Emotional Intelligence and its Impact on Identity Formation of Engineering Graduate Students

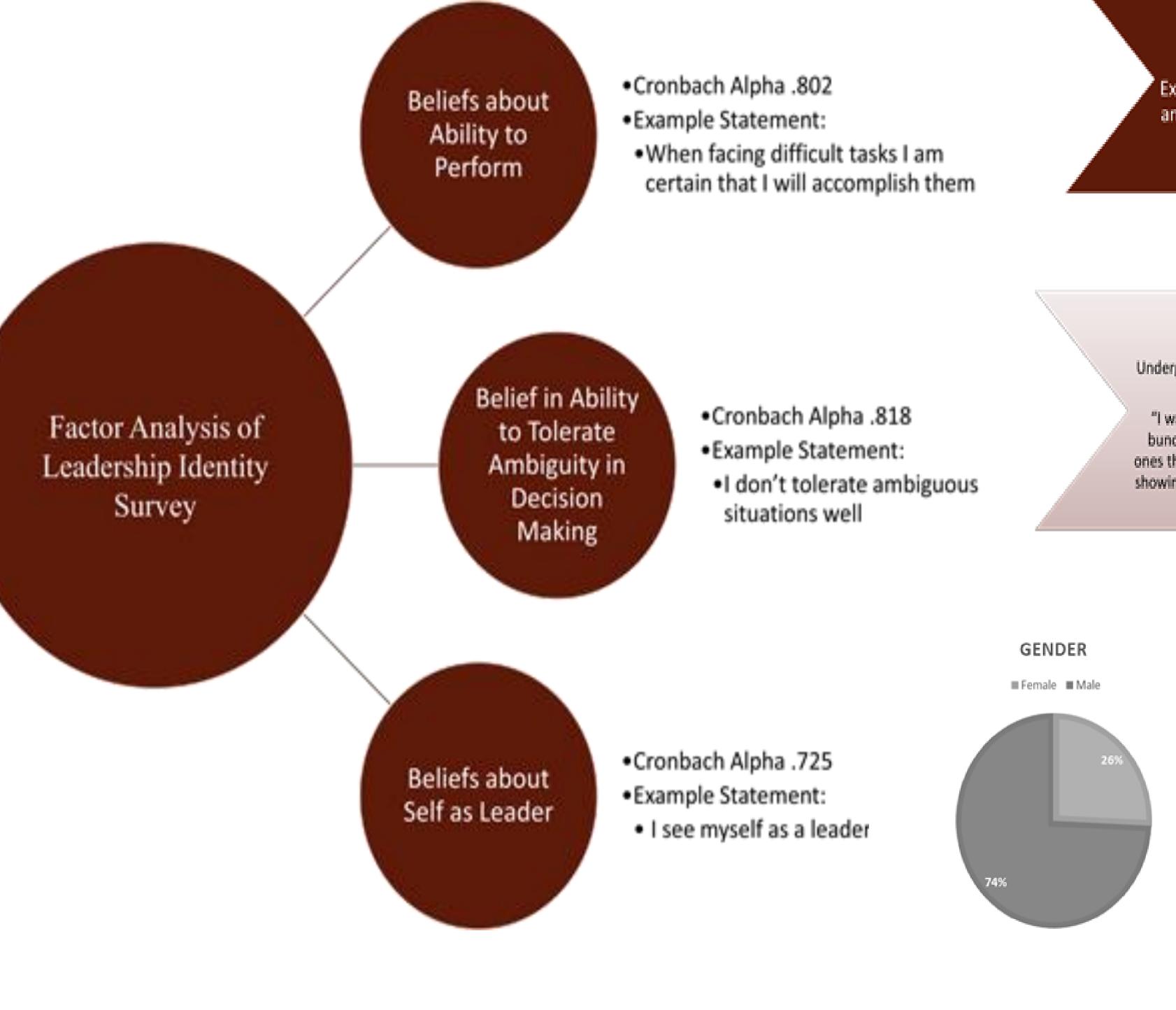
AM T3: TEXAS A&M TRIADS FOR TRANSFORMATION A President's Excellence Fund Initiative

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Introduction

Engineering leaders acquire knowledge, skills, behaviors, and experiences throughout their career that are continually renegotiated in their ongoing sense-making of their personal narrative. While research has shown that interventions or developmental experiences are beneficial for leadership development (i.e. Avolio, Reichard, Hannah, Walumbwa, & Chan, 2009), very little research has been done on understanding how individuals in the engineering field come to their self-definition of what it means to be a leader in the engineering field. In coming to know their self-definition of being an engineering leader, identity can be explored from their sensemaking of their personal narrative (Brown, Stacey & Nandhakumar, 2008)), their perceptions of themselves based on their social categories (Hogg, 2001), and their perceptions of the meanings associated with a particular role (Stryker & Burke, 2000). This research endeavor explored identity from all three lenses (personal narratives, social categories, and meaning associated with a role) for graduate students aiming to earn an Engineering Technical Management degree.

Exploratory Survey on Engineering Leadership Identity



Sense-Making of Personal Narratives

PRESENT Narratives of Doing

Narratives of Knowing Experiences that led participants to an Engineering Leadership Focused Graduate Degree

PAST

Experiences in the METM Graduate Program that helped participants to develop the knowledge, skills, and behaviors of leading in the engineering field

FUTURE

Narratives of Becoming

Reflections from the participants ourney on emotional intelligence development and how it shaped their identity as a current or future leader in the engineering field

Examples of Narrative Exemplars

Undergraduate degree was not Engineering (Hispanic Male)

"I was a business major working with a bunch of engineers...I'm one of the only ones that's not, so I wanted a piece of paper showing that I have an engineering degree." El course=Self Awareness

(Asian Male) One described it this way, "I'm more attuned to the feelings that developed...I feel it rising up, catch it rising up...If it is a bad feeling, disconnect from it, step away a little bit and listen to others more...I often find a new perspective and end up having a

different feeling about the situation

Leadership as Power to a Collective Group (White Male)

One participant shared how their view of a leader shifted, "I always thought my original boss was a great leader, but now learning that leadership isn't power over others...it's more of a collective group effort."

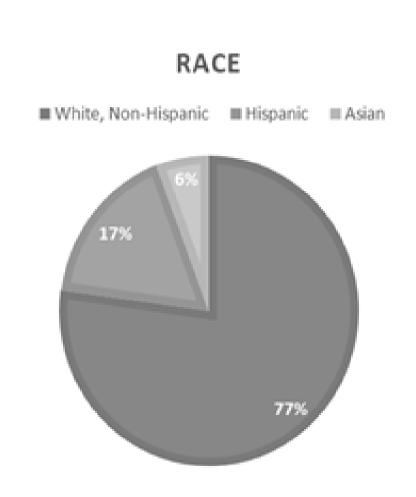
Perceptions of Themselves Based on Social Categories

Culture -

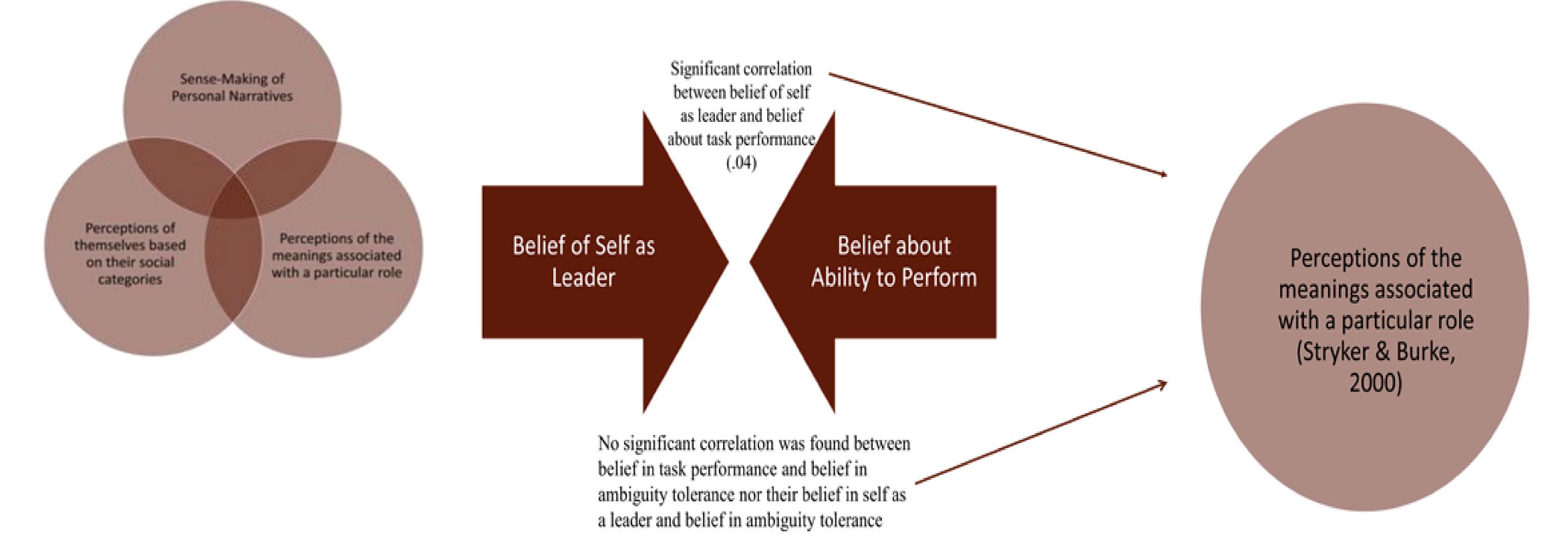
Gender -

•"I was raised in a culture where you have hierarchy. I was taught from early on to be in service to other people, and I find that it isn't contrary to a leadership role. You can be a servant leader, you can help people out, you can enable them. In a higher context culture, the team actually benefits, support other people so that we all benefit...this is how I place into leadership the view of service."

 "Society placed a part of that for me...being a female and I struggled early with learning disabilities. I was taught I would not do well in math or engineering, but the fact that I defied them, once in a degree in English Literature- because I was told I would not be able to read, and now as a female with an engineering degree. Acknowledging the engineer in me is, I think just more part of becoming myself and fitting what I do, who I am and being ok with that."



Analysis of Survey Results



Spreading the Insights and Furthering the Work

Places T3 Grant has Taken Us and Plans for Where it Might Lead in the Future

Completed the study and insights emerged around the ability to handle ambiguity not being correlated to their view of themselves as a leader and their ability to perform as a leader. Additional insights surfaced from narratives including the role of gender and culture in their leadership identity. Across the participants, they shared that an intentional focus on emotional intelligence, especially self-awareness through coursework, reflection and coaching.

Submitted Grant Proposals and Publications

ASEE conference paper and presentation on pedagogical approaches that support emotional intelligence and identity formation in Engineers

NSF Proposal on Coaching for Engineering Leadership Development

Futures Grant Proposal for developing a certificate for Education

Future Grant Proposals and Publications

NSF Proposal on Engineering Formation that focused on preparing engineers for the ambiguous contexts they will lead in, as well as a special focus on the role of cultural upbringing, gender, and other social categories in supporting sustainability in the profession. The hope for this grant would be to get industry partnerships that support the work of the grant.

Publication in a journal on the results of the study along with other conference presentations