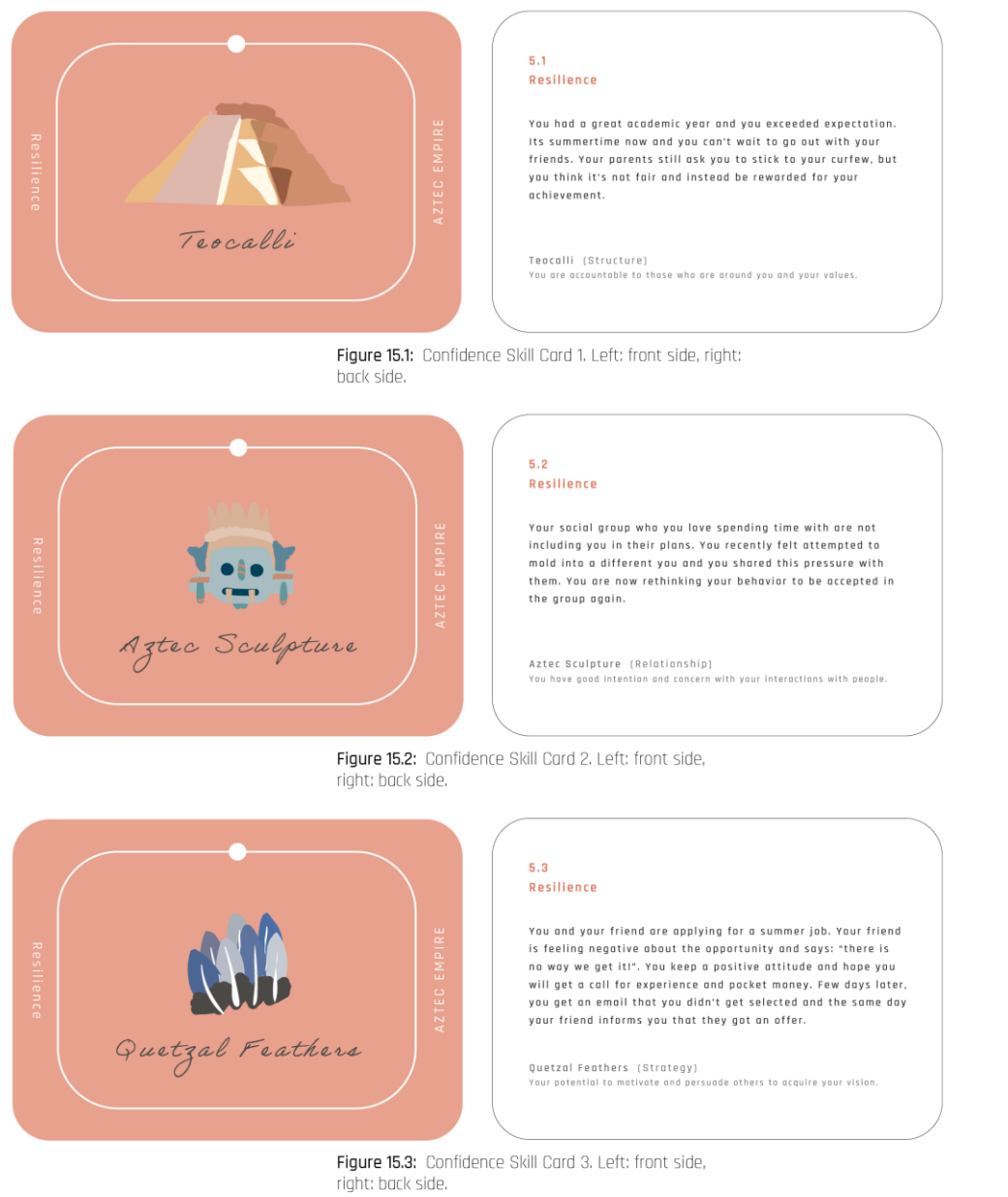


Figure B50: Board game box components. Leadership set of cards. Resilience skill 1.



Figure 15.4: Confidence Skill Card 4. Left: front side, right: back side.

Figure 15.5: Confidence Skill Card 5. Left: front side, right: back side.

Figure 15.6: Confidence Skill Card 6. Left: front side, right: back side.

Figure B51: Board game box components. Leadership set of cards. Resilience skill 2.



Figure 15.7: Confidence Skill Card 7. Left: front side, right: back side.



Figure 15.8: Confidence Skill Card 8. Left: front side, right: back side.



Figure 15.9: Confidence Skill Card 9. Left: front side, right: back side.

Figure B52: Board game box components. Leadership set of cards. Resilience skill 3.





Figure 15.10: Confidence Skill Card 10. Left: front side, right: back side.

Figure B53: Board game box components. Leadership set of cards. Resilience skill 4.

---

16.

---

## Young Leaders Young Women

Board Game Box Component

Leadership Skill Set of Cards- Change  
Design & Content

Historical Empire: Ancient China

Leadership Skill Description: The time of growth that enables you to inspire, influence actions and respond with vision.

Characters:

- Great wall of China
- The Forbidden City
- The Huainan Hua
- Junk
- Hanfu

Figure B54: Board game box components. Leadership set of cards. Change skill description.



Figure 16.1: Change Skill Card 1. Left: front side, right: back side.



Figure 16.2: Change Skill Card 2 Left: front side, right: back side.



Figure 16.3: Change Skill Card 3. Left: front side, right: back side.

Figure B55: Board game box components. Leadership set of cards. Change skill 1.

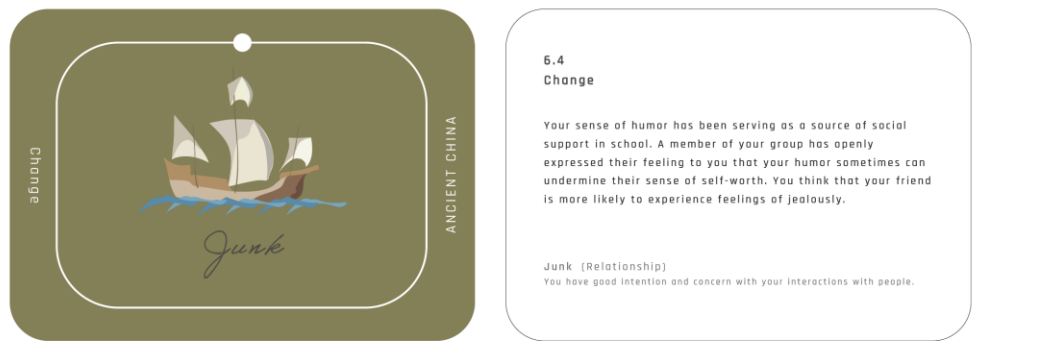


Figure 16.4: Change Skill Card 4. Left: front side, right: back side.



Figure 16.5: Change Skill Card 5. Left: front side, right: back side.



Figure 16.6: Change Skill Card 6. Left: front side, right: back side.

Figure B56: Board game box components. Leadership set of cards. Change skill 2.



Figure 16.7: Change Skill Card 7. Left: front side, right: back side.

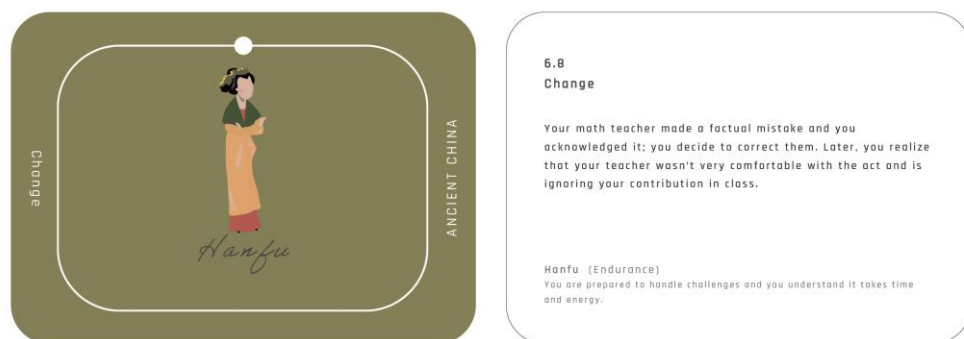


Figure 16.8: Change Skill Card 8. Left: front side, right: back side.



Figure 16.9: Change Skill Card 9. Left: front side, right: back side.

Figure B57: Board game box components. Leadership set of cards. Change skill 3.



Figure 16.10: Change Skill Card 10. Left: front side, right: back side.

Figure B58: Board game box components. Leadership set of cards. Change skill 4.

---

17.

---

### Young Leaders Young Women

Board Game Box Component

Exercise Sheet Pad | Custom Dice | Pencils  
Design & Material

**Rounded Corner Exercise Sheet Pad**  
Width: 14.6, height: 8.89cm, 0.7cm corner radius.  
Color: Pantan white.

**Custom Dice**  
Size: 20mm  
2 round corner 6 sided wooden dice  
Each side shows the color of the empire/leadership skill.

**Pencils**  
Material: wood  
Size: Length: 90mm, width: 7.4mm

58 |

Figure B59: Board game box components. Extra tools description.

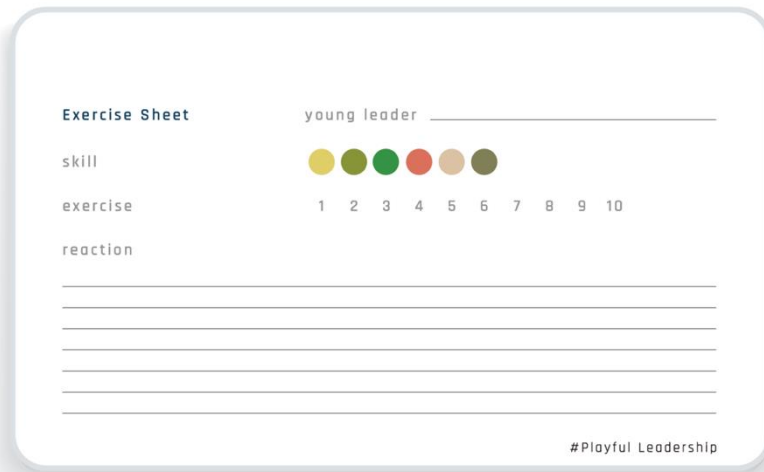


Figure 17.1: Rounded Corner Exercise Sheet Pad.

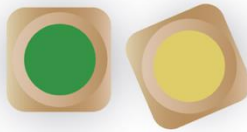


Figure 17.2: Custom 6 Sided Wooden Dice.

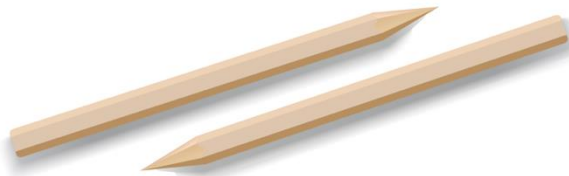


Figure 17.3: Wooden Pencils

Figure B60: Board game box components. Extra tools.



---

18.

---

**Young Leaders Young Women**

Board Game Box Component

**Leadership Guide**

Design & Content

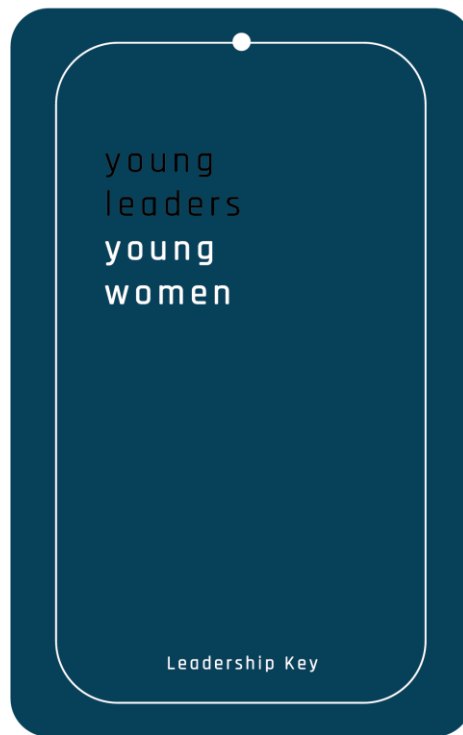
**Rounded Corner Accordion Booklet**

Width: 8.83cm, height: 13.9cm, 0.7cm corner radius

Color: Sherpa Blue and Pantan white.

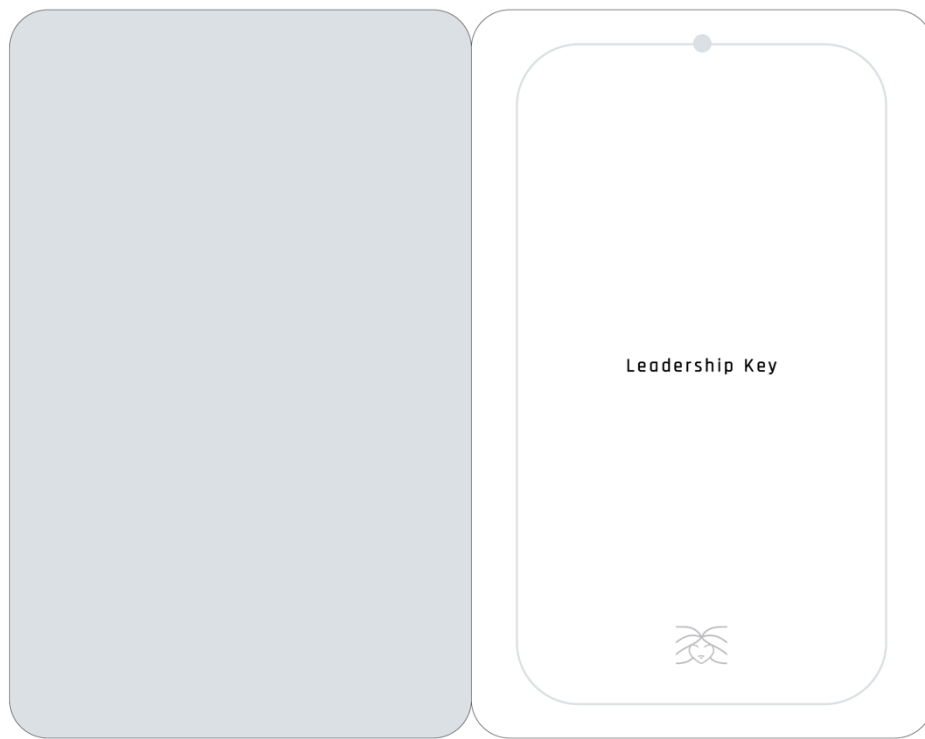
60 |

Figure B61: Board game box components. Leadership guide description.



**Figure 18.1:** Young Leaders Young Women Leadership Guide, Front Side Cover.

**Figure B62:** Board game box components. Leadership guide front cover.



**Figure 18.2:** Young Leaders Young Women  
Leadership Key, Inside Cover.



**Figure 18.3:** Young Leaders Young Women Leadership Guide, Inside Pages.

**Figure B64:** Board game box components. Leadership guide 2.



Figure 18.4: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B65: Board game box components. Leadership guide 3.



Figure 18.5: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B66: Board game box components. Leadership guide 3.



Figure 18.6: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B67: Board game box components. Leadership guide 4.



Figure 18.7: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B68: Board game box components. Leadership guide 5.





Figure 18.8: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B69: Board game box components. Leadership guide 6.



Figure 18.9: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B70: Board game box components. Leadership guide 7.



Figure 18.10: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B71: Board game box components. Leadership guide 8.



Figure 18.11: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B72: Board game box components. Leadership guide 9.



Figure 18.11: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B73: Board game box components. Leadership guide 10.



Figure 18.12: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B74: Board game box components. Leadership guide 11.



Figure 18.13: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B75: Board game box components. Leadership guide 12.



Figure 18.14: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B76: Board game box components. Leadership guide 13.





Figure 18.15: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B77: Board game box components. Leadership guide 14.



Figure 18.16: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B78: Board game box components. Leadership guide 15.



Figure 18.17: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B79: Board game box components. Leadership guide 16.



Figure 18.18: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B80: Board game box components. Leadership guide 17.



Figure 18.19: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B81: Board game box components. Leadership guide 17.



Figure 18.20: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B82: Board game box components. Leadership guide 18.



Figure 18.21: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B83: Board game box components. Leadership guide 19.



Figure 18.22: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B84: Board game box components. Leadership guide 20.





Figure 18.23: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B85: Board game box components. Leadership guide 21.



Figure 18.24: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B86: Board game box components. Leadership guide 22.



Figure 18.25: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B87: Board game box components. Leadership guide 23.



Figure 18.26: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B88: Board game box components. Leadership guide 24.



Figure 18.27: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B89: Board game box components. Leadership guide 25.



Figure 18.28: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B90: Board game box components. Leadership guide 26.



Figure 18.29: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B91: Board game box components. Leadership guide 27.



Figure 18.30: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B92: Board game box components. Leadership guide 28.





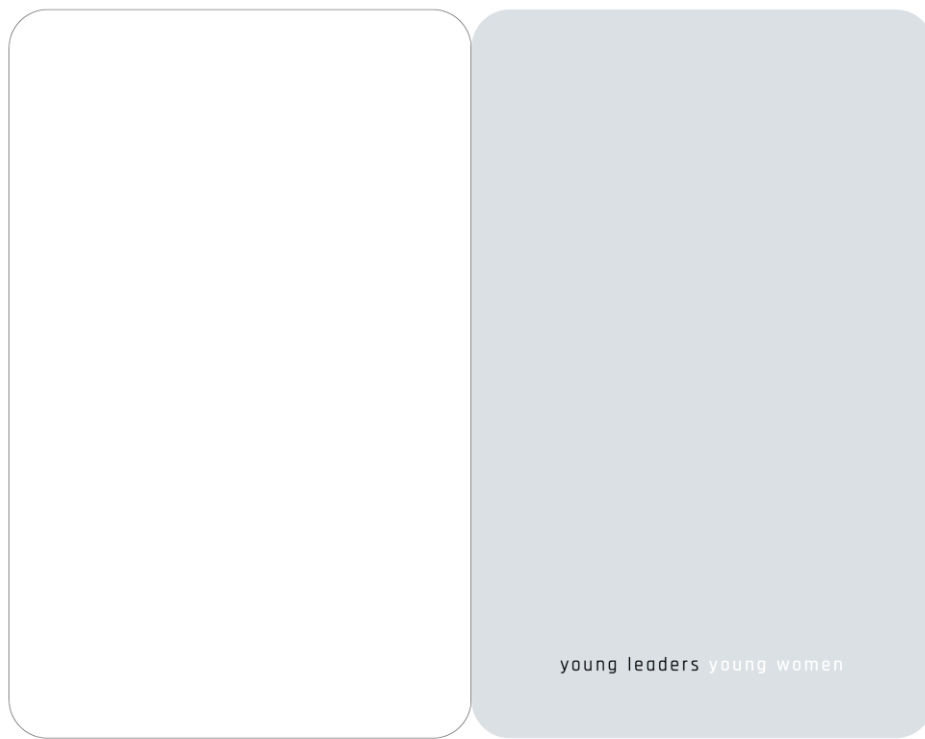
Figure 18.31: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B93: Board game box components. Leadership guide 29.



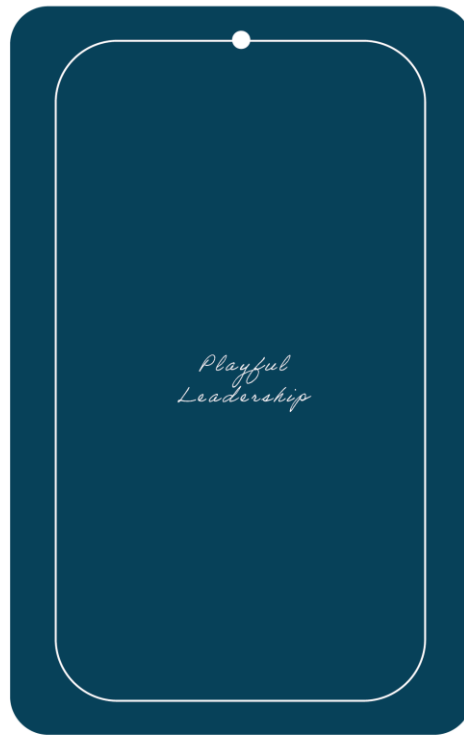
Figure 18.32: Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B94: Board game box components. Leadership guide 30.



**Figure 18.33:** Young Leaders Young Women Leadership Guide, Inside Pages.

Figure B95: Board game box components. Leadership guide 31.



**Figure 18.34:** Young Leaders Young Women Leadership Guide, Back Cover.

Figure B96: Board game box components. Leadership guide back cover.

---

19.

---

**Young Leaders Young Women**

Board Game Box Component

**Wall of Fame Set of Cards**

Content

**60 Printed Inspiring Female Characters**

Providing inspirational figures is a good method to lead girls to a more regulated thinking and teach them by setting examples.

96 |

Figure B97: Board game box components. Wall of fame set of cards description.

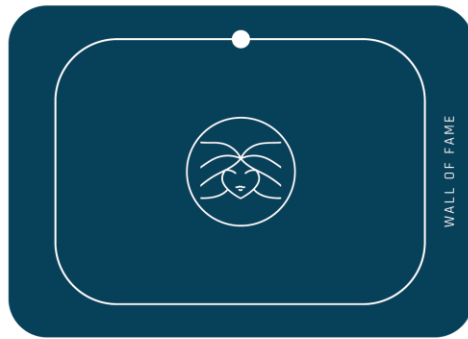


Figure 19.1: Wall of Fame Card, Front side.



Figure 19.2: Wall of Fame Cards, Back Side.

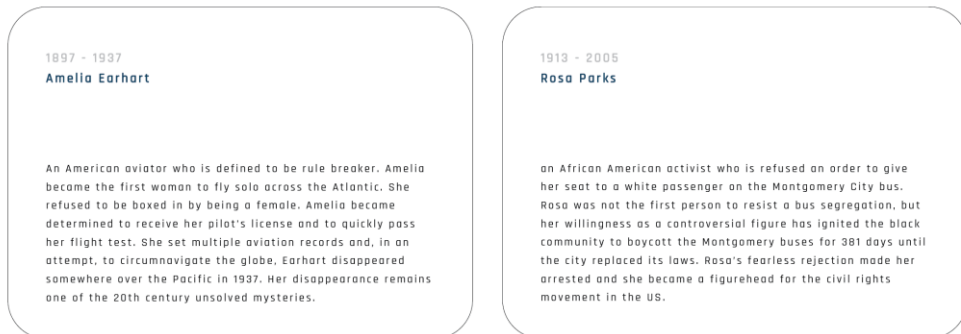


Figure B98: Board game box components. Wall of fame set of cards 1.

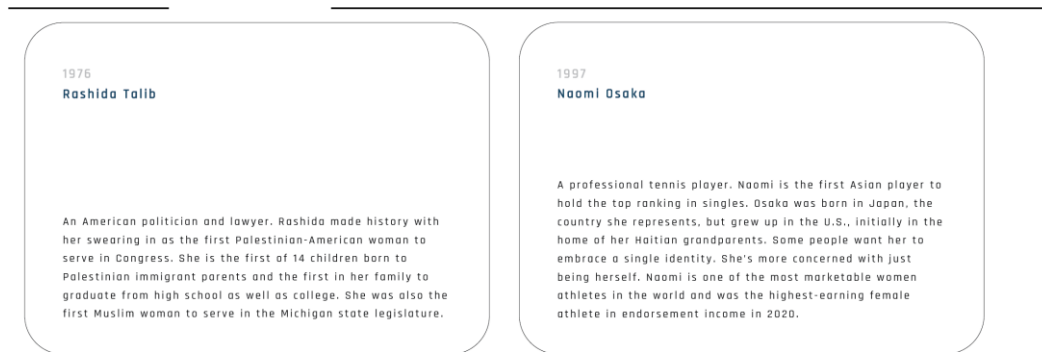


Figure 19.3: Wall of Fame Cards. Back Side.

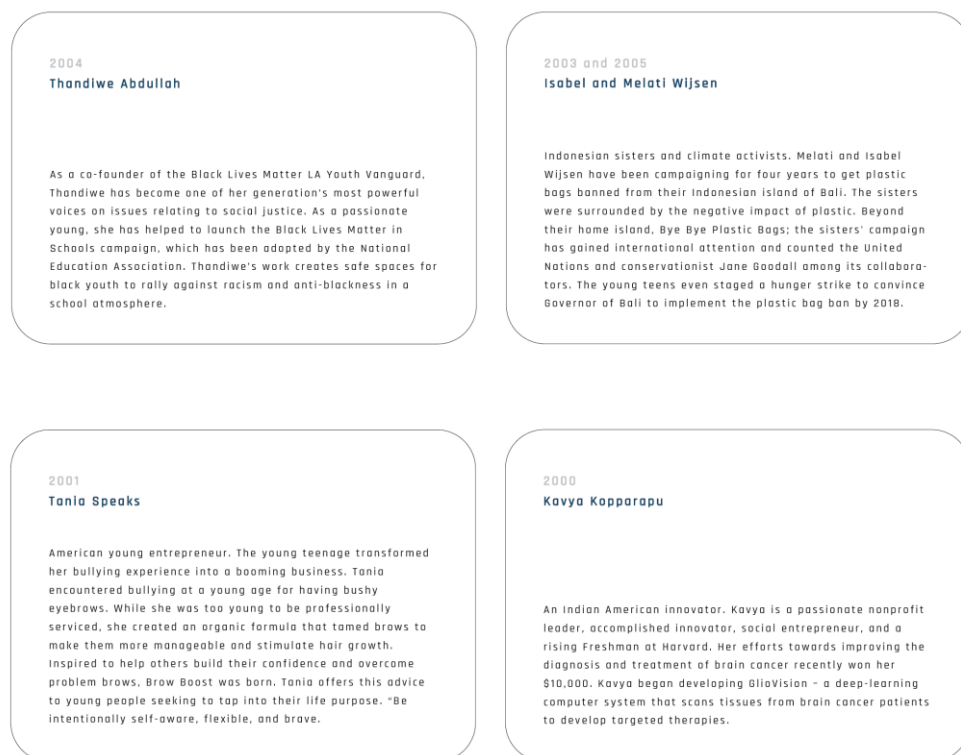


Figure B99: Board game box components. Wall of fame set of cards 2.

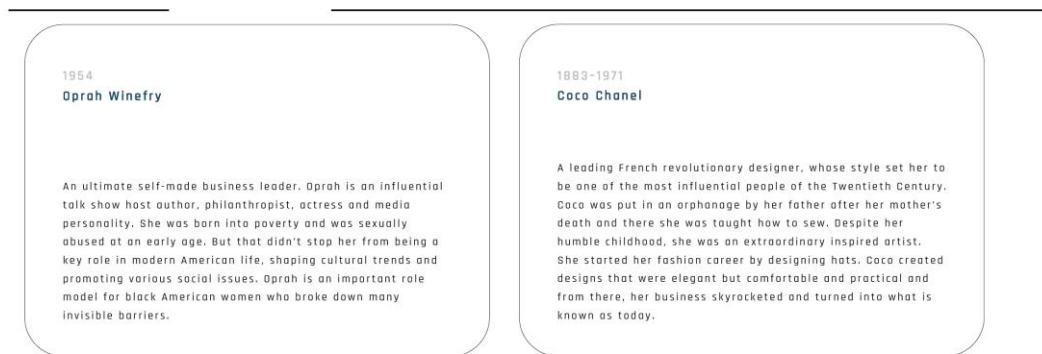


Figure 19.4: Wall of Fame Cards. Back Side.

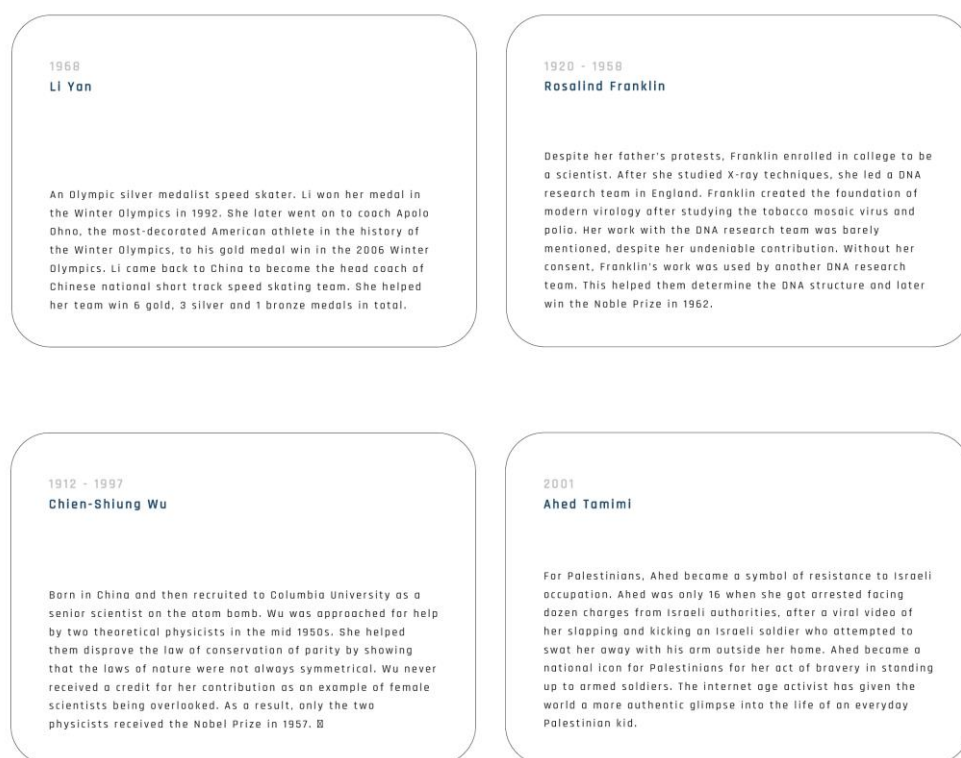


Figure B100: Board game box components. Wall of fame set of cards 3.





Figure 19.5: Wall of Fame Cards. Back Side.



Figure B101: Board game box components. Wall of fame set of cards 4.

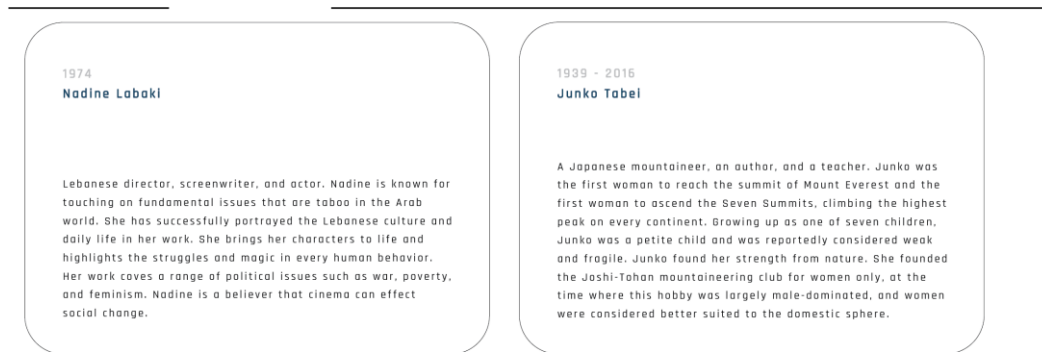


Figure 19.6: Wall of Fame Cards, Back Side.

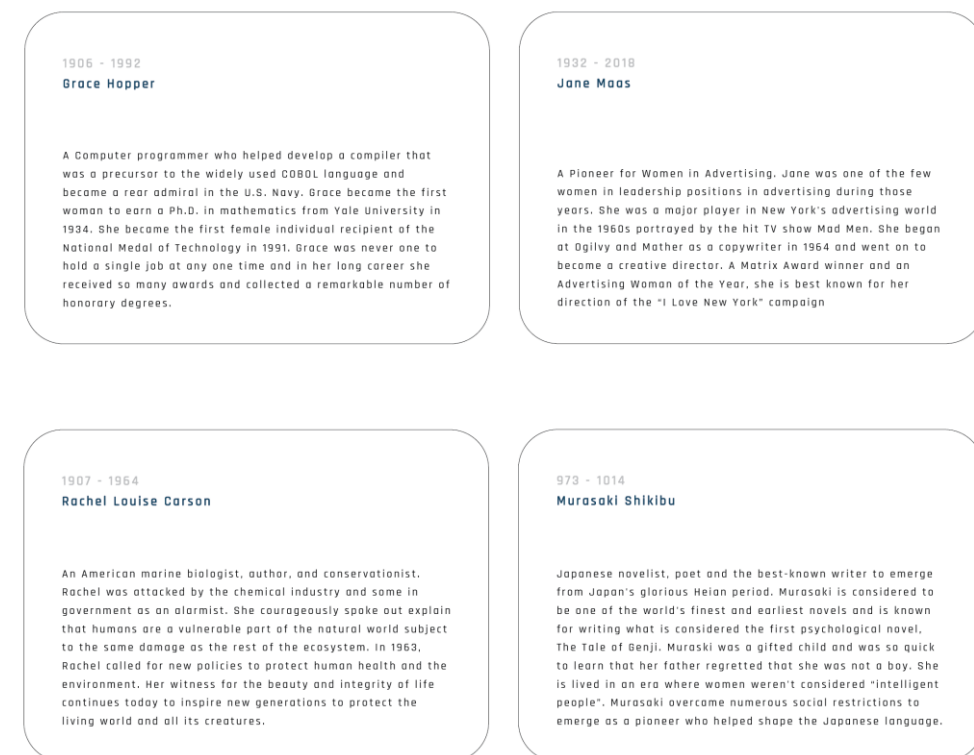


Figure B102: Board game box components. Wall of fame set of cards 5.



Figure 19.7: Wall of Fame Cards, Back Side.

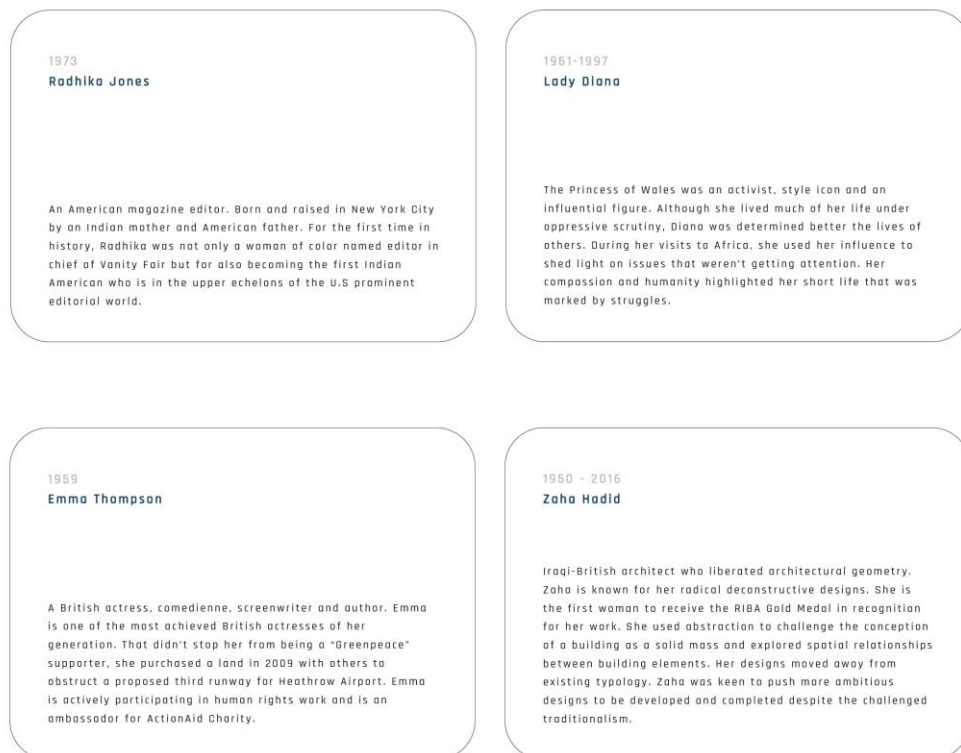


Figure B103: Board game box components. Wall of fame set of cards 6.

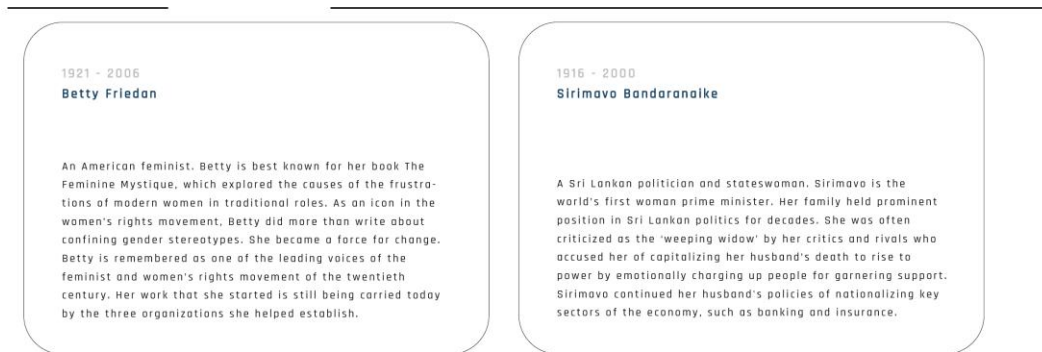


Figure 19.8: Wall of Fame Cards, Back Side.



Figure B104: Board game box components. Wall of fame set of cards 7.

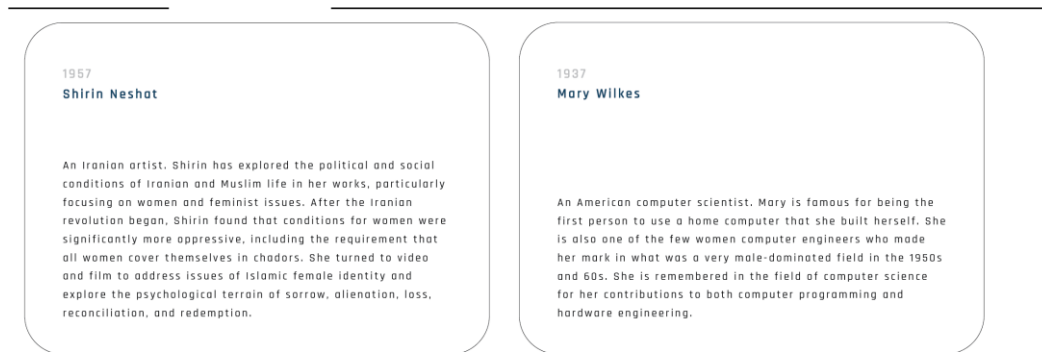


Figure 19.9: Wall of Fame Cards. Back Side.



Figure B105: Board game box components. Wall of fame set of cards 8.

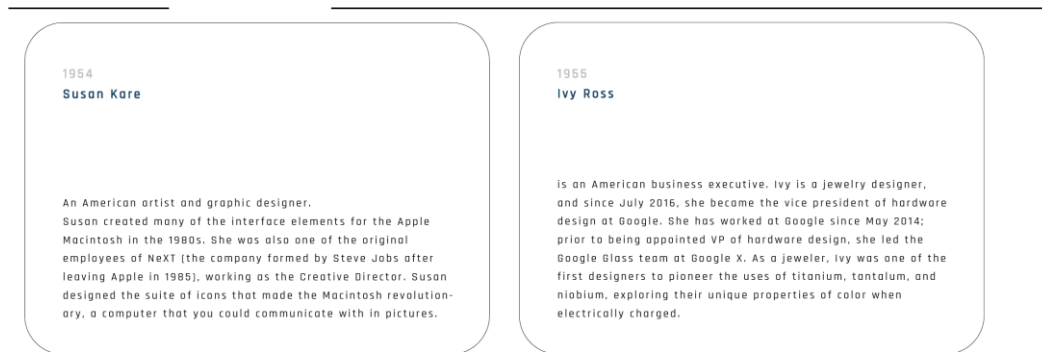


Figure 19.10: Wall of Fame Cards, Back Side.

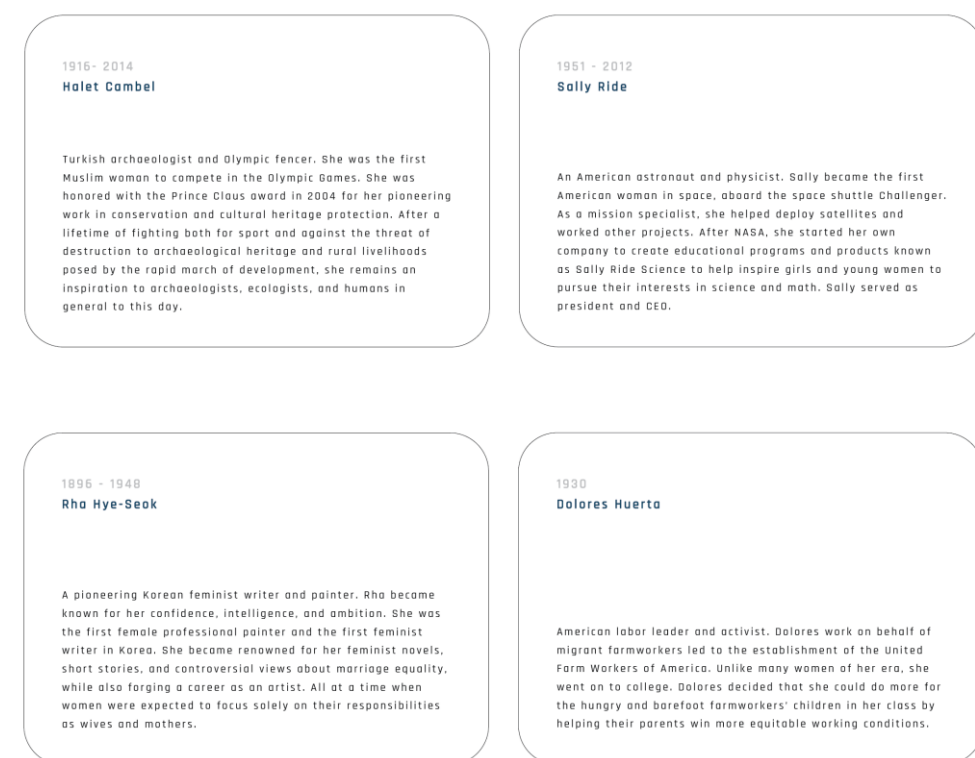


Figure B106: Board game box components. Wall of fame set of cards 9.

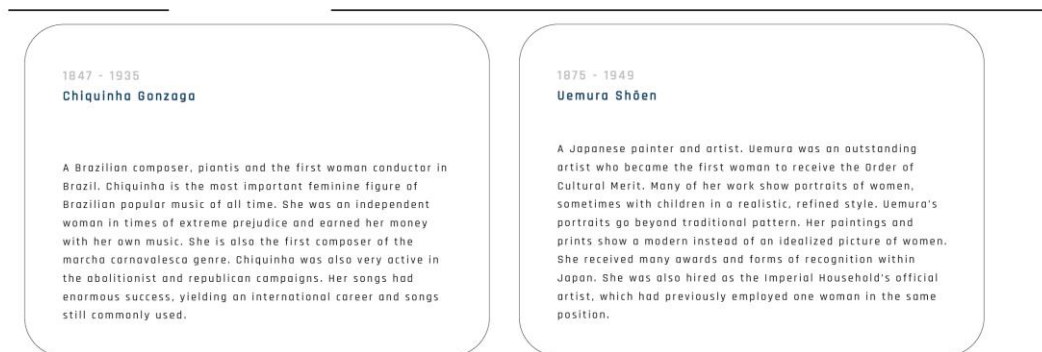


Figure 19.11: Wall of Fame Cards. Back Side.



Figure B107: Board game box components. Wall of fame set of cards 10.

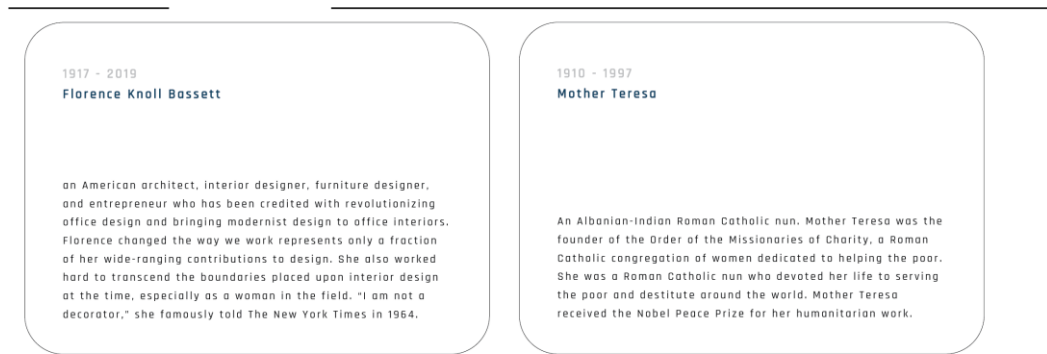


Figure 19.12: Wall of Fame Cards. Back Side.

Figure B108: Board game box components. Wall of fame set of cards 11.



## Appendix C: The Young Leaders Young Women Website

<https://www.playfulleadership.net/>

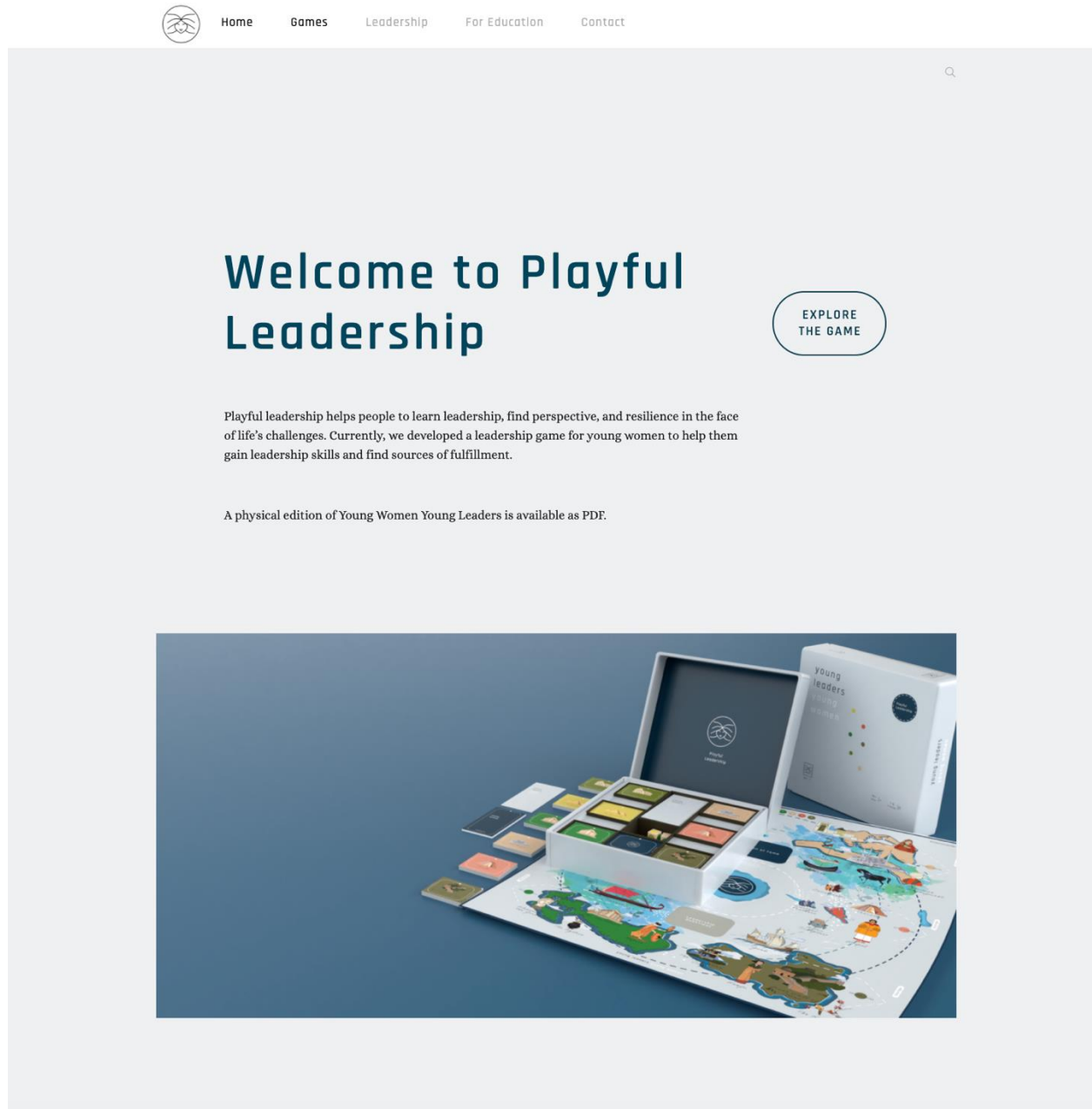


Figure C1: Playful Leadership Website.

## Appendix D: The Young Leaders Young Women Video 1



Figure D1: How to play Young Leaders Young Women video.



Figure E1: Young Leaders Young Women story video.



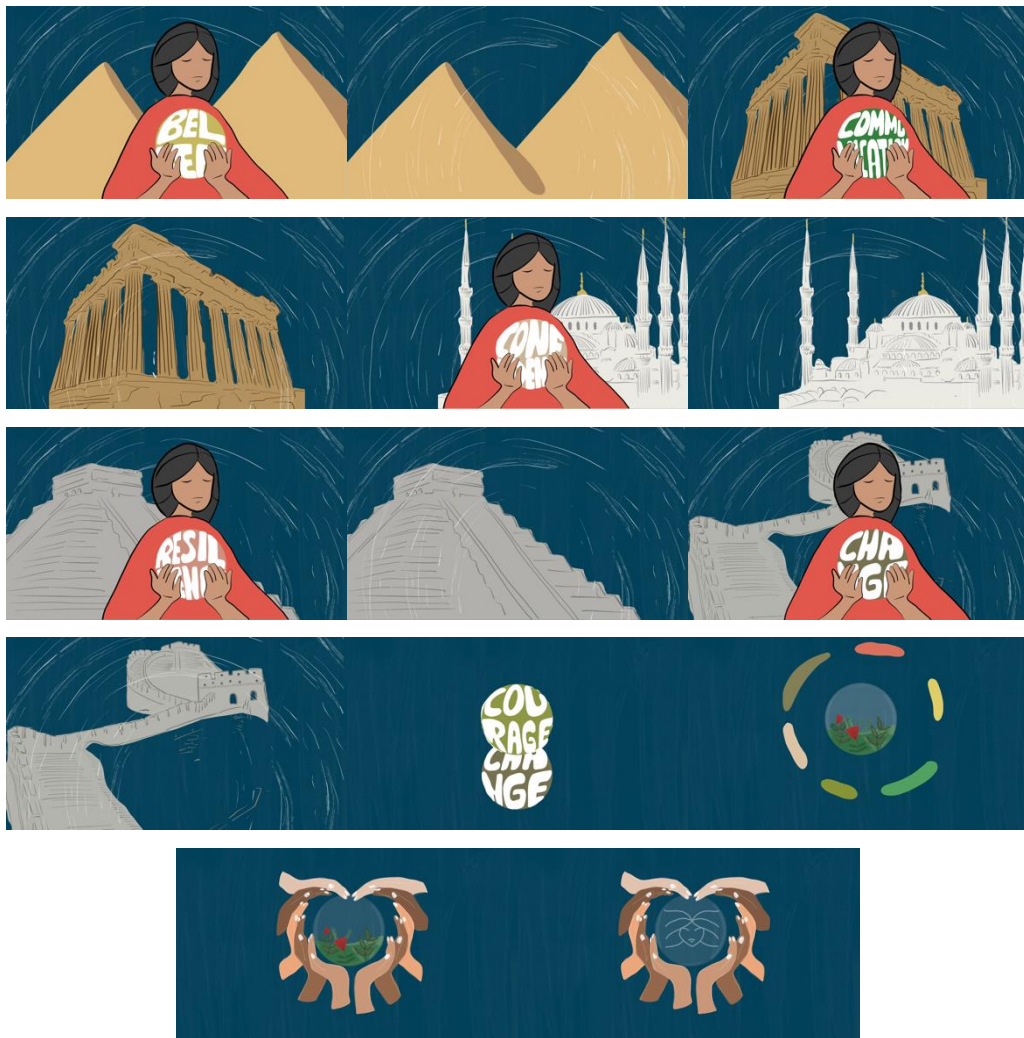


Figure E2: Young Leaders Young Women story video.

## Appendix G: The Young Leaders Young Women Instagram Page

Instagram: @playfulleadership

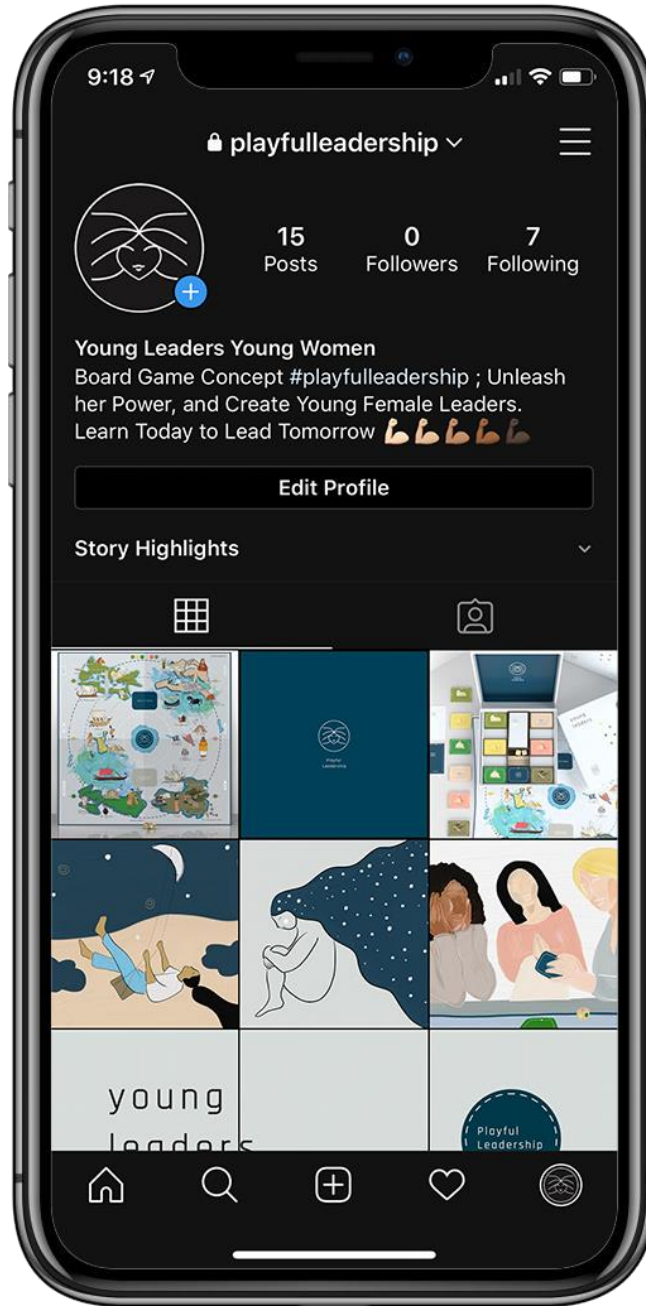


Figure G1: Young Leaders Young Women Instagram page 1.





Figure G2: Young Leaders Young Women Instagram page 2.

## Introduction

Starting at the age of puberty, there are many different ways that girls' confidence is impacted, and this continues into adulthood. The sudden change in girls' confidence is explained to be related to what girls are taught by their mentors. For example, to be nice and kind, and to silence what they feel. The female experience with their environment leads them to develop different perceptions and expectations for their self-evaluation (Egan & Perry, 2001; Spence, 1985; Tobin et al., 2010). Others say that puberty happens very quickly, and young girls struggle to integrate these new changes and bodies into their selves (Egan & Perry, 2001; Yunger et al., 2004). During adolescence, young girls go through hormone changes that are associated with different social behaviors, risk-taking, and cognitive functioning (Van Hoorn et al., 2019). Excess use of technology is also believed to harm young women (Spies et al., 2013; 2014). By adolescence, girls know about discrimination and realize that males occupy more powerful, dominant, and higher positions (Bigler & Liben, 2007; Leaper & Brown, 2008). Similarly, how adolescents meet the gender challenges is likely to affect their adulthood (Perry & Pauletti, 2011).

In the adolescent years, girls go through significant brain growth and development. Important changes take place in regions of the brain that are responsible for pleasure-seeking and reward processing, emotional responses, and sleep regulation (Pizzagalli, 2014). Besides the changes in the brain limbic system, the pre-frontal cortex is also changed; the executive function area that is responsible for making decisions, organization, impulse control, and future planning (WHO, 2019). Despite the huge brain development, the transition is an overwhelming experience that comes to the forefront of adolescent life (Chrisler & Gorman, 2015). Girls navigate puberty differently than boys do, not due to biological or psychological changes, but the gendered cultural meanings, they absorb and learn from their world (Martin, 2018). In another study, adolescents who are screen-addicted are found to be unhappy with themselves and become less interested in school, math, and science (Twenge, Martin, & Campbell, 2018). During adolescence, psychopathology is considered to be produced more in girls, while boys produce it more during early childhood (Marshall, 2016). It's also found that girls at adolescence have their self-esteem drop significantly more than boys (Cross & Madson, 1997).



In today's digital world, we are witnessing the explosive growth of the new idols who owe their fame to social media. Consequently, it's important to consider that media exposure is suggested to influence self-concept among girls. The concept of a role model has begun to be different and has created new forms of influence. Adolescents are growing up as digital natives, turning to Google for answers, or internet celebrities and social media influencers for advice. They are naturally curious and eager to use technology as it seems to make more sense of the world around them, and they relate more to what they navigate (Lou and Yuan, 2019). Evidence is mounting that there is a link between social media and depression. According to a poll by the UK charity Girlguiding, one in three young women feels under pressure to present themselves as having a "perfect" life on social media (GIRLS' ATTITUDES SURVEY, 2017). Young girls feel more pressure to compare themselves to others because everyone is their best on social media, even if it's not accurate. With all the changes happening while growing, young girls might face issues like eating disorders or anxiety to look like someone they look up to (Ricciardelli & McCabe, 2004). It has become almost a habit to use "face filters" amongst girls on social media platforms. Photo retouching might seem fun and innocent, but they are indirectly sending unrealistic beauty messages that we are more attractive when our features are modified. In addition to the biological and psychological aspects that happen during adolescence, girls might feel challenged to live up to a standard that is hard to achieve.

While girls are developing physically, they are also experiencing a development in their identity. Younger girls look up to parents or caregivers to help shape how they behave and may try to copy teachers, coaches, and peers (Holsen et al., 2012), whereas adolescent girls might begin to naturally pull away from their families and connect with their friends or social platforms to establish individuality and independence (Gowda et al., 2012). Role models become important in helping young people identify attitudes and behaviors and are defined as a person who serves as an example by influencing others (Brown et al., 2008). Adolescents look up to their favorite people across social media platforms, who as well can have a great influence, especially when they embrace behaviors and lifestyles that young girls can relate to (O'Neil-Hart & Blumenstein, 2016). The way adolescents relate to social media will impact their identity development. In some cases, social media influencers can contribute to negative outcomes like self-comparison and body dissatisfaction, and in other cases, they can contribute to positive outcomes like self-expression and advocacy.

Over the last decades, mental health has been a major concern among young women. Although the rate of suicide in Canada is higher among boys, girls exhibit more self-harm behavior (Public Health Agency of Canada, 2019). To better understand the nature of mental health problems, there should be a focused effort to limit anxiety and depression associated with adolescence. Adolescent girls have begun exhibiting risky behaviors which pose a greater health risk, including substance use, violence, and sexual risks (Mahalik et al., 2013), (Charles et al., 2016; 2017). High-risk behaviors associated with factors that influence health and longevity would be preventable if serious changes are made to these behaviors (Charles et al., 2016; 2017). Girls are more likely to suffer from internalizing problems in early adolescence, gender norms and media exposure can aggravate the disparity between reality and their goals and aspirations (Tobin et al., 2010). Research shows that some adolescents are at a higher risk of developing mental health conditions due to their living conditions, and in return, they are particularly vulnerable to uncomfortable situations. Internalizing includes depressive and anxious disorders which are concerned with somatic, worry, and sadness symptoms (Black et al., 2019, p. 3).

Providing inspirational role models is one method of regulating the thought patterns of adolescent girls and teaching by example. In today's digital world, the concept of inspiration has evolved to include new forms. Young girls, who spend increasing amounts of their time on social media to give them a sense of identity and belonging, are finding an explosion of idols and celebrities to follow. In the past few years, social media has turned many average teenagers into international stars in a matter of weeks or days. As a result, girls start seeking out fame for themselves, building their influence on social platforms while spending hours scrolling through an infinite feed, hoping one day to command a similar level of attention. A study by Apter T. and The Female Lead (2018), found that girls introduced to positive role models; who posted career aspiration and achievements on their social media feed, had more positive actions and significant contribution in the outside world when they had an opportunity to learn about possible futures for themselves.

Young women might fear leadership, given that they are expected to be feminine, and women who display confident behavior are not well received by their peers (Ibarra et al., 2013). Most women face challenges in leadership and when starting and leading companies (Fraser-

Thomas et al., 2005). There are several reasons why women are under-represented in the power structure of many industries, and one is the inherited and instilled thought that resists changing this limitation (Fraser-Thomas et al., 2005). A survey by a nonpartisan economic think tank, encompassing about 22,000 companies in 91 countries, reported that half of the companies lacked senior women in key leadership positions and that a 30% increase in representation could generate a 15% increase in profits (Nolan, Moran, & Kotschwar, 2016). Women should know that leadership isn't reserved for those who are formal roles or those who are insensitive, except that it's not always easy to raise girls during this very sensitive time with courage and confidence, and school education doesn't necessarily cover interpersonal skills that could guide girls in similar contexts.

Women's life stages are more exciting when understood than growth emotions which may be full of vulnerability, and unbalanced hormones. Those are real changes that women go through starting from puberty to menopause. Girls can go through different psychological and physical changes, mood swings, and cravings which are not always understood during adolescence (McKinzie et al., 2006). Unfortunately, some societies don't talk or educate about the systemic gender where the topic is not very observed by many. The woman in media is always seen as a beautiful figure and a fashion icon, and sometimes it will only put real women under spot to behave and look a certain way. It's important to teach teenagers and young women who will go through real-life challenges on how to be more confident of who they are, while encouraging them to speak their mind, make decisions, and be the next change.

To support girls and encourage them to become more confident, this paper will discuss creating a game using an authentic leadership paradigm to help adolescent girls build their leadership attitudes, skills, and experiences. The research comes out of global concern around the different effects on adolescent girls' wellbeing. The literature review will introduce the adolescents' development process, leadership education for young women, influencing leadership, and educational games. The paper will discuss the development of the game, the limitations, and the future implications that will assess if the project deliverable satisfied the objectives defined.

## **Literature Review**

### **A look at Adolescent Girls**

As of 2019, females make 49.5% of the world population (World Bank, 2020). Currently, there are 8% of girls ages 12-14, and 7.7% of girls ages 15-19, with the population growing faster in developing countries (World Bank, 2020). During adolescence, health and social behaviors are established for life. The situations adolescents face and the decisions they make will have long-term consequences. Many decisions during the adolescence period are influenced by other people (Van Hoorn et al., 2019). Besides the biological changes during adolescence, the developing brain goes through tremendous changes. Adolescents are more likely to engage in greater risk-taking behavior as a result of heightened affective sensitivity, paired with an inability to engage in effective regulation (Van Hoorn et al., 2019). The social orientation during adolescence is expected to influence decisions that an adolescent will make, and the decisions will not only affect adolescents themselves but others who are close to them (Telzer et al., 2018). Female social gender norms and roles have a great impact during adolescence, and in many places around the world, this can restrict a girl from her decision-making ability. According to Gowda et al. (2012), other factors impact the adolescent girl's social connectivity and identity development. The advancement in today's technology has changed the issues adolescent girls might face than previous generations. However, some issues are not exactly new, coping, and managing gender developmental challenges are common (Perry & Pauletti, 2011).

Based on how they process social information, adolescent girls will react differently to given contextual cues or social experience (Perry & Pauletti, 2011). Besides the male greater physical strength and the female ability to conceive a biological child, there are different characteristics in adolescent girls (Galambos et al., 2009). Many girls tend to compare themselves with female role models portrayed in the media, and consequently develop a poor body image (Harter, 2006). Body image concerns can lead to health problems and eating disorders (Ricciardelli & McCabe, 2004). Since girls are believed to spend more time in relationship activities (Galambos et al., 2009; Su et al., 2009), the adolescent girl self-esteem during this period is based on (a) acceptance and respect from others (b) achievement in valued domains (Perry & Pauletti, 2011). Girls are strongly affected by relationships during adolescence. They are constantly seeking acceptance and their self-esteem can be damaged by

relationship problems (Cross & Madson, 1997). For young women, involvement in social networks and peer acceptance is a protective factor. Helping adolescent girls to understand social relationship quality and the effect of being involved in negative acts, would likely help to protect them from negative implications (Betts et al., 2017). Direct physical and verbal aggression are less common among girls because they tend to be afraid of the consequences. Yet, they might aggress anonymously or embed their aggression in collective actions (Hyde, 2005). Being a target of either perpetrating or receiving indirect aggression could place adolescent girls at risk of depression (Prinstein & Cillessen, 2003). Adolescence is believed to intensify specific attributes in young people. Girls increase in depression, eating disorder, time spent in relationship activities, and preference for people-oriented careers; while their participation in sport and physical activity is reported to decline (Galambos et al., 2009; Signorella & Frieze, 2008).

Adolescents have fully embraced the use of technology and social platforms as a primary means of communication (Spies et al., 2013;2014). It is no surprise that their reliance on screens has been increased in the 2020 lockdown resulting from the COVID-19 pandemic. Nowadays, adolescents' social engagement with the digital world can help maintain a sense of normalcy and provide an escape from the real world. On average, an 11-to-18-year-old spends over 11 hours per day exposed to technology (Rideout et al., 2010). Adolescents can replace traditional communication forms like face to face interactions by digital communications, and thus eliminate their opportunity to develop essential interpersonal skills. Social networking sites offer adolescents new opportunities as well as challenges to express themselves to the world (Spies et al., 2013;2014). The over-dependence on technology may be preventing adolescents from social activities such as sports, which can help reduce depression (Kremer et al., 2013;2014). The high use of the internet can affect adolescent well-being, school performance, sleep pattern, and family connection (Flisher, 2010; Siciliano et al., 2015). Adolescents may also experience conditions like "fear of missing out", or FOMO, which leads to a feeling of loneliness and isolation (Alt et al., 2018). The social network has made bullying much more public and more persuasive. Consequently, cyberbullying has become the common type of harassment, and adolescents are at great risk of being involved as a victim, bully, or bully/victim (Selkie et al., 2015). Although there are mixed studies on how cyberbullying affects gender, women are more likely to be affected by their peers and social relationships (Gorrese and Ruggieri 2012). This contributes to the evidence that any involvement in cyberbullying undermines young people's

peer relationships (Jackson and Cohen 2012; Vandebosch and van Cleemput 2009). Further, a study shows how cyberbullying has impacted young women's perception of learning and school (Betts et al., 2017). Female adolescents differently internalize and express wrongdoing in the digital world, and therefore they require a different version of anti-bullying intervention (Thomas et al., 2016).

Social media can be great to connect adolescents and expand their social circle. The growth in social platforms and their fast adoption by adolescents is an indication that they are major tools in developing social comparison. Experts say that children today are growing up with more anxiety and less self-esteem than ever (Twenge, 2017). Adolescents and particularly adolescent girls report more body dissatisfaction and negative attitudes towards their physical appearance (Bucchianeri et al. 2013). Previous research has shown that social media is related to a long list of mental health issues that have been rising among youth. Adolescents can feel pressure to look perfect on social media, they carefully select and edit their pictures before they post them online (Chua and Chang 2016), similarly, social media is thought to be one of the reasons to the body dissatisfaction (de Vries et al., 2018;2019). A study found that adolescent girls who viewed others' social media posts had increased body dissatisfaction concurrently (Tiggemann and Miller 2010). Social media has a large negative impact on teenagers' life, a study published in *The Lancet Child & Adolescent Health* says that frequent social media exposure seemed to harm a girl's health (Patton & Borschmann, 2017). Girls are more likely to show body dissatisfaction during adolescence than boys (Heider et al. 2018). According to a framework to understand the influences on body dissatisfaction, adolescents receive messages about their bodies and what they should look like from different resources, such as their parents, peers, and the media (Thompson et al. 1999). Parent-adolescent relationships play a role in the development of adolescents and their body dissatisfaction (Bearman et al. 2006). Adolescents receive messages about their appearance to gain acceptance. A study has shown that adolescents who have better parent-adolescent relationships develop less body dissatisfaction (Holsen et al. 2012) and become less dissatisfied with their physical appearance over time (Bearman et al. 2006). Improving the parent-adolescent relationship can have a protective and promotive impact on adolescents' body image (de Vries et al., 2018;2019).

Adolescence is a high-risk period for developing depression (Nelson et al.,2016), A survey in 2019 by The American Pew Research Center reported that 36% of girls are being

extremely anxious every day. Another study by the Pew Research Center on U.S teens ages 12 to 17, found that nearly 2.4 million teenage girls had experienced at least one major depressive episode (A.W. Geiger and Leslie Davis, 2019). The total number of teenagers who experienced depression increased 59% between 2007 and 2017 and the growth rate of depression was faster amongst teen girls (66%) than boys (44%) (A.W. Geiger and Leslie Davis, 2019). Adolescence is an opportunity to examine risk factors for depression to address the issues, especially in girls who are at a higher risk (Nelson et al., 2016). Adolescence is characterized by high levels of stress, due to physical maturation, brain development, and environmental and social changes (Pizzagalli, 2014). Different scholars around the world have identified adolescence, specifically pubertal timing, as a major factor in the increase of girls' depressive symptoms (Hamilton et al. 2014; Trépanier et al., 2013; Joinson et al. 2011; Kaltiala-Heino et al. 2003; Wichstrøm, 2000). Girls who experience puberty before most of their same-age peers are more likely to be sexually harassed in early to mid-adolescence (Skoog and Bayram Özdemir, 2015). And girls who have sexually harassed display a wide range of adolescence internalizing problems and depressive symptoms (Lichty and Campbell 2012). Early maturing girls will experience the emergence of sexual characteristics and consequently will stand out among their physically immature peers (Pellegrini 2001). When girls are sexually active, they are likely to be engaged in harassment or viewed as willing sex partners (Skoog et al., 2016). Additionally, sexual harassment contributes to worse mental health than bullying does (Gruber and Fineran, 2008). Thus, girls' sexual violence prevention strategies should be addressed in adolescence or even earlier (Skoog et al., 2016).

During adolescence, a combination of developmental changes – pubertal maturation, brain development, sensitivity to stimulation, changing relationship with parents, and expanding social circle – all work significantly towards a girls' decision-making process. Adolescence is a vulnerable time where the social world is salient (Blakemore, 2018). Beyond finding that decisions that young people make during adolescence are based on different factors, girls are powerful advocates, leaders, and contributors to their communities and countries, and they should be given the right to do so. Although women make up almost half of the world population, yet they continue to be underrepresented in making decisions (Profeta, 2017). Women who participate in political and professional leadership positions can be role models for young girls and other women. Adolescent girls should be given the right guide and support, and

they should develop their capacity to practice leadership if they choose to. When young women have women examples in leadership, it can help them explore opportunities to advance their learning (Komives et al., 2005). Now more than ever, we should set out the particular vulnerabilities for adolescent girls and provide practical guidance on how to support them during the COVID19 pandemic. School closures could lead to less access to resources and social networks. This could lead girls to drop out before they complete their education, especially girls living in poverty. The pandemic risks might not just affect equitable access to education, but it might lead to early or forced marriage as a coping mechanism in developing countries (Batha, 2020). It seems that the pandemic will cause a significant global economic impact, and it's evident that economic insecurities can lead to sharp rises in the exposure of adolescent girls to gender-based violence (Bouillon et al., 2020). It's important to take into account adolescent girls' safety, understand how best to stay connected with them, and how best to get information to them. Adolescent girls will have the ability to develop leadership skills when they make decisions, communicate with others, learn about themselves, and work with groups who are associated with leadership. Because girls are more closely aligned with groups and social leadership activities (Mullen and Tuten, 2004), engaging them in leadership can influence social outcomes and develop their confidence (Dobosz and Beaty, 1999; Holland and Andre, 1999; Mullen and Tuten, 2004). As a result, leadership education is suggested to attenuate the effect of adolescence development.

## **Leadership Education**

The term leadership has different meanings among scholars. This paper will discuss understanding leadership education for adolescents, and the awareness of responsible action. The fact that leaders play a huge role in developing society, substantial effort and resources are devoted to developing leaders. In 2012, companies in the United States spent 12 billion dollars on adult leadership development (Loew & O'Leonard, 2012). While the concept of leadership is mainly referring to hierarchical models and authority roles (Higham et al., 2010), it can also focus on individuals' skills and dispositions. "Authentic leadership" can enable students to reflect their values through their actions, both individually and collectively (Higham et al., 2010). Many pieces of literature on leadership education focus strongly on a business-oriented context (George, B., 2003), which may place constraints on young people to learn leadership. Similarly, the examples given in leadership literature tend to discuss the individual heads of the



organization (Shamir and Eilam 2005). This can lead to a fixed mindset on leadership which is not the most helpful for youth education (Higham et al., 2010).

There is no doubt that each individual has a unique and pre-existing self and can develop natural leader characteristics. When 75 members of Stanford Graduate School of Business's Advisory Council were asked to recommend the most important leadership capability, their answer was almost unified: self-awareness (George et al., 2018;2017). Self-awareness for adolescents is crucial. Developing an authentic sense of self requires the courage to become more humane and accept vulnerability. Although leadership styles are derived from one's self and their core beliefs and values (Pinelli et al., 2018), still young people are not fully prepared to engage productively in society and develop positively (Fraser-Thomas et al., 2005). Authentic leaders know who they are: they have a purpose, they practice their values consistently with passion, and they develop meaningful relationships (George et al., 2018;2017). The journey of authentic leaders begins within themselves; they are self-disciplined, and they learn from their life experience. They don't wait for others' recognition and they find an inspiration within themselves to make an impact (George et al., 2018;2017). Many leaders have experiences that included a positive impact from parents, teachers, athletic coaches, and mentors. However, many leaders report that their motivation came from difficult life experiences (George et al., 2018;2017).

Adolescence is an important time for leadership education, introducing leadership to adolescents can lead to high self-esteem and flourishing adulthood (Karagianni & Jude, 2017;2018;). With the advancement in technology, the distance between countries around the world has been shortened. As a result, leadership is about the local and the global (Lee & Olszewski-Kubilius, 2014). Adolescents are already taking the lead when using and adapting new technology and social media. It's important to explore leadership skills in developmental years; early and middle adolescence, as what happens during can have an impact on leadership behaviors in adult life (Karagianni & Jude, 2017;2018;). Adolescents who practiced and showed leadership skills are more likely to be ready for management when they are adults, and consequently, the development of leadership skills can have a positive change on future wages; the most common earnings of people (Kuhn & Weinberger, 2005).

Leadership education can allow students to experiment with different approaches without taking risks. It can be considered in schools or safe and confidential settings (Bolden, R. 2005). Leadership programs within a constructive leisure context can lead to positive psychosocial outcomes that include a feeling of responsibility, initiative, autonomy, and leadership. A study explored how the participation of individuals in leadership programs has helped them develop leadership-related skills: self-confidence, effective communication, and handling difficult situations. (Bruce, Nicola, & Menke, 2006; Hellison et al., 2008). Eccles and Gootman (2002) in their work with the National Research Council and Institute of Medicine (NRCIM), proposed eight strategies to enhance youth development: (1) physical and psychological safety; (2) appropriate structure; (3) supportive relationships; (4) opportunities to belong; (5) positive social norms; (6) support for efficacy and mattering; (7) skill-building opportunities; (8) integration of family, school and community efforts (National Research Council, 2002).

### **Leadership for Adolescent Girls**

In today's society, socioeconomic status, race, gender, and environmental factors can all limit adolescents' opportunities (Fraser-Thomas et al., 2005). The focus of this study is to stimulate adolescent girls' motivation for communication and action and help them to respond insightfully and ethically to new and challenging situations. Adolescents should know how to transform a difficult experience; the feeling of being rejected discriminated against and being excluded by peers, to a change story. Change starts with a decision, successful people overcome seeing themselves as victims and use formative experiences to give meaning to their lives. Adolescents should know that integrating their lives is one of the greatest challenges that leaders face. Similarly, young people should learn to bring together all the life integral elements – family, community, school, and friends – to have a balanced life and to bring their unique selves in each environment. According to Wingenbach and Kahler (1997), secondary school students can practice leadership skills when they make decisions, get along with others, learn about themselves, and take part in youth leadership programs in or outside the school.

Research shows that most women face challenges in leadership, and when promoted to high-risk leadership positions (Glass & Cook, 2016). Women are taught to focus on how they are perceived, they are told to downplay their feminine leadership, to soften a hard-charging style, or to try to balance between both (Ibarra et al., 2013). During adolescence, a range of physiological,

environmental, and psychological changes happen (Hayward, 2003) besides changes in brain parts that are responsible for processing emotions (Dahl 2004; Nelson, Leibenluft, McClure, & Pine, 2005). Research suggests that during this change, adolescent girls are more susceptible to increased emotional intensity and reactivity (Dahl & Gunnar, 2009). Some emotional symptoms of premenstrual syndrome are sadness, anxiety, irritability, and anger (Chrisler & Gorman, 2015). While the young brain is confusing and complex, girls need to understand their abilities to make decisions. Girls need to be taught how to think with clarity in handling problem situations, and that being emotional doesn't make them weak.

Social media, it's suggested to affect adolescent girls more than boys (Patton & Borschmann, 2017). There is an association between the compulsive use of the internet and social stresses. Girls can't keep a distance from their stresses when devices are constantly used and checked (Chiu et al., 2015; 2014;). When scrolling on social media, girls are exposed to a different type of content, including posts from friends and family, targeted adverts from brands and companies, and content posted by celebrities and media influencers. While this may not seem to affect adolescents' mental health, young girls are susceptible to embedded messages such as influencer marketing. Indeed, adolescents have difficulties recognizing hidden and embedded advertising on social media (Martínez and Olsson, 2019; Van Dam and Van Reijmersdal, 2019).

As adolescents become more independent decision-makers, their decisions are highly influenced by inadequate inhibitory control and heightened impulsivity (Pechmann et al., 2005). At this unique life stage, adolescents are vulnerable especially to marketing strategies on digital media (Folkvord et al., 2019), including celebrities and media influencers who can play a role in shaping the behaviors of adolescent users, according to Story, M. et al. (2002). Because youth mental health is becoming a threat to global health (Patton & Borschmann, 2017), we should be considering that adolescents are heavy users of multiple social media platforms (Rudan, 2000) and highly sensitive to social influencers (Rudan, 2000; Van Dam and Van Reijmersdal, 2019). For this reason, it's important to help the young adolescent to develop resilience and healthy habits while using the internet and their social media.

## **The Importance of Influencing Leadership**

With the remarkable rise of influencer marketing, social media influencers are becoming more popular among young digital users. According to O’Neil-Hart & Blumenstein, (2016), 70% of adolescent YouTube subscribers can relate to social media influencers more than traditional celebrities. Adolescents consider social media influencers as more authentic and natural when they send a message, and they are more likely to feel that they can relate to (Lou and Yuan, 2019). Adolescent users develop a friendship relationship with social media influencers rather than a fan relationship (O’Neil-Hart and Blumenstein, 2016), social media influencers seem to exert greater influence over adolescents than peers and family members do. Although parental supervision can control the negative effects of media exposure (Buijzen and Valkenburg, 2005), such as self-esteem and body dissatisfaction (Holsen et al. 2012), adolescents are easily influenced by almost everything that surrounds them (Fraser-Thomas et al., 2005).

Growing media has changed the public view of influencers and idol figures. Because of the vulnerability of adolescence, the daily interactions with the technology has a great impact on adolescent users’ characters (Flisher, 2010; Siciliano et al., 2015); nonetheless, adolescence can be an “age of opportunity” according to Dr. Laurence Steinberg (Ebert, 2015). It’s equally important to emphasize values and positive characteristics such as leadership to adolescents. Research shows that positive role models can influence and inspire adolescents to be their best selves, and they can develop their career aspirations, educational goals, and behavior (Yancey, Siegel, & McDaniel, 2002). Role models provide adolescent girls with a vision that can lead them to more regulated thinking by setting examples.

According to UN Women in 2019, women were only 24.3 percent of all US national parliamentarians (UN Women, 2019). For so long, women have determined leadership by their ability to adjust to the male-dominated success (Dorrance & Gettings, 2020). There is a piece of suggested evidence that women, who are transitioning into their early years of career, will go through a gendered process (Bullis & Stout, 2020). When women are participating in political and professional leadership positions, they can become an inspiration to young girls and other women and in return, this can help young girls explore opportunities to advance their learning (Komives, Owen, Longerbeam, Mainella, & Osteen, 2005). Female influencers can help adolescent girls to change their perspective to leadership by showing that leadership is accessible

for people of all genders. Leadership should be inclusive beyond narrow and predominant masculine approaches (Tillapaugh, 2017, p.18). Indeed, inclusive leadership promotes an approach to encourage adolescent girls to accept their challenges and identify their limitations. Because leadership is developed over one's lifespan (Karagianni and Jude, 2018;), it is important to start it when young women are developing biologically, psychologically, and socially. Systemic genders and sexism play an important role in how adolescent girls view leadership with our societies. Society ideas must be critiqued to provide girls an equitable environment, and the ways where gender might affect girls' leadership opportunities should be questioned. Leadership education should have the potential to offer an engaging experience to girls and reinforce the idea that identifies alarming messages in their societies. Ultimately, girls will understand that leadership is not a labeled practice and is available for everyone. This will shift the mental models of what leadership looks like and girls will find their voice and engagement as a meaningful change with their communities, regardless of their gender.

### **Gamification in Education**

The concept of gamification appeared in the early twenty-first century (Sánchez & Trigueros, 2019). It was involved in different perspectives until it became popular in the business world where it originated the term. It became popular and useful to be applied in different contexts including education (Sánchez & Trigueros, 2019). The term "gamification" started to be used in vocabulary in 2010 and became a trend a year later (Dichev & Dicheva, 2017). Gamification of education is becoming a popular method that helps to develop and improve the learning experience. The approach of gamification has enhanced the educational value of human factors (Bishop, 2014). Different meaningful learning experiences are believed to be implemented within gamification (Bishop, 2014). Gamification is "the use of game design elements in non-game contexts" (Deterding et al., 2011, p. 9), and in recent years it has appeared to be very highly effective in education. Gamification is considered an important technology trend when leading technology consultancies (Anderson & Rainie, 2010). Leading e-learning platforms have adopted gamification to motivate their users. However, some instructors have considered the huge amount of required effort as a major reason against using gamification in education (Anderson & Rainie, 2010). According to Kapp (2012), "Gamification is using game-based mechanics, aesthetics and game thinking to engage people, motivate action, promote learning, and solve problems" (p. 10). There are multiple gamification options to reduce the

instructors' effort while promoting motivation to students. Those include, but not limited to, learning activities that allow students to test and improve self-knowledge. The involvement of a gamified system can impact psychological and behavioral changes in end-users (Kim, Song, Lockee, & Burton, 2018). Several findings have conducted that gamification learning has enhanced student engagement, motivation, and performance results. Positive change has been seen in learners when gamification is applied with elements like progression, points, levels, rewards, and leadership (Kim, Song, Lockee, & Burton, 2018).

Gamification of learning is different from using mechanics or tools during an activity, it uses concepts and dynamics to stimulate the teaching-learning process (Kiryakova et al., 2014). The learning experience is more attractive to students in game-based learning, they are more motivated and entertained to gain knowledge. Gamification allows learners to develop their analytical and multitasking skills (Kiryakova et al., 2014). Throughout the game, the student's key skills are developed, and they are encouraged to use their creativity and imagination more than in a traditional classroom. There are several requirements before designing a successful gamified educational activity (Ibanez et al., 2014). The educational objectives must be defined along with the attitudes and skills to be achieved by the learners. Before the educational activity, the types of participating students must be set (Ibanez et al., 2014). It is also required to adjust the used objectives and activities including game mechanics, challenges, achievements, and rules (Ibanez et al., 2014). Designing the game will, to a great extent, determine the success of the activity.

Gamification can offer educational scenarios and resources to achieve different learning objectives and can promote the learning of relevant social problems (Huang, & Soman, 2013). However, some authors have warned the limitations of using gamified systems in learning social science due to the lack of enough empirical evidence to confirm its benefits. Educational gamification reinforces the learning of immersive formative experiences (Huang & Soman, 2013). Learners show greater motivation and dedication in educational contexts. This methodology is seen to enhance project-based learning when it actively involves students and promotes teamwork. Students will develop individual and collective decision-making skills, collaborative attitudes and behaviors, and healthy social habits (Huang & Soman, 2013).

Students who practice gamified learning can develop communication, social, and technological skills, and they can show higher cognitive processes such as empathy and creative thinking when solving problems (De-Marcos et al., 2016). Social problems can be tackled with gamified strategies and resources (De-Marcos et al., 2016). Creating action-learning and problem solving can make a connection with the real world in educational settings. Gamification can be used as a strategy to strengthen the positive attitudes of participants, and as a tool to train them to think critically about a social problem (De-Marcos et al., 2016). In one study, the use of gamified learning aimed at reducing social problems such as gender inequality where the results showed useful strategies in generating changes and learning social science content (Ortega Sánchez & Gómez Trigueros, 2019).

Researchers appreciate gaming for motivating people in learning experiences to keep them healthy, engaged, and goal-oriented (Ortega Sánchez & Gómez Trigueros, 2019). To design a gamified educational experience, game design elements, and gamefic experiences should be considered. Gamification has been adopted to support learning in different contexts to address relevant attitudes, activities, and behaviors (Ortega Sánchez & Gómez Trigueros, 2019). Adding elements to a game experience will create an immersive experience (Jennett, C. et al., 2008). Learners will be engaged in a productive learning experience and more likely will desirably change their behavior. Gamification is not just a technology but a methodology that educational systems and organizations can adopt, and It can also be viewed as an effective behavioral design trend that can be applied to different areas, including education (Deterding, S. et al., 2013).

According to Robson, K. et al. (2019), the gamification process has three different categories: dynamics, mechanism, and components. Dynamics includes emotions, narratives, constraints, progression, and relationship, where mechanics includes elements that move the action forward: challenges, chance, competition, cooperation, feedback, resource acquisition, and rewards (Robson et al., 2015). The last category in gamification scenarios is components, at the basic level and hold the first two categories together (Robson et al., 2015). A study on the impact of gamification on different demographic groups, found that game mechanics in virtual learning environments did not have much effect on motivation and performance on female learners (Pedro, L. Z. et al., 2015). The women's experience showed a greater effect when the

gamification included social aspects as opposed to men, who showed higher performance when there is competition (Koivisto & Hamari, 2014).

### **Playful Leadership**

Game design in education is adopted to make non-game activities more enjoyable and motivational. Games can produce greater engagement for students, the use of gamification for learning is not just determined by measuring performance. Performance can be influenced by other factors as ability, prior knowledge, and quality of instructions (Dichev & Dicheva, 2017). Although motivation is what makes students want to learn and achieve something, yet it's important to measure motivation and how gamification influences learners to consequently improve and engage. A user-centered approach is suggested to be used to design the appropriate gamified learning experience to reach a desirable outcome.

### **Leadership in Educational Games**

Educational leadership can support virtual and physical environments. Leadership skills in-game environments can improve the learners' skills and improve their social interactions (Freitas, S. & Routledge, H. 2013). Leadership and soft skills development were utilized in early training game environments (Zyda, 2005). Freitas, S. & Routledge, H. (2013) argue that leadership and soft skills need to be taught differently from hard skills. A study on gamers found that 74% of the participants aged 16-19 have played entertainment games in their spare time; and 75% of the female players selected adventure games which included leadership skills (International Software Federation of Europe, 2010). Today, there is a shift of emphasis on educational games and the capabilities of learning with games. According to Dondlinger, M. J. (2007), games are considered the perfect environment to teach soft skills and allow players to communicate and negotiate important skills for problem-solving and leadership; therefore, there is a huge shift in pedagogy towards a more game-based approach. In a game experience, players can transfer leadership skills and a range of other skills outside the game (Jang & Ryu, 2011), which makes education practiced in-game environments more effective than traditional learning methods.

Gamification can be used as a tool to motivate students to learn a subject that might be hard to understand (Hamada, R. et al., 2019). The approach encourages students to be motivated



to exchange their ideas. A study shows that age is not a major factor when it comes to a gamified learning experience, and both kids and adults can enjoy learning (Hamada, R. et al., 2019). Gamification and game-based learning are different. Gamification is used in different aspects to increase engagement, while game-based learning is only used for education. Structural and content gamification are two main groups of gamification. Structural gamification is when game elements are applied to an educational context (Kapp, 2012). The second type is content gamification, and it's when the content is altered to make it more game-like experience (Kapp, 2012). Two types of academic motivation discussed by researchers are intrinsic and extrinsic motivation (Ayub, N., 2010). Intrinsic motivation develops when the student is motivated to engage in learning and can enjoy it, while extrinsic motivation happens when the student is motivated to make an action through external factors (Ayub, N., 2010). Structural gamification can be less motivating when the learner is focused on getting rewards rather than performing the activity, whereas, in content gamification, internal motivation can be increased when the game elements are meaningful to the learner (Nicholson, S., 2015).

Learning through gamification can improve the quality of learning by positively impacting the learning and teaching experience of any subject (Kiryakova, G. et al., 2014), and learners can develop powerful emotions within their game learning experience because of the higher levels of engagement and motivation compared to a classroom setting. During a game experience, students can engage socially to discuss challenges and problems they are facing through speaking, listening, and actively exploring options (Kiryakova, G. et al., 2014). The experience is useful for students who are not comfortable speaking publicly, where they will be able to express themselves. The self-learning context is a great opportunity to give students ownership of their learning. And if students fail, they can always try again without developing negative feelings. Within a gamified learning experience, students will be able to receive immediate feedback based on their performance and interaction.

Developing education in the digital world is fundamental today, given that students are imposed by the new culture of technology. The majority of the population nowadays are forced to adjust to the new realities of life under COVID-19, where both learners and teachers are involved in digital learning. The COVID-19 pandemic is forcing schools and learning professionals to shift rapidly from in-person to online learning. Gamifying a learning experience

can be an innovative strategy for possible online tools and resources. For this reason, this project will use this knowledge in developing an educational game within the context of leadership skills for adolescent girls. The game will support girls to foster leadership during this transitional phase of growth. A leadership guide might not solve everything they might go through, but what counts is that it is immediate and at once effective.

In any education process, it's important to consider that there are barriers when adopting gamification in learning including lack of resources, time restriction, and teaching activities (Sánchez-Mena & Martí-Parreño, 2017). The lean gamification process is promising to overcome the gaming challenges by including activities the students can engage in (Pereira, Oliveira, Vieira, Lima, & Paes, 2018). The student should understand the importance to perform in learning activities. They also should be aware of the necessity to perform in these activities and decide not to skip or postpone them. Students will be aware of how necessary those learning activities are by which it might increase their performance probability. Making learning activities more salient will increase the probability to perform an activity at a certain time, and as a result, will have a positive influence on academic performance (John, T. et al., 2017).

Designing a learning gamified experience on topics related to adolescent girls will help to raise the profile of female adolescent challenges. The goal is to make young females aware of their adolescence to a wide range of social concerns. There are many timeless questions on how young women should cope with the changes of puberty, and how social factors might affect it. For the past decade or more, social media has significantly changed youth culture and issues, is the major mean of communication in developing their knowledge. The game is not giving biological changes the central place discussing the transition from child to adult, instead, there are complex changes that happen during adolescence and include psychological and social developments, which can be different from one culture to another. Education enables young people to develop adolescent knowledge and skills and is likely to be most effective if included common major issues and practices of the target audience. The game should consider how leadership education fits into the biological, psychological, and social aspects of adolescent development. It is the right way to expand knowledge and cognitive skills that allow young women to evaluate their points of view.

Everyone can develop their capacity to practice leadership if they choose to (Wheatley, M. J., 2017). Female learners will be empowered and supported by leadership educators to engage in critical self-reflection. They will be guided through leadership models to work collaboratively with others to engage in positive social change. The game will explore opportunities to advance leadership development, to get young women to engage in leadership. Research on young adults suggests the importance of gender roles for life experience and development (Schuh, S. C., et.al, 2014). Exploring gender mediates one's development, and leadership education can play a huge role in helping young girls understand the role they play in their leadership journey.

## **Methodology**

### **Action Research Methodology**

To fulfill the aim of developing an educational game within the context of leadership skills for adolescent girls, the project adhered to the action research methodology. Action research or research design consists of three recurring stages: inquiry, action, and reflection (Kemmis and McTaggart, 2013). The knowledge and understanding of social action are improving, and reflection on actions leads to new areas of inquiry (Greenwood and Levin, 2003, p 149). Because of the diverse societal influence and nature of relationships experienced by adolescents, the focus of the game is not to talk about sexual attitudes and practices that happen in adolescence. Although everybody's social media experience is unique, adolescents tend to encounter similar personality types online; however, they are greatly affected by their family, community, or personal characteristics which can't be universal. A list of heritable factors, ethnic differences, weight, environmental pollutants, and stress are triggers or disruptors to the onset of puberty. Hormone changes at adolescence are associated with different social behaviors, which can be negative such as risk-taking, and other positive behaviors such as cognitive functioning (Steinberg, 2008).

### **Problem Identification and Inquiry**

In this inquiry stage, the problem is identified. Research is used to provide accurate knowledge of the nature of adolescent girls' development and common challenges. This information will also be used as a baseline set of data to help assess the proposed project and the future consequences of the action research process (Mackenzie et al., 2012). To develop leadership for young women, it is important to promote an inclusive approach to leadership and encourage students to share their challenges and identify their limitations (Hopkins, M. & O'Neil, D. 2015). Students will examine issues of power, privilege, and oppression to learn about social justice. Leadership educators believe that leadership identity is developed over one's lifespan (Murphy & Johnson, 2011); with that being said, it is important to start leadership education when young women are developing biologically, psychologically, and socially. Systemic genders and sexism play an important role in how we view leadership with our societies (Haber-Curran & Tillapaugh, 2017). Accordingly, it is the responsibility of a leadership program to help students understand and unpack how this can be problematic and dangerous.

Promoting leadership in education would play a role in bridging the gender gap between men and women. The set of scenarios inside the game was decided as part of the action research. As adolescent issues arise and the decision-making process becomes more complicated, the aim is to solve real-life problems to help adolescent girls gain self-knowledge and find authentic sources of leadership.

### **Action and Design Development**

The learning intervention developed and described in this research is a serious game, in which education is the primary goal, rather than entertainment (Michael & Chen, 2006). Gamifying a transformative educational experience is a great method to create a connection between students (Domínguez et. al, 2013). Educators have the potential to offer an engaging experience to students and learners and to reinforce messages that analyze hidden messages in our society. The game will engage students in self-work to challenge their assumptions, expectations, and limitations. Young women will understand that leadership is not a labeled practice and is available to everyone. It will shift the mental models of what leadership looks like, and students will find their voice and engagement is meaningful within their communities regardless of their gender. Being part of a group of like-minded individuals will help students to better understand the lived experiences of other people. As a result, girls and young women will be prepared for their future careers and leadership aspirations. A significant challenge in this context is to remove the barriers between a leadership mentor and someone who is exercising leadership towards a change or an adaptive challenge. The game will be designed to address young female-specific issues, teach them how to speak with a strong voice, allow them to talk about their experience with biases, and practice body language, tone, volume, and word choice, to help them to confidently advocate their ideas. Young girls will feel engaged to talk to like-minded girls in a supportive, judgment-free zone, and will develop positive self-esteem and confidence. The focus of the game is not the end goal of obtaining a high-level position for young women, but rather to build deep and meaningful leadership skills that will positively add to their future. Additionally, leadership education will build responsibility and accountability in young women and will ignite ownership in their projects and initiatives. Along with promoting leadership skills and engagement, role models and guidance will take part in their leadership development.

The designed game is an educational learning module where students demonstrate leadership knowledge. It builds self-knowledge and resilience through the creation of a set of cards. To design the cards, life experiences, major studies on adolescent development and leadership skills were involved to improve the learning experience of adolescent girls. During the design process, a look at recent studies that revealed the challenges young women are facing today was helpful to decide the leadership skills that will be discussed in the game. Over time, the content for 60 Leadership Cards, 60 Wall of Fame Cards, A Leadership Guide, and a Game Manual was written. Leadership Cards are based on real-life challenges that an adolescent girl might go through. A set of scenarios provide the player with key topics around family, friends, religion, and self. A sample of the cards developed is presented in (Figure B13). Wall of Fame Cards is based on real women, who knew what it takes to achieve real success. The examples of inspiring women will surely have something to resonate with each girl (Yancey et al., 2002), their qualities can demonstrate a leadership mindset such as perseverance, courage, commitment, and determination. (Figure B95) lists some of the Wall of Fame cards. The Leadership Guide discusses what's most urgently needed to contain a situation until more substantial help can be called for. When it comes to decision-making, there is no right or wrong answer; however, the guide acts as an essential tool to develop leadership skills. The Game Directory is written to introduce adolescent girls to six leadership skills, their meaning, and what approaches they can take to reach a decision. They will be introduced to different empires and historical characters illustrated and written, (Figure B22-B27), and Figure (B61-94) present the Game Directory and the Leadership Guide.

## **Prototype**

Young Leaders Young Women is a game designed specifically for adolescent girls, to get the very best out of their adolescence. The game is designed for girls who are ten years and above and can be played solo, in pairs, or a group of six, (Figure B7). The game is played on a board; (Figure B15), with dice and cards. And it invites girls to ask one another a series of challenging scenarios that might happen during adolescence. The more honestly and clearly, they respond, the more they learn about themselves. The winner of the game is the person who best demonstrates true leadership characteristics and can accept and think non-defensively about themselves. Although a player is unlikely to face all of the game's challenges in real-life, being able to rehearse a response in a safe and controlled environment can help build confidence and

resilience. This guide is a collection of what leadership mentors might say to young girls if they were beside them in a crisis.

In its first volume, *Young Leaders Young Women* will discuss six leadership skills: courage, belief, communication, confidence, resilience, and change (Figure B27). The player will be traveling to different historical empires on the board while reading challenging questions. Each historical empire will represent a different leadership skill, and a different color will distinguish each group, (Figure B19). The player must roll the dice to transition between the cards. Each card will present a different leadership approach that the player should use as well as personal knowledge. The game box will provide an Answer Sheet Booklet to write the answers (Figure B59). The girls will be able to remember and explain the decision she made. The rules are pretty simple and straightforward. The player starts by rolling the dice, and the color shown on the dice will determine the leadership skill and empire to play. Each player who answers three questions of three different leadership approaches should pick a card from the Wall of Fame cards, (Figure B95). When the game is played in a group, the girls can discuss their ideas, decisions, and characters together.

The first step in getting a game off the ground is to create a physical concept, to provide enough detailed information and make sure everything works properly. Later, to execute the project and construct the game elements, I used Adobe Creative Suite for creating the brand logo, board design, characters, and empire maps. Adobe Illustrator was used to creating most of the graphics, in addition to a photorealistic image of the game rendered using Adobe Dimension. A description of all the software that has been used throughout the project is discussed in (Table A1). During the design phase, research was done on historic empires and characters who also symbolize different leadership approaches in the game. (Figure B23-26).

The next step is to choose leadership skills that fit the purpose. The goal is to give girls the ability to make things happen, instill confidence, and help them solve problems creatively. The six leadership skills are essential for young girls to develop leadership. Courage, girls are introduced to the basic step in making a decision. Belief, girls should learn to practice their trust and faith in their decisions regardless of the faced challenges along the way. Communication; one of the most important leadership soft skills where girls will send significant messages to

others and share knowledge when needed. Confidence, girls will learn to make strong decisions and have a positive attitude regardless of the consequences. During the journey, girls could face failures, but it's an opportunity to see it as a temporary setback that they will recover quickly and that is; Resilience. The sixth leadership skill is Change; the time of growth that enables young girls to inspire, influence actions, and respond with vision. For simplicity, an initialism for the six leadership skills is CBC-CRC, formed from the first letters of each of the leadership skills.

Considering the limitations of showcasing the physical board game prototype, due to COVID-19, the game will be available to order online. The game website will include all the information that will help adolescent girls know what the game offers and will be a useful source for educational organizations that would like to include the game in their in-school or outside-school curriculum. The viewer will be able to discover the world of leadership and the challenges of adolescent girls. The website will be linked to a YouTube Channel, which will consist of brief videos explaining more about the game. The initial videos cover young women's real-life challenges, an illustration on adolescence development, and how to play Young Leaders Young Women board game.

Each video lasts less than ten minutes in duration and consists of information related to the game, the videos are narrated throughout, with subtitles available in English. Custom illustrations, created to explain adolescence in girls, added to an animated video and Instagram posts and designed using Adobe Fresco, (Figure E1) and (Figure G2). All the videos were edited using Adobe Premiere and iMovie software (Figure E1) and (Figure D1).



## **Conclusion**

Today's young generation convey optimism about using their leadership skills and recognizing their need to speak with more confidence. This paper presents a game design method to teach leadership to adolescent girls to help them find perspective and resilience in the face of life's challenges. Adolescence can be a challenging experience for girls but learning leadership can help them become more confident in the face of adversity. It is important to foster leadership during a transitional phase of growth when girls tend to begin their adolescence with a deeply unrepresentative experience. Girls grow up inducted into a world of astonishing indifference to almost everything they are, they think, they say, or they do. Leadership can train girls to disrupt social stereotypes and redefine what it is to be a leader. Introducing leadership to adolescents can lead to higher self-esteem and flourishing adulthood. Leadership can teach young women how to be more confident of who they are, to speak up when they are asked a bias question, and not to focus on how they are perceived.

## **Implications for Future Research**

The research project brings forth many opportunities for future work, further studies will validate the effectiveness of the leadership game on adolescent girls through an interview. A sample of players is to be invited voluntarily to take part in semi-structured interviews before and after playing Young Leaders Young Women, (Figure B7). The interviews should be anonymous to respect the privacy of young girls and provide them with a safe environment to express their ideas. To test the usefulness of the project, it is recommended to test the game on adolescent girls in different countries and societies. As explained above, the period of adolescence brings physical and psychological changes and gender roles become more defined. It is important to understand the effect of the game in providing adolescent girls the opportunities for acts of leadership. Considering the leadership skills and scenarios, they are tools to cultivate young girls for self-reflection and discovery. The main challenge in assessing educational leadership is the need to determine whether the act of leadership has influenced girls unless they have had a similar scenario. Future studies should explore how young girls are engaging in the game. If the game is played in groups, it should explain how girls are connecting. In addition to future testing, research should assess how effective is the board game design to a digital game.

## **Implications for Practice & Recommendations Limitations**

The game was planned to be produced and distributed amongst adolescent girls for feedback. Because of COVID-19 and time constraints, the game is developed as a digital copy. If the game showed success in adolescent girls to explore self-awareness and leadership in making decisions, the serious game can be digitalized and offered on platforms. In the future, the board game can introduce AR technology. The board game will keep the “hands-on” feature while digitalizing some elements of the gameplay. Augmented reality will enhance the game experience when young girls are transitioning between the historical empire. The game experience may be enhanced by combining the features of a classical board game and a video game. To keep a safe interactive environment during the pandemic, girls will be asked to have their own handheld devices (such as smartphones) to interact with the board game objects. In addition to the expansion of the game leadership skills and scenarios, augmented reality (AR) will be added to enrich the gaming experience. Other volumes of the game can be produced to include more leadership skills, challenging scenarios, different characters, and empires. Future volumes can discuss different and new places, to enable young girls to develop a better understanding of the world in which we live. Building knowledge about historical characters that took place over the past century can develop a greater sense of insight into cultures for adolescent girls. Also, an updated Wall of Fame will be considered, featuring more characters who are insignificant because of their commitment. Having an entire set of cards to showcase the known and lesser-known women who contributed to a change, is a way to support and encourage young girls and make them realize that efforts are recognized. By telling stories of women from all backgrounds and careers, young girls will realize that any woman can lead her life and make an impact.

A limitation of this study was that I was not able to engage with adolescent girls who can try the game and play individually or in groups. The plan was to measure the players’ behaviors during and after playing the game. As I did not measure or report the experience due to COVID-19, I don’t know if the game will improve the leadership and decision-making skills following the game playing. This is a limitation for my study and an area for future research.

## Summary

There is perhaps no greater priority in childhood than to require an education. But there is one unstudied subject that we live through every day, that is leadership. Young leadership education is a chance to lead a fulfilled adult life. It depends overwhelmingly on the knowledge and engagement with the nature of adolescence. Leadership can help us skirt adult danger and guide us to fulfillment. It's the subject that far more than any other subject has the decisive power to teach us about ourselves. In this inner journey, girls will learn about six steps to become a leader. By the time, girls will understand leadership when they will raise the question of change, they will realize that they can control themselves while it's remarkably hard to exert any sort of direct control over anyone else. Every leadership quality is a perspective for girls to understand and know themselves better. Girls will feel their sense of possibility expand, and a tolerable way forward gradually emerge from the present confusion. Like any human whatever their flaws, girls deserve to lead their lives and be happy.

Today, young women are leading a change. Women are contributing positively to social reforms through social platforms, they are using their capacities to further raise the awareness of messages and ideas that are considered “taboo” in some societies and cultures. Young women around the world are demanding a change and calling for amendments to provide at-risk girls and women with sustainable protection. Let’s take the Middle East and North Africa for example, the underage marriage phenomenon, and the increase in violence against women has impacted their social security and opportunities in life. Hundreds of women in Egypt speaking out about sexual violence against women after a Me-Too hashtag campaign on social media. Similarly, the issue of violence against women in Turkey and Arab countries has been under the social media spotlight covering the issue of “honor killings”. Behind mobile screens, young women have successfully shared their ideas to draw attention to social matters. Today, thousands of young women who are running protests for Black Lives Matters are digital natives, which might indicate that global movements don’t require centralized leadership structures to push for change. Powerful women leadership was also noticeable during the COVID-19 pandemic. Jacinda Ardern, the prime minister of New Zealand, lead her country with an emotional approach that did not just resonate with her people, but also worked well during the crisis.

A significant approach to this game is the immersed learning of leadership skills. The game discusses the emergence of technology besides the different challenges young girls can face. The leadership cards, in particular, discuss real-life scenarios that can happen anytime during adolescence. A sign that girls have graduated in leadership with honors is when at last they can accept and think non-defensively about themselves.

“In the future, there will be no female leaders. There will just be leaders.”

— Sheryl Sandberg, *Lean In: Women, Work, and the Will to Lead*.

## References

- A.W. Geiger and Leslie Davis, “A Growing Number of American Teenager —Particularly Girls—Are Facing Depression,” Pew Research Center, last modified July 12, 2019, <https://www.pewresearch.org/fact-tank/2019/07/12/a-growing-number-of-american-teenager-particularly-girls-are-facing-depression/>.
- Alt, D., & Boniel-Nissim, M. (2018). Links between Adolescents' Deep and Surface Learning Approaches, Problematic Internet Use, and Fear of Missing Out (FoMO). *Internet Interventions*, 13, 30-39.
- Anderson, J. Q., & Rainie, H. (2010). Gamification: Experts Expect Game Layers' to Expand In The Future, With Positive and Negative Results. Pew Internet & American Life Project.
- Apter, T. (2018). The Female Lead: Disrupting the Feed. Retrieved from <https://www.thefemalelead.com/research>
- Ayub, N. (2010). Effect of Intrinsic and Extrinsic Motivation on Academic Performance. *Pakistan Business Review*, 8, 363-372.
- Batha, E., 2020. Coronavirus Could Put 4 Million Girls at Risk of Child Marriage. World Economic Forum. Retrieved from <https://www.weforum.org/agenda/2020/05/coronavirus-early-child-marriage-covid19-pandemic>
- Bearman, S. K., Presnell, K., Martinez, E., & Stice, E. (2006). The Skinny on Body Dissatisfaction: A Longitudinal Study of Adolescent Girls and Boys. *Journal of Youth and Adolescence*, 35(2), 217-229.
- Betts, L. R., Spenser, K. A., & Gardner, S. E. (2017). Adolescents' Involvement in Cyber Bullying and Perceptions of School: The Importance of Perceived Peer Acceptance for Female Adolescents. *Sex Roles*, 77(7-8), 471-481.

- Bigler, R. S., & Liben, L. S. (2007). Developmental Intergroup Theory: Explaining and Reducing Children's Social Stereotyping and Prejudice. *Current Directions in Psychological Science: A Journal of the American Psychological Society*, 16(3), 162-166. doi:10.1111/j.1467-8721.2007.00496.x
- Bishop, J. (Ed.). (2014). *Gamification for Human Factors Integration: Social, Education, and Psychological Issues: Social, Education, and Psychological Issues*. IGI Global.
- Black, L., Panayiotou, M., & Humphrey, N. (2019). The Dimensionality and Latent.
- Blakemore, S. J. (2018). Avoiding Social Risk in Adolescence. *Current Directions in Psychological Science*, 27(2), 116-122.
- Bolden, R. (2005). *What Is Leadership Development: Purpose and Practice?* University of Exeter, Centre for Leadership Studies.
- Bouillon-Minois, J. B., Clinchamps, M., & Dutheil, F. (2020). Coronavirus and Quarantine: Catalysts of Domestic Violence. *Violence against women*, 1077801220935194.
- Brown, B. B., Bakken, J. P., Ameringer, S. W., & Mahon, S. D. (2008). A Comprehensive Conceptualization of the Peer Influence Process in Adolescence. *Understanding Peer Influence in Children and Adolescents*, 17-44.
- Bruce, J. A., Nicola, S., & Menke, T. (2006). Listening to the Youth Voice in Planning Leadership Development Programs. *Journal of Extension*, 44(6), 1-4.
- Bucchianeri, M. M., Arikian, A. J., Hannan, P. J., Eisenberg, M. E., & Neumark-Sztainer, D. (2013). Body Dissatisfaction from Adolescence to Young Adulthood: Findings from a 10-year Longitudinal Study. *Body image*, 10(1), 1-7.
- Buijzen, M., & Valkenburg, P. M. (2005). Parental mediation of undesired advertising effects. *Journal of Broadcasting & Electronic Media*, 49(2), 153-165.

- Bullis, C., & Stout, K. R. (2000). Organizational socialization: A feminist standpoint approach, (pp. 47–75).
- Charles, N. E., Mathias, C. W., Acheson, A., & Dougherty, D. M. (2016;2017;). Preadolescent Sensation Seeking and Early Adolescent Stress Relate to at-risk Adolescents' Substance Use by Age 15. *Addictive Behaviors*, 69, 1-7. doi:10.1016/j.addbeh.2017.01.005
- Chiu, C. T., Chang, Y. H., Chen, C. C., Ko, M. C., & Li, C. Y. (2015). Mobile Phone Use and Health Symptoms in Children. *Journal of the Formosan Medical Association*, 114(7), 598-604.
- Chrisler, J. C., & Gorman, J. A. (2015). The Medicalization of Women's Moods: Premenstrual Syndrome and Premenstrual Dysphoric Disorder. *The Wrong Prescription for Women: How Medicine and Media Create a "need" for Treatments, Drugs, and Surgery*, 77-98.
- Chua, T. H. H., & Chang, L. (2016). Follow me and Like my Beautiful Selfies: Singapore Teenage Girls' Engagement in Self-presentation and Peer Comparison on Social Media. *Computers in Human Behavior*, 55, 190-197.
- Cross, S. E., & Madson, L. (1997). Models of the Self: Self-construals and Gender. *Psychological Bulletin*, 122(1), 5-37. doi:10.1037//0033-2909.122.1.5
- Dahl, R. E. (2004). Adolescent Brain Development: A Period of Vulnerabilities and Opportunities. Keynote Address. *Annals of The New York Academy of Sciences*, 1021(1), 1-22.
- Dahl, R. E., & Gunnar, M. R. (2009). Heightened Stress Responsiveness and Emotional Reactivity During Pubertal Maturation: Implications for Psychopathology. *Development and Psychopathology*, 21(1), 1-6.
- De Vries, D. A., & Vossen, H. G. (2018;2019;). Social Media and Body Dissatisfaction: Investigating the Attenuating Role of Positive Parent–Adolescent Relationships. *Journal*

of Youth and Adolescence, 48(3), 527-536.

De-Marcos, L., Garcia-Lopez, E., & Garcia-Cabot, A. (2016). On the Effectiveness of Game-Like and Social Approaches in Learning: Comparing Educational Gaming, Gamification & Social Networking. *Computers & Education*, 95, 99-113.

Deterding, S., Björk, S. L., Nacke, L. E., Dixon, D., & Lawley, E. (2013). Designing gamification: creating gameful and playful experiences. In *CHI'13 Extended Abstracts on Human Factors in Computing Systems* (pp. 3263-3266).

Dichev, C., & Dicheva, D. (2017). Gamifying Education: What is Known, what is Believed and What Remains Uncertain: A Critical Review. *International Journal of Educational Technology in Higher Education*, 14(1), 9.

Dobosz, R. P., & Beaty, L. A. (1999). The Relationship between Athletic Participation and High School Students' Leadership Ability. *Adolescence*, 34(133), 215.

DomíNquez, A., Saenz-De-Navarrete, J., De-Marcos, L., FernáNdez-Sanz, L., PagéS, C., & MartíNez-HerráIz, J. J. (2013). Gamifying Learning Experiences: Practical Implications and Outcomes. *Computers & Education*, 63, 380-392.

Dondlinger, M. J. (2007). Educational Video Game Design: A Review of the Literature. *Journal of Applied Educational Technology*, 4(1), 21-31.

Dorrance Hall, E., & Gettings, P. E. (2020). "Who is This Little Girl They Hired to Work Here?": Women's Experiences of Marginalizing Communication in Male-Dominated Workplaces. *Communication Monographs*, 1-22.

Ebert, C. (2015). Laurence Steinberg: Age of Opportunity: Lessons from the New Science of Adolescence.



- Egan, S. K., & Perry, D. G. (2001). Gender Identity: A Multidimensional Analysis with Implications for Psychosocial Adjustment. *Developmental Psychology*, 37(4), 451-463. doi:10.1037/0012-1649.37.4.451
- Flisher, C. (2010). Getting Plugged In: An Overview of Internet Addiction. *Journal of Paediatrics and Child Health*, 46(10), 557-559.
- Folkvord, F., Bevelander, K. E., Rozendaal, E., & Hermans, R. (2019). Children's Bonding with Popular Youtube Vloggers and their Attitudes toward Brand and Product Endorsements in Vlogs: An Explorative Study. *Young Consumers*.
- Fraser-Thomas, J. L., Côté, J., & Deakin, J. (2005). Youth Sport Programs: An Avenue to Foster Positive Youth Development. *Physical Education and Sport Pedagogy*, 10(1), 19-40. doi:10.1080/1740898042000334890
- Freitas, S., & Routledge, H. (2013). Designing Leadership and Soft Skills in Educational Games: The E-Leadership and Soft Skills Educational Games Design Model (ELESS). *British Journal of Educational Technology*, 44(6), 951-968. doi:10.1111/bjet.12034
- Galambos, N. L., Berenbaum, S. A., & McHale, S. M. (2009). Gender Development in Adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of Adolescent Psychology: Vol. 1: Individual Bases of Adolescent Development* (3rd ed., pp. 305 – 357). Hoboken, NJ: John Wiley & Sons.
- George, B. (2003). *Authentic leadership: Rediscovering the Secrets to Creating Lasting Value*. John Wiley & Sons.
- George, B., Ibarra, H., Goffee, R., & Jones, G. (2017). *Authentic Leadership* (HBR Emotional Intelligence Series). Harvard Business Press.
- GIRLS' ATTITUDES SURVEY, Sep 2017. Retrieved from <https://www.girlguiding.org.uk/girlsattitudes/>

- Glass, C., & Cook, A. (2016). Leading at the Top: Understanding Women's Challenges Above the Glass Ceiling. *The Leadership Quarterly*, 27(1), 51-63.
- Gorrese, A., & Ruggieri, R. (2012). Peer Attachment: A Meta-analytic Review of Gender and Age Differences and Associations with Parent Attachment. *Journal of Youth and Adolescence*, 41(5), 650-672.
- Gowda, C., Schaffer, S. E., Dombkowski, K. J., & Dempsey, A. F. (2012). Understanding Attitudes toward Adolescent Vaccination and the Decision-making Dynamic among Adolescents, Parents and Providers. *BMC Public Health*, 12(1), 509-509. doi:10.1186/1471-2458-12-509
- Greenwood, D.J., Levin, M., 2003. Reconstructing the Relationships between Universities and Society through Action Research. In: Denzin, N., Lincoln, Y. (Eds.), *The Landscape of Qualitative Research: Theories and Issues*. Sage Publications, London, pp. 131–136.
- Gruber, J. E., & Fineran, S. (2008). Comparing the Impact of Bullying and Sexual Harassment Victimization on the Mental and Physical Health of Adolescents. *Sex Roles*, 59(1-2), 1.
- Haber-Curran, P., & Tillapaugh, D. (2017). Gender and Student Leadership: A Critical Examination. *New Directions for Student Leadership*, 2017(154), 11-22.
- Hamada, R., Soranastaporn, S., Kanegae, H., Dumrongrojwatthana, P., Chaisanit, S., Rizzi, P., & Dumblekar, V. (Eds.). (2019). *Neo-Simulation and Gaming toward Active Learning* (Vol. 18). Springer Nature.
- Hamilton, J. L., Hamlat, E. J., Stange, J. P., Abramson, L. Y., & Alloy, L. B. (2014). Pubertal Timing and Vulnerabilities to Depression in Early Adolescence: Differential Pathways to Depressive Symptoms by Sex. *Journal of Adolescence*, 37(2), 165-174.

- Harter, S. (2006). The self. W. Damon, R. M. Lerner (Series Eds.), & N. Eisenberg (Vol. Ed.), *Handbook of child psychology*, 3, 505-570.
- Hayward, C. (Ed.). (2003). *Gender Differences at Puberty*. Cambridge University Press.
- Heider, N., Spruyt, A., & De Houwer, J. (2018). Body Dissatisfaction Revisited: On the Importance of Implicit Beliefs about Actual and Ideal Body Image. *Psychologica Belgica*, 57(4), 158.
- Hellison, D., Martinek, T., Walsh, D., & Holt, N. (2008). Sport and Responsible Leadership Among Youth. *Positive Youth Development through Sport*, 49-60.
- Higham, R., Freathy, R., & Wegerif, R. (2010). Developing Responsible Leadership Through a 'Pedagogy of Challenge': An Investigation into the Impact of Leadership Education on Teenagers. *School Leadership and Management*, 30(5), 419-434.
- Holland, A., & Thomas, A. (1999). Student Characteristics and Choice of High School Remembrance Role. *Adolescence*, 34(134), 315.
- Holsen, I., Jones, D. C., & Birkeland, M. S. (2012). Body Image Satisfaction among Norwegian Adolescents and Young Adults: A Longitudinal Study of the Influence of Interpersonal Relationships and BMI. *Body Image*, 9(2), 201-208. doi:10.1016/j.bodyim.2012.01.006
- Hopkins, M. M., & O'Neil, D. A. (2015). Authentic leadership: Application to Women Leaders. *Frontiers in Psychology*, 6, 959.
- Huang, W. H. Y., & Soman, D. (2013). Gamification of education. Report Series: Behavioural Economics in Action, 29.
- Hyde, J. S. (2005). The Gender Similarities Hypothesis. *American Psychologist*, 60(6), 581.

- Ibanez, M. B., Di-Serio, A., & Delgado-Kloos, C. (2014). Gamification for Engaging Computer Science Students in Learning Activities: A Case Study. *IEEE Transactions on Learning Technologies*, 7(3), 291-301.
- Ibarra, H., Ely, R., & Kolb, D. (2013). Women Rising: Unseen Barriers: Harvard Business Review. *The Australian Financial Review*.
- International Software Federation of Europe (2010). Video Gamers in Europe. Brussels and London: Gamevision Europe.
- Jackson, C. L., & Cohen, R. (2012). Childhood Victimization: Modeling the Relation between Classroom Victimization, Cyber Victimization, and Psychosocial Functioning. *Psychology of Popular Media Culture*, 1(4), 254.
- Jang, Y., & Ryu, S. (2011). Exploring Game Experiences and Game Leadership in Massively Multiplayer Online Role-Playing Games. *British Journal of Educational Technology*, 42(4), 616-623.
- Jennett, C., Cox, A. L., Cairns, P., Dhoparee, S., Epps, A., Tijs, T., & Walton, A. (2008). Measuring and Defining the Experience of Immersion in Games. *International Journal of Human-Computer Studies*, 66(9), 641-661.
- John, T., Feldotto, M., Hensen, P., Klingsieck, K., Kundisch, D., & Langendorf, M. (2017). Towards a Lean Approach to Gamifying Education.
- Joinson, C., Heron, J., Lewis, G., Croudace, T., & Araya, R. (2011). Timing of menarche and depressive symptoms in adolescent girls from a UK cohort. *The British journal of psychiatry*, 198(1), 17-23.

- Kaltiala-Heino, R., Kosunen, E., & Rimpelä, M. (2003). Pubertal Timing, Sexual Behaviour and Self-reported Depression in Middle Adolescence. *Journal of Adolescence*, 26(5), 531-545.
- Kapp, K. M. (2012). *The Gamification of Learning and Instruction: Game-Based Methods and Strategies for Training and Education*. John Wiley & Sons.
- Karagianni, D., & Jude Montgomery, A. (2018). Developing Leadership Skills Among Adolescents and Young Adults: A Review of Leadership Programmes. *International Journal of Adolescence and Youth*, 23(1), 86-98.
- Kemmis, S., McTaggart, R., & Nixon, R. (2013). *The Action Research Planner: Doing Critical Participatory Action Research*. Springer Science & Business Media.
- Kim, S., Song, K., Lockee, B., & Burton, J. (2018). What is Gamification in Learning and Education? In *Gamification in Learning and Education* (Pp. 25-38). Springer, Cham.
- Kiryakova, G., Angelova, N., & Yordanova, L. (2014). Gamification in education. *Proceedings of 9th International Balkan Education and Science Conference*.
- Koivisto, J., & Hamari, J. (2014). Demographic Differences in Perceived Benefits from Gamification. *Computers in Human Behavior*, 35, 179-188.
- Komives, S. R., Owen, J. E., Longerbeam, S. D., Mainella, F. C., & Osteen, L. (2005). Developing a Leadership Identity: A Grounded Theory. *Journal of College Student Development*, 46(6), 593-611.
- Kremer, Peter, Christine Elshaug, Eva Leslie, John W. Toumbourou, George C. Patton, and Joanne Williams. "Physical Activity, Leisure-time Screen Use and Depression Among Children and Young Adolescents." *Journal of science and medicine in sport* 17, no. 2 (2014): 183-187.

- Kuhn, P., & Weinberger, C. (2005). Leadership Skills and Wages. *Journal of Labor Economics*, 23(3), 395-436.
- Leaper, C., & Brown, C. S. (2008). Perceived Experiences with Sexism among Adolescent Girls. *Child Development*, 79(3), 685-704. doi:10.1111/j.1467-8624.2008.01151.x
- Lee, S. Y., & Olszewski-Kubilius, P. (2015). Introduction: Leading Creative Minds and Talent Development Education. *Asia Pacific Education Review*, 16(2), 149-151.
- Lichty, L. F., & Campbell, R. (2012). Targets and Witnesses: Middle School Students' Sexual Harassment Experiences. *The Journal of Early Adolescence*, 32(3), 414-430.
- Loew, L., & O'Leonard, K. (2012). Leadership Development Factbook 2012: Benchmarks and Trends in US Leadership Development. Bersin by Deloitte.
- Lou, C., & Yuan, S. (2019). Influencer Marketing: How Message Value and Credibility Affect Consumer Trust of Branded Content on Social Media. *Journal of Interactive Advertising*, 19(1), 58-73.
- Mackenzie, J., Tan, P. L., Hoverman, S., & Baldwin, C. (2012). The Value and Limitations of Participatory Action Research Methodology. *Journal of Hydrology*, 474, 11-21.
- Mahalik, J. R., Levine Coley, R., McPherran Lombardi, C., Doyle Lynch, A., Markowitz, A. J., & Jaffee, S. R. (2013). Changes in Health Risk Behaviors for Males and Females from Early Adolescence through Early Adulthood. *Health Psychology*, 32(6), 685.
- Martin, K. (2018). *Puberty, Sexuality and the Self: Girls and Boys at Adolescence*. Routledge.
- Martínez, C., & Olsson, T. (2019). Making Sense of Youtubers: How Swedish Children Construct and Negotiate the Youtuber Misslisibell as a Girl Celebrity. *Journal of Children and Media*, 13(1), 36-52.

- McKinzie, C., Burgoon, E., Altamura, V., & Bishop, C. (2006). Exploring the Effect of Stress on Mood, Self-esteem, and Daily Habits with Psychology Graduate Students. *Psychological Reports*, 99(2), 439-448.
- Michael D, Chen S. *Serious Games: Games that Educate, Train and Inform*. Boston: Thomson; 2006.
- Mullen, C. A., & Tuten, E. M. (2004). A Case Study of Adolescent Female Leadership: Exploring The "Light" of Change. *The Journal of Educational Thought (JET)/Revue de la Pensée Educative*, 291-320.
- Murphy, S. E., & Johnson, S. K. (2011). The Benefits of a Long-Lens Approach to Leader Development: Understanding the Seeds of Leadership. *The Leadership Quarterly*, 22(3), 459-470.
- National Research Council. (2002). *Community programs to promote youth development*. National Academies Press.
- Nelson, B. D., Perlman, G., Klein, D. N., Kotov, R., & Hajcak, G. (2016). Blunted Neural Response to Rewards as a Prospective Predictor of the Development of Depression in Adolescent Girls. *American Journal of Psychiatry*, 173(12), 1223-1230.
- Nelson, E. E., Leibenluft, E., McClure, E. B., & Pine, D. S. (2005). The Social Re-Orientation of Adolescence: A Neuroscience Perspective on The Process and its Relation to Psychopathology. *Psychological Medicine*, 35(2), 163.
- Nicholson, S. (2015). A Recipe for Meaningful Gamification. In *Gamification in Education and Business* (Pp. 1-20). Springer, Cham.
- Noland, M., Moran, T., & Kotschwar, B. R. (2016). Is Gender Diversity Profitable? Evidence from a Global Survey. *Peterson Institute for International Economics Working Paper*, (16-3).

O'Neil-Hart, C., and Blumenstein, H. (2016). Why YouTube Stars are More Influential Than Traditional Celebrities. Google. Available at: <https://www.thinkwithgoogle.com/consumer-insights/youtube-stars-influence/>

Ortega Sánchez, D., & Gómez Trigueros, I. M. (2019). Gamification, Social Problems, and Gender in the Teaching of Social Sciences: Representations and Discourse of Trainee Teachers. *Plos One*, 14(6), E0218869.

Patton, G., & Borschmann, R. (2017). Responding to the Adolescent in Distress. *The Lancet*, 390(10094), 536-538.

Pechmann, C., Levine, L., Loughlin, S., & Leslie, F. (2005). Impulsive and Self-Conscious: Adolescents' Vulnerability to Advertising and Promotion. *Journal of Public Policy & Marketing*, 24(2), 202-221.

Pedro, L. Z., Lopes, A. M., Prates, B. G., Vassileva, J., & Isotani, S. (2015, April). Does Gamification Work for Boys and Girls? An Exploratory Study with A Virtual Learning Environment. In *Proceedings of the 30th Annual ACM Symposium on Applied Computing* (Pp. 214-219).

Pellegrini, A. D. (2001). The Roles of Dominance and Bullying in the Development of Early Heterosexual Relationships. *Journal of Emotional Abuse*, 2(2-3), 63-73.

Pereira, M., Oliveira, M., Vieira, A., Lima, R. M., & Paes, L. (2018). The Gamification as a Tool to Increase Employee Skills through Interactives Work Instructions Training. *Procedia Computer Science*, 138, 630-637.

Perry, D. G., & Pauletti, R. E. (2011). Gender and Adolescent Development. *Journal of Research on Adolescence*, 21(1), 61-74. doi:10.1111/j.1532-7795.2010.00715.x



- Pinelli, N. R., Sease, J. M., Nola, K., Kyle, J. A., Heldenbrand, S. D., Penzak, S. R., & Ginsburg, D. B. (2018). The Importance of Authentic Leadership to All Generations Represented within Academic Pharmacy. *American Journal of Pharmaceutical Education*, 82(6).
- Pizzagalli, D. A. (2014). Depression, Stress, and Anhedonia: Toward a Synthesis and Integrated Model. *Annual Review of Clinical Psychology*, 10(1), 393-423. doi:10.1146/annurev-clinpsy-050212-185606
- Prinstein, M. J., & Cillessen, A. H. (2003). Forms and Functions of Adolescent Peer Aggression Associated with High Levels of Peer Status. *Merrill-Palmer Quarterly* (1982-), 310-342.
- Profeta, P. (2017). Gender Equality in Decision-Making Positions: The Efficiency Gains. *Intereconomics*, 52(1), 34-37.
- Public Health Agency of Canada. (2019, July 22). Suicide in Canada. Canada.ca. Retrieved from <https://www.canada.ca/en/public-health/services/suicide-prevention/suicide-canada.html#a3>
- Ricciardelli, L. A., & McCabe, M. P. (2004). A Biopsychosocial Model of Disordered Eating and the Pursuit of Muscularity in Adolescent Boys. *Psychological Bulletin*, 130(2), 179-205. doi:10.1037/0033-2909.130.2.179
- Rideout, V. J., Foehr, U. G., & Roberts, D. F. (2010). *Generation M 2: Media in the Lives of 8-to 18-Year-Olds*. Henry J. Kaiser Family Foundation.
- Robson, K., Plangger, K., Kietzmann, J. H., McCarthy, I., & Pitt, L. (2015). Is it all a Game? Understanding the Principles of Gamification. *Business Horizons*, 58(4), 411-420.
- Rudan, V. (2000). Adolescent Development and External Influences. *Collegium Antropologicum*, 24(2), 585-596.

- Sánchez Mena, A. A., & Martí Parreño, J. (2017). Drivers and Barriers to Adopting Gamification: Teachers' Perspectives.
- Sandburg, S. (2013). *Lean in: Women, Work, and the Will to Lead*. Knopf: New York.
- Schuh, S. C., Bark, A. S. H., Van Quaquebeke, N., Hossiep, R., Frieg, P., & Van Dick, R. (2014). Gender Differences in Leadership Role Occupancy: The Mediating Role of Power Motivation. *Journal of Business Ethics*, 120(3), 363-379.
- Selkie, E. M., Kota, R., Chan, Y. F., & Moreno, M. (2015). Cyberbullying, Depression, and Problem Alcohol use in Female College Students: A Multisite Study. *Cyberpsychology, Behavior, and Social Networking*, 18(2), 79-86.
- Shamir, B., & Eilam, G. (2005). "What's your Story?" A Life-Stories Approach to Authentic Leadership Development. *The Leadership Quarterly*, 16(3), 395-417.
- Shim, S. S., & Finch, W. H. (2014). Academic and Social Achievement Goals and Early Adolescents' Adjustment: A Latent Class Approach. *Learning and Individual Differences*, 30, 98-105.
- Siciliano, V., Bastiani, L., Mezzasalma, L., Thanki, D., Curzio, O., & Molinaro, S. (2015). Validation of a New Short Problematic Internet Use Test in a Nationally Representative Sample of Adolescents. *Computers in Human Behavior*, 45, 177-184.
- Signorella, M. L., & Frieze, I. H. (2008). Interrelations of Gender Schemas in Children and Adolescents: Attitudes, Preferences, and Self-perceptions. *Social Behavior and Personality: an International Journal*, 36(7), 941-954.
- Skoog, T., Özdemir, S. B., & Stattin, H. (2016). Understanding the Link between Pubertal Timing in Girls and the Development of Depressive Symptoms: The Role of Sexual Harassment. *Journal of Youth and Adolescence*, 45(2), 316-327.

- Spence, J. T. (1985). Gender Identity and Implications for Concepts of Masculinity and Femininity. In T. B. Sonderegger (Ed.), *Nebraska Symposium on Motivation: Vol. 32. Personality and Gender* (pp. 59–96). Lincoln, NE: University of Nebraska Press.
- Spies Shapiro, L. A., & Margolin, G. (2013;2014;). Growing Up wired: Social Networking Sites and Adolescent Psychosocial Development. *Clinical Child and Family Psychology Review*, 17(1), 1-18. doi:10.1007/s10567-013-0135-1
- Steinberg, L. (2008). A Social Neuroscience Perspective on Adolescent Risk-Taking. *Developmental Review*, 28(1), 78-106.
- Story, M., Lytle, L. A., Birnbaum, A. S., & Perry, C. L. (2002). Peer-Led, School-Based Nutrition Education for Young Adolescents: Feasibility and Process Evaluation of the Teens Study. *Journal of School Health*, 72(3), 121-127.
- Structure of Mental Health Difficulties and Wellbeing in Early Adolescence. *PloS One*, 14(2), e0213018. doi:10.1371/journal.pone.0213018
- Telzer, E. H., Van Hoorn, J., Rogers, C. R., & Do, K. T. (2018). Social Influence on Positive Youth Development: A Developmental Neuroscience Perspective. In *Advances in Child Development and Behavior* (Vol. 54, pp. 215-258). JAI.
- Thomas, H. J., Chan, G. C., Scott, J. G., Connor, J. P., Kelly, A. B., & Williams, J. (2016). Association of Different Forms of Bullying Victimization with Adolescents' Psychological Distress and Reduced Emotional Wellbeing. *Australian & New Zealand Journal of Psychiatry*, 50(4), 371-379.
- Thompson, J. K., Heinberg, L. J., Altabe, M., & Tantleff-Dunn, S. (1999). *Exacting Beauty: Theory, Assessment, and Treatment of Body Image Disturbance*. American Psychological Association.

- Tiggemann, M., & Slater, A. (2013). NetGirls: The Internet, Facebook, and Body Image Concern in Adolescent Girls. *International Journal of Eating Disorders*, 46(6), 630-633.
- Tillapaugh, D., & Haber-Curran, P. (2017). *Critical Perspectives on Gender and Student Leadership: New Directions for Student Leadership*, Number 154. John Wiley & Sons.
- Tobin, D. D., Menon, M., Menon, M., Spatta, B. C., Hodges, E. V. E., & Perry, D. G. (2010). The Intrapsychics of Gender: A Model of Self-Socialization. *Psychological Review*, 117(2), 601-622. doi:10.1037/a0018936
- Trépanier, S. G., Fernet, C., & Austin, S. (2013). Workplace Bullying and Psychological Health at Work: The Mediating Role of Satisfaction of Needs for Autonomy, Competence and Relatedness. *Work & Stress*, 27(2), 123-140.
- Twenge, J. M. (2017). *IGen: Why Today's Super-Connected Kids are Growing up Less Rebellious, More Tolerant, Less Happy--and Completely Unprepared for Adulthood--and What that Means for the Rest of us*. Simon and Schuster.
- Twenge, J. M., Martin, G. N., & Campbell, W. K. (2018). Decreases in Psychological Well-being among American Adolescents after 2012 and Links to Screen Time during the Rise of Smartphone Technology. *Emotion (Washington, D.C.)*, 18(6), 765-780. doi:10.1037/emo0000403
- Van Dam, S., & Van Reijmersdal, E. (2019). Insights in Adolescents' Advertising Literacy, Perceptions and Responses Regarding Sponsored Influencer Videos and Disclosures. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 13(2).
- Van Hoorn, J., Shablack, H., Lindquist, K. A., & Telzer, E. H. (2019). Incorporating the Social Context into Neurocognitive Models of Adolescent Decision-Making: A Neuroimaging Meta-Analysis. *Neuroscience and Biobehavioral Reviews*, 101, 129-142. doi:10.1016/j.neubiorev.2018.12.024

- Vandebosch, H., & Van Cleemput, K. (2009). Cyberbullying among youngsters: Profiles of bullies and victims. *New media & society*, 11(8), 1349-1371.
- Wheatley, M. J. (2017). *Who Do we Choose to Be? Facing Reality, Claiming Leadership, Restoring Sanity*. Berrett-Koehler Publishers.
- Wichstrøm, L. (2000). Predictors of Adolescent Suicide Attempts: A Nationally Representative Longitudinal Study of Norwegian Adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, 39(5), 603-610.
- Wingenbach, G. J., & Kahler, A. A. (1997). Self-Perceived Youth Leadership and Life Skills of Iowa FFA Members. *Journal of Agricultural Education*, 38, 18-27.
- Women's leadership and political participation. (n.d.). Retrieved August 5, 2020, from <https://www.unwomen.org/en/what-we-do/leadership-and-political-participation/facts-and-figures>
- World Bank, World Development Indicators. (2020). Population, Female (% of total population). Retrieved from <https://data.worldbank.org/indicator/SP.POP.TOTL.FE.ZS>
- World Health Organization. (2019). Maternal, Newborn, Child and Adolescent Health, from [https://www.who.int/maternal\\_child\\_adolescent/topics/adolescence/development/en/](https://www.who.int/maternal_child_adolescent/topics/adolescence/development/en/)
- Yancey, A. K., Siegel, J. M., & Mcdaniel, K. L. (2002). Role Models, Ethnic Identity, and Health-Risk Behaviors in Urban Adolescents. *Archives of Pediatrics & Adolescent Medicine*, 156(1), 55-61.
- Yunger, J. L., Carver, P. R., & Perry, D. G. (2004). Does Gender Identity Influence Children's Psychological Well-being? *Developmental Psychology*, 40(4), 572-582.  
doi:10.1037/0012-1649.40.4.572
- Zyda, M. (2005). From Visual Simulation to Virtual Reality to Games. *Computer*, 38(9), 25-32.