

**GABRIEL HARP**

**DIRECTOR OF RESEARCH + CREATIVE PRACTICE DEVELOPMENT**

**GHARP@UMICH.EDU**



# Particle Falls

Andrea Polli

<https://youtu.be/Cze5s7y8ZqA?t=44>

Photo Alex Cason CHARLOTTEFIVE

# Alluvium

Catherine Griffiths

<https://vimeo.com/90682774>



# Smog Tasting

Center for Genomic Gastronomy  
+ Nicola Twilley

<https://vimeo.com/246808763>







**ATLANTA-STYLE BIOGENIC  
PHOTOCHEMICAL SMOG**

---

**Hydrocarbons**

*glass dish with some diesel*

**Terpenes**

*orange peel, pine needles*

**NO<sub>x</sub>**

*copper penny in nitric acid*

**Sulfur**

*Sulfuric acid*

**-cook unde**

**MEXICO CITY  
PHOTOCHEMICAL SMOG**

---

**NO<sub>x</sub>**

*glass dish with some diesel*

**Hydrocarbons**

*glass dish with some diesel*

*cook under back light*





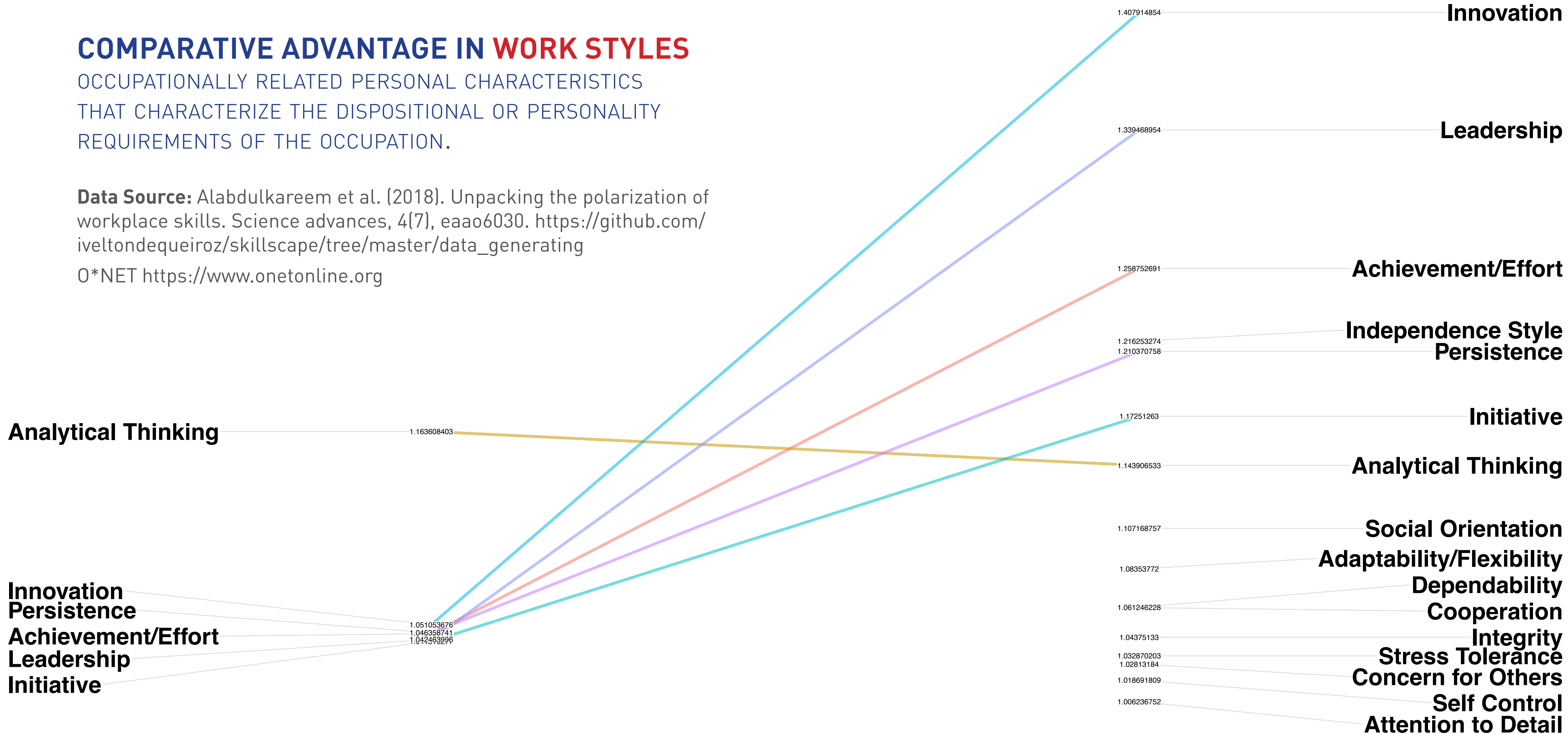
# Physical Sciences (CIP 40.xx)

# Visual and Performing Arts (CIP 50.xx)

## COMPARATIVE ADVANTAGE IN WORK STYLES

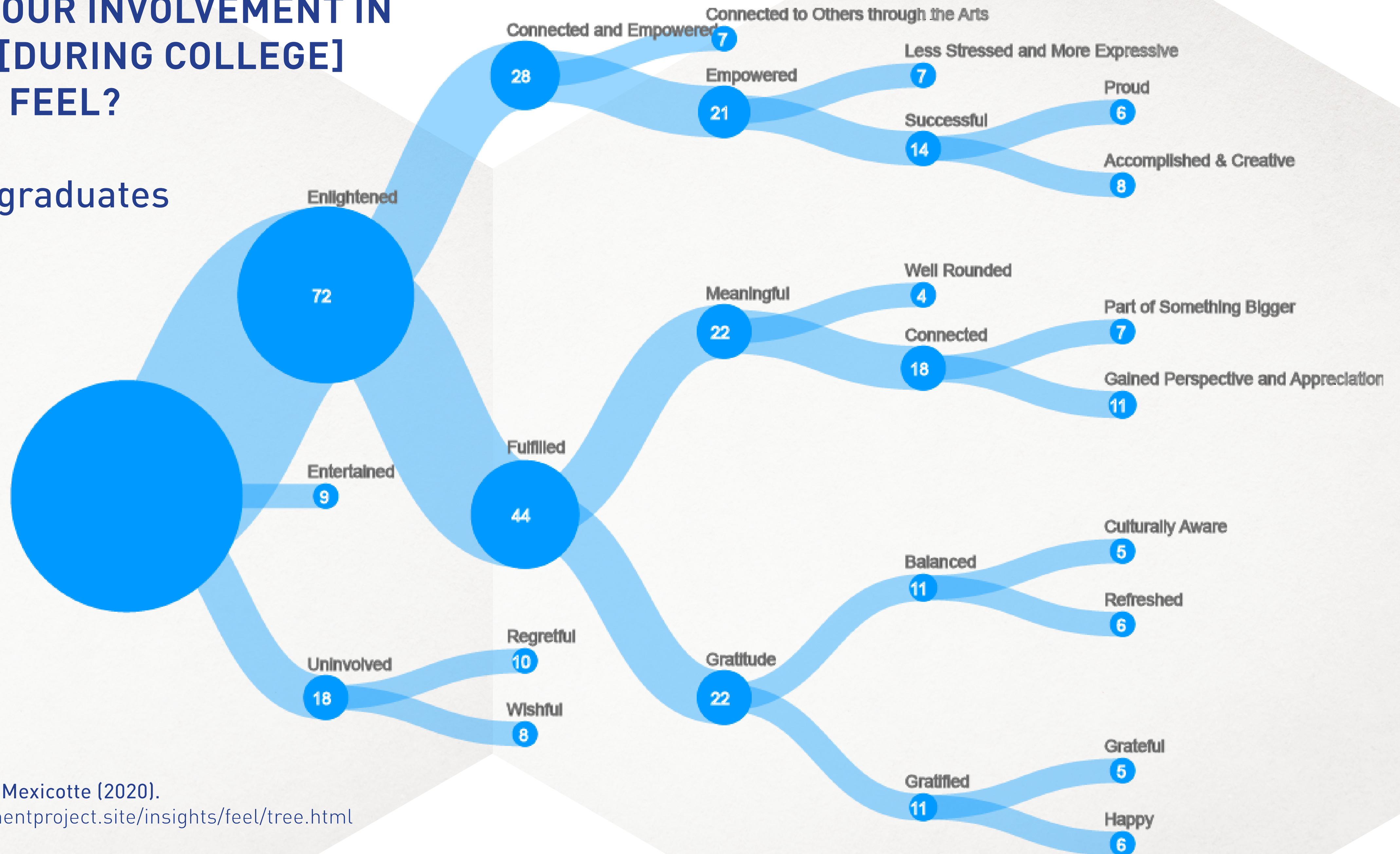
OCCUPATIONALLY RELATED PERSONAL CHARACTERISTICS THAT CHARACTERIZE THE DISPOSITIONAL OR PERSONALITY REQUIREMENTS OF THE OCCUPATION.

**Data Source:** Alabdulkareem et al. (2018). Unpacking the polarization of workplace skills. Science advances, 4(7), eaao6030. [https://github.com/iveltondequeiroz/skillscape/tree/master/data\\_generating](https://github.com/iveltondequeiroz/skillscape/tree/master/data_generating)  
O\*NET <https://www.onetonline.org>



# HOW DID YOUR INVOLVEMENT IN THE ARTS [DURING COLLEGE] MAKE YOU FEEL?

U-M undergraduates  
n = 1207



# Framework for Epistemic [Knowledge-Making] Practices in STEAM

	<b>STEM practices</b>	<b>Conjectured STeAM practices</b>	<b>Arts practices</b>
<b>Exploring</b>	<p>Asking questions/defining problems</p> <p>Planning and carrying out investigations</p> <p>Using mathematical and computational thinking</p>	<p>Noticing and questioning</p> <p>Exploring materiality</p> <p>Defining the problem space</p>	<p>Deep noticing</p> <p>Deconstructing component elements and their respective meanings</p>
<b>Meaning-Making</b>	<p>Developing and using models</p> <p>Analyzing and interpreting data</p> <p>Constructing explanations/designing solutions</p> <p>Producing tentative representations</p> <p>Conducting principled iterations/revisions</p>	<p>Producing tentative representations</p> <p>Conducting principled iterations/revisions</p> <p>Engaging multiple modalities</p> <p>Finding relevance</p>	<p>Applying artistic principles to augment meaning</p> <p>Designing interrelations within and across multiple sign systems</p> <p>Referencing or combining existing works and ideas</p>
<b>Critiquing</b>	<p>Arguing from evidence/peer review</p> <p>Evaluating and communicating findings</p>	<p>Critical historicity; Hacking the ideas of others</p> <p>Cultivating dissent</p> <p>Holding commitments to standards of the field</p> <p>Sharing results/“audiencing”</p>	<p>Critical historicity; negotiating what constitutes a “good” project</p> <p>Given a particular artistic goal, evaluating how successfully this goal has been met</p>