



# The Impact of Design Thinking and Grit on Filipino Millennial Academic Supervisors' Transformational Leadership Attributes: A Structural Equation Model

Marwin E. Obmerga

University of Santo Tomas

## Abstract

The emergence of millennial teacher-leaders in organizations' strategic positions has promoted a culture of vitality among contemporary educational institutions. Albeit recent research depicts them as the catalyst towards a dynamic paradigm shift, other scholars far and wide have painted a contradicting portrait of their work ethic: professionals who either lack grit or possess creative ideation. Alongside their ascent to the echelons of leadership is their subscription to one of the dominant leadership modalities that are said to be unique in a given culture and profession: Transformational Leadership. This quantitative study investigates the impacts of design thinking and grit behaviors on the derived factor dimensions of transformational leadership. It determined what is sensitive to the Filipino cultural configuration, millennial generation sensibilities, and professional distinction of educators. 240 academic supervisors from various public and private schools, colleges, and universities completed the robotfoto, Transformational Leadership Behavior Inventory, Creative Synthesis Inventory, and Short Grit Scale. Data gathered were analyzed using Exploratory Factor Analysis, Structural Equation Modelling, and Correlation Analysis. The EFA of Transformational Leadership derived two-factor dimensions, namely: Critical- and Reflexive-Synergism. Only design thinking positively impacts the evolved transformational leadership attributes ( $\beta = 0.84$ ). The variables design thinking and grit have a weak correlation. The SEM was able to yield an emerging model with an acceptable fit (Cmin/df = 1.21, CFI = 0.99, RMSEA = 0.03). The findings could serve as a basis for policy formulation and the future direction for methodological pluralism on the phenomenon.

## Keywords

Millennials, Academic Supervisors, Design Thinking, Grit, Transformational Leadership

---

### Corresponding Author:

Marwin E. Obmerga, The Graduate School, University of Santo Tomas, España Boulevard, Manila, Philippines 1015. Email: marwin.obmerga.gs@ust.edu.ph

### Recommended Citation:

Obmerga, M. (2020). The Impact of Design Thinking and Grit on Filipino Millennial Academic Supervisors' Transformational Leadership Attributes: A Structural Equation Model. *Asian Journal on Perspectives in Education*, 1(1), 24-51.

## Context of Problematizing

The rapid yet steady rise of millennials in strategic positions of organizations signaled positive inertia in the dynamic landscape of academic institutions (Huyler, Ding, Norelus, & Pierre, 2015; Weber, 2018). To date, these professionals were able to occupy the middle-tier of the organizational hierarchies in the academic sector (Alonso-Almeida & Llach, 2018). Tagged as the uprising generation, scholars far and wide have fielded in a forecast that in the year 2025, these young professionals will staff a majority of the critical positions in the upper echelons of management (Holmberg-Wright, Hribar, & Tsegai, 2017).

Millennials tend to bring with them a unique schema of organizational citizenship behaviors (Williams, 2019), work ethic (Alexander, 2012), and generational temperaments (Anderson, Baur, Griffith, & Buckley, 2016; Gabriel, Alcantara, & Alvarez, 2020). They can also aid their respective organizations in enacting paradigm shifts in the age of Volatility, Uncertainty, Contingency, and Ambiguity (VUCA) (Millar, Groth, & Mahon, 2018). Studies have shown that these millennials can be high-flying talents (Henriksen, Richardson, & Mehta, 2017) as long as they receive anchorage on appropriate avenues and mentoring for teacher development and leadership succession (Brown, 2018; Dunne, 2018). They are portrayed as the much needed fresh legs to give the due vibrancy that most organization lacks (Gouldner, 2016; Alegado, 2018).

A point of divergence, however, exists in the literature. Several researchers argue that the so-called new wave of professionals does not possess the headspace to focus on long-term tasks (Çetin & Halisdemir, 2019). Instead, scholars depict them as confusing individuals with a growth mindset but with questionable grit or the lack thereof (Pyöriä, Ojala, Saari, & Järvinen, 2017).

Grit is a complex, job-specific antecedent of passion and perseverance for long-term goals and aspirations (Duckworth & Quinn, 2009; Stolarski, Zajenkowski, & Misenberg, 2013). In education, where several projects, programs, and change initiatives necessitate, incorporating the common elements of grit such as hard work and dedicated service to materialize such endeavors is imperative.

Abbasi & Belhadjali (2016) observed that the lack of grit exhibited by millennial professionals could be due to the suppressive nature of their professional preparation and development. Their predecessors treated them as passive recipients of practices during their induction and acclimatization. Coupled with the non-collaborative culture that plagued the organizations in the past, their experimental and creative tendencies have caused conflicts and lasting misunderstandings with their forerunners (Gray & Williams, 2011). Millennials are cohorts lost in the transition and unable to seize the opportunities and lessons arising from it due to their non-linear, progressive, unorthodox, and erratic nature (Hobbs & Tuzel, 2015). Moreover, they are akin as entities with limited attention span, commitment issues, 'what is in it for me?' mindset, and questionable quality of work.

Millennials in education, however, have a positive impact. They are the catalyst of vitality in their respective organizations (Weber, 2018) and perform creative and inventive acts in the age of the digital divide (Greenhow, Walker, & Kim, 2010), industrial revolution 4.0 (Shahroom & Hussin, 2018), and ASEAN integration (Ang, 2017). Moreover, they assume a critical role in maintaining the organization's equilibrium by serving as implementors of

evidence-based practices (Aguirre & Faller, 2018). Finally, they are professionals who know the trends and fads of the academic enterprise and society (Kotz, 2016), thus ensuring the quantum leap on relevant undertakings.

Presently, one of the buzzwords concerning breakthroughs in education is the concept of design thinking (Noel & Liub, 2017). Design thinking is typified in the literature as applying out-of-the-box tendencies towards a task (Dosi, Rosati, & Vignoli, 2018). Through the years, its constructs also involved the fascination for ambiguity and risk-taking (Carlgren, Elmquist, & Rauth, 2016), problem-solving (Brenner & Uebernickel, 2016), critical questioning (Drews, 2009), and creative confidence (Lockwood, 2009). Millennials also propagate design thinking behaviors to ascertain the praxis of reconstruction and re-appropriation of the longstanding policies. Thus, they are the trendsetters of 21st-century organizational development (Howard, Senova, & Melles, 2015).

Cognizant of the emergence of these millennial teachers-leaders and the behavioral stereotypes that come with them, they also tend to subscribe to the best practices and modalities embodied in the literature to scaffold their professional undertakings. Thus, one of the most dominant leadership styles, advocated in a global magnitude, is transformational leadership (Thompson, 2012). Furthermore, many researchers of teacher education asserted the value of transformational leadership in creating an excellent work culture (Litz & Scott, 2016), efficient workforce and personnel microdynamics (Youngs, 2017), fluid translation of a vision into a reality (Cetin & Kinik, 2015), future-proofing on disruptions (Khany & Ghoreishi, 2014), and educational reforms (Elrehail, Emeagwali, Alsaad, & Alzghoul, 2018).

Such research areas were already intensively examined from various educational personalities to wit: instructors (Ninković & Knežević Florić, 2016), principals (Yang, 2013; Arokiasamy, Abdullah, A Shaari, & Ismail, 2016), deans (Al-Mansoori & Koç, 2018), and curriculum engineers (Okoth, 2018), among others. However, quantitative studies on transformational leadership concerning middle-level managers such as supervisors and coordinators still appear to be a superficial activity and acutely underrepresented despite several researchers' call for representation and methodological pluralism on the subject (Gkolia, Koustelios, & Belias, 2015; Andersen, Bjørnholt, Bro, & Holm-Petersen, 2017).

Meanwhile, Jaiswal & Dhar (2015) noted that transformational leadership capitalizes on novel problem-solving and radical decision-making processes to enact metamorphosis among organizations. They argued that it would require a specific set of creative ideation and a state of resoluteness to sustain any prospective adjustments. Such interplay of design thinking and grit on a leadership modality dwells naturally in the western mindset regardless of generation due to their nature as an individualistic society (Lewis, Boston, & Peterson, 2017). Prior researchers have extensively extrapolated the practical gains and significant implications that academic leaders could potentially reap should they subscribe to the tenets of transformational leadership. Several scholars also argue that continuous development and fine-tuning of conceptual underpinnings of transformational leadership must be continuously advocated (Bass & Riggio, 2006; Berendt, Christofi, Kasibhatla, Malindretos, & Maruffi, 2012; Wang, 2018).

Furthermore, transformative leadership, recognized as multifaceted, is unique in every culture and profession (House, 1995; Spreitzer, Pertulla, & Xin, 2005). Therefore, it is vital to understanding the enactment of

transformational leadership by the uprising millennial leaders in the educational domain to understand the breadth and depth of its translation and execution in a given cultural reality. Many studies have shown that cultural values can influence leadership concepts, styles, and practices (Gerstner & Day, 1994; House & Aditya, 1997; Hofstede, 2001 as cited by Gökhan-Bitmiş & Ergeneli, 2011). Cultures with different characteristics such as language, religious mores, and societal beliefs are generally presumed to exhibit a distinct leadership approach (Ergeneli, Gohar, & Temirbekova, 2007). Therefore, it is also imperative to view transformative leadership using a lens sensitive to the Filipino cultural configuration and mindful of the uniqueness of middle-range executives from the field of education.

The arguments presented above, coupled with the dichotomous yet conflicting delineation of the millennials as professionals, who either fail to exhibit grit or possess design thinking capabilities, are classified as a fertile ground for an in-depth chronicling and investigation. This observation is most evident since the concepts that proliferate and surrounds the blind spot identified in the literature were a by-product of knowledge propagation in industrialized nations. Therefore, it is crucial to understand how this schema fits and reverberates in the psyche of the millennial teachers-leaders. Furthermore, these millennial teachers-leaders came from a collectivistic culture in the far east and faced the daunting task of continuing their legacy organizations.

Notably, a paucity of empirical studies focuses on the impact of generalized behaviors of millennials, for example, lack of grit, inclination towards design thinking, and transformational Leadership practices in a developing country like the Philippines and a service-oriented profession like education. Hence, this quantitative study purported to answer the following research questions: (1) What are the factor dimension(s) that best typify the Filipino millennial academic supervisor-sensitive transformational leadership attributes?; (2) What is the impact of design thinking-related behaviors on the derived Filipino millennial academic supervisors' transformational leadership attributes?; (3) What is the impact of grit-related behaviors on the derived Filipino millennial academic supervisors' transformational leadership attributes?; (4) Is there a correlation between the design thinking- and grit-related behaviors of Filipino millennial academic supervisors?

Our teachers have to learn how to be the 21st-century facilitators of learning. In other words, for the school to sustain the delivery of education, teachers should look into the demands and future of society. The teachers have to base their style on the learning styles of students. The main goal of teachers is to ensure that they have transpired and transcended the expected learning outcomes among the students so that they will become adept for the next decade. The learning experiences, inside and outside of the classrooms, inform the future careers of students. In the Philippine educational landscape, K to 12 education optimizes the efficiency and competency of Filipino graduates (Ellar, 2015).

Since the teachers are the drivers of an educational system and direct implementers of the curriculum in the classroom, they direct and guide the students; they also play a pivotal role in establishing their interest in learning the subject. As direct implementers of the curriculum in the classroom, they engage students in different learning experiences to develop their understanding. Teachers have to deal with the needs and issues of the students and demands of time if they reflect on their daily teaching-learning activities. Teachers find ways to prepare appropriate pedagogical approaches suitable to students' diverse needs and motivation for learning; teachers

should reflect on this.

However, several factors affect or hinder the education of Filipinos, thus, preventing them from continuing or completing basic education. We cannot deny that our learners experience challenges in pursuing their education. In other words, there are elements in our educational system that affect the success of the delivery of instruction and the achievement of the mission and vision in Philippine Education. These elements are either opportunities or barriers to education in the country. These also dictate the next generation of professionals, skilled workers, leaders, and citizens.

## **Theoretical Framework**

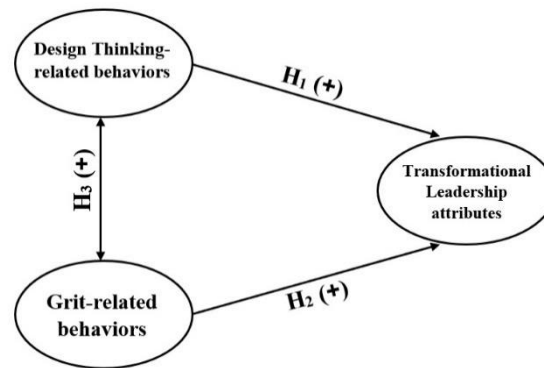
The Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980) served as the study's conceptual springboard. It holds the critical assumption that individuals can exert total and pre-emptive self-control over their actions (Ajzen, 1991). Considering the unpredictable nature of the millennials, it is but prudent to view their motives, deductions, operations, and inactions in light of various factors that could rationalize their behavioral manifestations. The TRA has grounded educational researches (de Castro & de Guzman, 2014). It indicates that an individual's behavioral intent is relative to his attitude towards certain subjective norms and manifested behaviors. To further elucidate, under its theoretical precepts, behavioral intent relates to the person's strength of intention to perform a specific behavior; whereas, attitude comprises the individual's belief about the effects of executing a behavior. Subjective norm is the individual and collective conglomeration of perceived expectations affecting the intention to comply (Fishbein & Ajzen, 1975, as cited by de Castro & de Guzman, 2014).

Transformational leadership follows an ideal leadership style that requires a set of behaviors and mindsets. It is a neo-charismatic modality focusing on creating a compelling vision, going the extra mile to attain groundbreaking results, and capitalizing on team synergy to bring out the best in every organizational member (Strange & Mumford, 2006).

To smoothly apply transformational leadership, it has to meet an indispensable condition. Transformational leadership lies in the behavioral manifestation and mindset of the leader implementing it. If the leader possesses a creative mind and exhibits perseverance towards attaining terminal goals, transformational leadership behaviors are most likely to be actualized and flourish. Further, subjective norms (i.e., Filipino cultural configuration, millennial generational temperament, and professional trait of educators) will also come into play since the literature is saying that it is contingent on the culture and profession where it is taking place. However, it should be noted that transformational leadership is a universal phenomenon. (Bass, 1985; Northouse, 2006)

## **The Problem and Research Hypotheses**

Hypothesized Model accounts for the uncharted aspects of transformational leadership that is sensitive to the Filipino cultural configuration and millennial generation temperament, as well as exclusive to the field of education, the impact of design thinking and grit on the derived factor dimensions of transformational leadership, and the correlation between design thinking and grit.



### *The Causal Relationship between Design Thinking and Transformational Leadership attributes*

The incessant pace changes in the organizational landscape prompted modern-day educational leaders to instill creativity and innovation in their workplaces (Termournejad & Elhghaei, 2017). Moreover, with the emergence of millennials, organizations are now staffed by critical minds who are always seeking out new platforms to test their alternative ideas (Moon, 2014). Initially, as a concept in the architecture and business sectors, the construct of design thinking found its way to the field of education and was applied extensively to promote a culture of innovation across the educational continuum (Lapeniene & Dumciene, 2014; Sipe, 2019).

As early as the turn of the century, Eisenbach, Watson, & Pillai (1999) posited that leadership assumes an integral role in improving organizational citizens' creativity. Over the years, research has shown that creativity is the by-product of transformational leadership and directly improving its existence (O'Banion, Weidner, & Wilson, 2011; Elsbach & Stigliani, 2018). Studies, like one conducted by Brahma (2019), contended that creative self-efficacy directly impacts the educators' leadership practices in higher education.

Meanwhile, Liedtka, Salzman, & Azer (2017) noted that risks and uncertainties in the social sector like education could be potentially countered by strong transformational leadership and design thinking tendencies of its employees. In education, creativity-inspired transformational leadership was seen as a channel to improve teachers' pedagogy at the basic education level (Kallapadee, Tesaputa, & Somprach, 2017). While commonly applied to the teaching-learning process, it is also interesting to note its impact on teacher leadership. Zhang, Zheng, & Darko (2018) pointed out that transformational leadership is among the few leadership styles existing that could legitimately promote the innovation climate in industries. Therefore, it is interesting to know how the creative friction experienced by the millennials will come into play in the new domain of design thinking and transformational leadership in the Philippine educational context. The preceding discussions lead to the following hypothesis:

**Hypothesis 1:** The Filipino millennial academic supervisors who exhibit a higher degree of design thinking behaviors positively impact their transformational leadership attributes.

---

*The Causal Relationship between Grit and Transformational Leadership attributes*

At the heart of the educative process, teachers are the prime movers of the educational landscape (Fabelico & Afalla, 2020). Argon & Kaya (2018) expounded that positive polarity of traits such as grit, tenacity, resilience, and perseverance are infused to the academics as early as their pre-service training due to the high incidence of burnout and tensions experienced during the in-service phase of their careers. These experiences carried over in the leadership practices of the teacher-leaders. Thus, the advent of millennial teacher-leaders brought things into a whole new level of discourse due to their stereotype as professionals branded as the culprit of value dilution and a culture of indifference among organizations (Everrett, 2016). Miller & Mills (2019) associated the lack of perseverance of millennial educators with their sheltered nature.

On the contrary, even if millennials are portrayed in such a way in organizational studies, other perspectives claimed that the nature of the teaching profession is classified as a natural breeding ground for professionals with passion and determination (Mart, 2013). Coupled with the exercise of transformational leadership, Eyal & Roth (2010) stated that it could strengthen teachers' self-determination. They further highlighted that the teachers' immense and constant pressures eventually affected their well-being; thus, it is imperative to cancel out the detrimental effects of the lack of sustained interest by utilizing people-oriented and power-sharing participative leadership styles.

Moreover, Castillo, Alvarez, Estevan, Queralt, & Molina-Garcia (2017) explained that as the passion for the teaching profession and transformational leadership reaches a point of convergence, it creates an environment where the teachers are determined to survive the growing demands of the field of education. Ninković & Knežević Florić (2018) also positioned transformational school leadership and individual teacher self-efficacy as the predictors of collective teacher efficacy. They further elaborated that when highly efficacious and goal-oriented personnel collaborated with transformational leaders, it can lead the organization to great heights. Such western contentions have also been traced from the Asian standpoint, as evidenced in the study of Andriani, Kesumawati, & Krihaveawan (2018). They mentioned that teacher motivation and perseverance are essential elements of transformational leadership, affecting the school reforms. Therefore, it is interesting to determine how the Filipino millennials' passion for their craft and interest in long-term goals affect the transformational leadership attributes that reside in them. The preceding discussions lead to the following hypothesis:

**Hypothesis 2:** The Filipino millennial academic supervisors who embody grit-related behaviors directly cause their transformational leadership attributes.

*The Correlation between Design Thinking and Grit*

The inherent affirmative dispositions and responsiveness to organizational change are the driving forces that cultivate creativity (Gok & Erdogan, 2011). Grit is a generic but encompassing term that spurs a great degree of perseverance and passion for long-term goals in the face of challenges (Fabelico & Afalla, 2020). Perkins-Gough (2013) underscored that grit supersedes talent due to the person's ability to adapt and endure in different unfavorable situations. Considering the connection of grit and creativity, Ozkal (2014) hinted that teachers' creativity, when fostered and enriched

thoroughly, could lead to a self-efficacious belief that they, too, can create something novel to spark new ways of doing things in the organization. Davies (2000) established the link between confidence and design inclination in the creative teaching process for his part. Luka (2014) pointed out that design thinking is beyond creating innovative artifacts; it must also be examined as a reflexive practice that capitalizes on the human-centeredness of the one embracing its precepts.

Further, Baeck & Gremett (2012) also elucidated that design thinking is a process and a mindset. They highlighted that design thinkers must possess openness, perseverance, and passion in actualizing the "what is" to the "what might be" in the future. In effect, the willpower supplanted by grit propels the design thinking-related propensity to create an eidetic and lasting change. Therefore, it is interesting to uncover how the two commonly related variables that should go hand in hand manifest among the Filipino millennials in the study, often portrayed in the literature as professionals who lack grit but have an inclination for creativity. The previous discussions lead to the following hypothesis:

**Hypothesis 3:** The Filipino millennial academic supervisors' grit-related behaviors are strongly correlated to their design thinking behaviors.

## Method

### *Research Design and Objectives*

The study employed the use of interconnected and advanced quantitative approaches framed as descriptive-analysis design (a) to derive the factor dimensions of transformational leadership attributes which are sensitive to the Filipino cultural configuration, the millennial generational sensibilities, and the professional peculiarity of the academic supervisors through the use of Exploratory Factor Analysis (EFA); descriptive-evaluative design (b) to examine the impact of the variables: design thinking and grit on the transformational leadership attributes of the Filipino millennial academic supervisors through Structural Equation Modelling (SEM); and descriptive-correlational design (c) to determine the correlation between the variables: design thinking and grit, as part of model determination in SEM.

### *Subjects and Study Site*

The respondents were selected using purposive sampling technique with the following inclusion criterion, wit: (a) natural-born Filipino citizen, (b) a millennial, (c) presently holding a formal supervisory capacity in the organization, (d) holding the capacity of an academic supervisor and coordinator for at least five (5) years, and (e) willing to participate in the study. The subjects hailed from the National Capital Region (NCR) and the Region IVA: CALABARZON. The loci are the intersection of educational, cultural, political, and economic strategic points in the Philippines. Moreover, these regions are also a melting pot of ethnically and professionally diverse citizens. Hence, these study sites provided the study with a treasure trove of perspectives.

### *Instrumentation*

The researcher utilized four-tier corpora of data derived from apriori constructs in the literature. The first part was solely dedicated to chronicle the respondents' profile using a robotfoto (Kelchtermans & Ballet, 2002). This Dutch term means a cartographic sketch of the study subjects. The robotfoto, made up of a checkbox with spaces, was provided to be filled in with specific needed information. This part of the questionnaire was necessary to indicate the respondents' baseline characteristics such as age, gender, civil status, highest educational attainment, nature of employment, number of years serving as a supervisor, et cetera. Moreover, the study has utilized standardized questionnaires with excellent psychometric properties and extensive validation and cross-validation in the survey literature. Therefore, the second part was devoted to the Transformational Leadership Behavior Inventory (TLI)-Self-Report form developed by Podsakoff, McKenzie, Moorman, & Fetter (1990;  $\alpha = 0.97$ ), the Creative Synthesis Inventory (CSI) developed by Badding (2017;  $\alpha = 0.86$ ), and the Short Grit Scale (Grit-S) developed by Duckworth & Quinn (2009;  $\alpha = 0.79$ ).

### *Data Gathering Procedure*

The author initially pilot-tested the four-tier instrument to the nonparticipating supervisors ( $n = 9$ ) from various academic units in an educational institution. The goal is to determine the understandability of the material and the time allotted to complete the instrument. He then requested an audience with the respective school directors, principals, and deans in every locus of the study to submit the letter, questionnaires, and informed consent forms and formally sought their permission to conduct the study. Upon the approval of the school executives and their respective Ethics Review Committees (ERC), the respondents received the letter bearing the research objectives and its contribution to educational leadership. After securing the informed consent forms, the formal distribution of the four-tier instrument ensued. Each respondent had sufficient time to accomplish the questionnaire to elicit carefully thought-out responses and systematic retrieval of questionnaires. Then, the questionnaires were checked for completeness, and of the 220 questionnaires fielded, 92.73% ( $n = 204$ ) were deemed useable.

### *Data Analysis*

The study utilized the IBM Statistical Package for the Social Sciences (SPSS) version 24 to facilitate processing the pertinent descriptive statistics used in constructing the respondents' profile and determining the reliability coefficient of the adopted questionnaires. Additionally, the study used the Exploratory Factor Analysis (EFA) to derive the underlying factor dimensions of transformational leadership style and the teacher education profession.

Exploratory Factor Analysis (EFA) is a data reduction statistical method to cluster a set of variables into manageable constructs typically used in refining a scale and on theory-building (Reio & Shuck, 2014). Further, Structural Equation Modelling (SEM) was carried out through the IBM Analysis of Moment Structures (AMOS) version 24 to determine the exogenous variables' impacts on the endogenous variable and examine the relationship among the predictor variables present in the study. Hox & Bechger (2007, as cited by de Castro & de Guzman, 2014) posited that the SEM is a sophisticated multivariate modeling technique. SEM can merge complicated path models bearing latent variables while considering the potential effect of non-positive definite values and confounding variables.

### *Ethical Considerations*

In adopting the instruments, the researcher considered nonproprietary instruments, which allowed for non-commercial distribution and educational research purposes covered by the fair use policy. Moreover, the Ethics Review Committee (ERC) gave clearance for every locus of the study. All participants received written and verbal information accentuating the study's purposes, procedures, recruitment, benefits, and potential risks. In addition, they received information and assurance that they could withdraw from the study at any given time. The information shared in this study remained private and confidential.

## **Results and Discussion**

### *Profile of the Respondents*

Respondents of the study consisted of 204 Filipino millennial academic supervisors from various schools, colleges, and universities in the National Capital Region (NCR) (76.47%) and Region 4A: CALABARZON (26.53). The majority of the respondents were from the private secondary sector (30.39%) and the private tertiary sector (21.08%). Millennials aged 24-28 years old (60.78%) and those from the female gender (54.90%) dominated the respondents. 109 (53.43%) of the study subjects reported that they are single, and plenty of respondents mentioned that they belong to Christian-related denominations such as Iglesia ni Cristo (27.94%) and Roman Catholicism (25.98%). Interestingly, an equal number of respondents reported having a baccalaureate degree (27.45%) and a master's degree (27.45%). Further, cognizant of the inclusion criterion of the study, the respondents were all holding academic supervisors' capacity for five years and above.

**TABLE 1: Demographic Profile of the Respondents (n = 204)**

| <b>PROFILE</b>                        | <b>n</b> | <b>%</b> |
|---------------------------------------|----------|----------|
| <b>Age</b>                            |          |          |
| 24-28                                 | 124      | 60.78    |
| 29-33                                 | 80       | 39.22    |
| <b>Gender</b>                         |          |          |
| Male                                  | 92       | 45.10    |
| Female                                | 112      | 54.90    |
| <b>Civil Status</b>                   |          |          |
| Single                                | 109      | 53.43    |
| Married                               | 83       | 40.69    |
| Separated                             | 5        | 2.45     |
| Widow(er)                             | 7        | 3.43     |
| <b>Religion</b>                       |          |          |
| Roman Catholic                        | 53       | 25.98    |
| Protestant                            | 44       | 21.57    |
| Iglesia ni Cristo                     | 57       | 27.94    |
| Islam                                 | 45       | 22.06    |
| Others                                | 5        | 2.45     |
| <b>Region of Residence</b>            |          |          |
| National Capital Region               | 156      | 76.47    |
| Region 4A: CALABARZON                 | 48       | 23.53    |
| <b>Highest Educational Attainment</b> |          |          |
| Bachelor's Degree                     | 56       | 27.45    |
| Master's Degree                       | 56       | 27.45    |
| Master's Degree Candidate             | 64       | 31.37    |
| Doctorate Degree Candidate            | 15       | 7.35     |
| Doctorate Degree Candidate            | 13       | 6.37     |
| <b>Nature of Employment</b>           |          |          |
| Private Primary                       | 12       | 5.88     |

|  |     |       |
|--|-----|-------|
| Private Secondary                                  | 62  | 30.39 |
| Private Tertiary                                   | 43  | 21.08 |
| Public Primary                                     | 38  | 18.63 |
| Public Secondary                                   | 22  | 10.78 |
| Public Tertiary                                    | 27  | 13.24 |
| <b>No. of Years Working in the Institution</b>     |     |       |
| 5-9 Years  | 191 | 93.63 |
| 10-14 Years  | 13  | 6.37  |
| <b>No. of Years Serving as Academic Supervisor</b> |     |       |
| 5-7 Years  | 186 | 91.18 |
| 8-10 Years   | 18  | 8.82  |

### *Exploratory Factor Analysis of Filipino millennial academic supervisor-sensitive Transformational Leadership Attributes*

The Exploratory Factor Analysis (EFA) gave a fresh and alternative look into transformative leadership, which is the brainchild of the Western school of thought. Specific decision rules guided the processing and interpretation of the EFA (Hayton, Allen, & Scarpello, 2004); these rules were extensively tackled in the paper's succeeding portions. First, factor analysis using the principal component method with varimax rotation was applied to the 23 transformational leadership-related statements to identify the underlying dimensions of leadership modality in the context of Filipino millennial academic supervisors (See Table 2). Before factor analysis, the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity were applied to test the data's fitness. The KMO was 95% adequate, and Bartlett's Test of Sphericity was 5580.87, with a significance lower than 0.001. Thus, both statistical data supported the use of factor analysis. Next, the reliability coefficient (Cronbach's alpha) was computed for each factor dimension to determine the items' internal consistency in each scale. Decision rules dictate that all factors with 60% and above reliability coefficients were considered acceptable in the study. All factors indicated relatively high coefficients ranging from 96-97%. The final reduction in the number of items was scrutinized by discarding all the factor loadings and communalities less than 0.40. Decision rules resulted in retaining all items in the survey questionnaire measuring two dimensions. Both the factors yielded an eigenvalue of above 1, and the two dimensions were labeled in the order of increasing explained variance (See the Factor Loading column).

Factor 1, labeled as Critical Synergism, typifies Filipino millennial academic supervisors' discerning attributes to enhance the organization's programs, projects, and change initiatives. This factor also involves being meticulous while striving to forge an atmosphere of dynamism, collaboration, and solidarity. The scholarship of discovery on transformational leadership has well elucidated that vision is the point of departure of its execution (Bass, 1985).

**TABLE 2:** Exploratory Factor Analysis Results

| <b>Filipino Millennial Academic Supervisors' Transformational Leadership Factors and Items</b> | <b>Factor Loading</b> | <b>Eigenvalue</b> | <b>Variance (%)</b> | <b>Reliability Coefficient</b> |
|--|-----------------------|-------------------|---------------------|--------------------------------|
| <b>CRITICAL-SYNERGISM ATTRIBUTES</b>   |                       | 9.74              | 44.40               | 0.97                           |
| I tell the group to work together for the same goal  | 0.845                 |                   |                     |                                |
| I have ideas on how to challenge them to reexamine their basic assumptions about our work      | 0.833                 |                   |                     |                                |
| I show others that I expect a lot from them  | 0.823                 |                   |                     |                                |
| I behave in manner thoughtful to their personal needs  | 0.820                 |                   |                     |                                |
| I encourage them to be "team players"  | 0.814                 |                   |                     |                                |
| I treat them with consideration of the organizational needs                                    | 0.812                 |                   |                     |                                |
| I show respect to their personal beliefs   | 0.792                 |                   |                     |                                |
| Whenever I act, I consider their feelings  | 0.772                 |                   |                     |                                |
| I stimulate them to rethink the way they do things   | 0.764                 |                   |                     |                                |
| I develop a team attitude and spirit among colleagues  | 0.761                 |                   |                     |                                |
| I insist to others to do only the best performance   | 0.753                 |                   |                     |                                |
| I lead by example  | 0.710                 |                   |                     |                                |
| I foster collaboration among work groups   | 0.709                 |                   |                     |                                |
| I will not settle for second best  | 0.704                 |                   |                     |                                |
| I challenge them to think about old problems in new ways                                       | 0.698                 |                   |                     |                                |
| I ask them questions which prompt them to think  | 0.674                 |                   |                     |                                |
| <b>REFLEXIVE-SYNERGISM ATTRIBUTES</b>  |                       | 4.91              | 31.61               | 0.96                           |
| I inspire others with my plans of the future   | 0.882                 |                   |                     |                                |
| I am always seeking new opportunities for the organization                                     | 0.864                 |                   |                     |                                |
| I am able to get others become committed to my vision  | 0.858                 |                   |                     |                                |
| I lead by "doing" rather than simply by "telling"  | 0.853                 |                   |                     |                                |
| I paint an interesting picture of the future for our group                                     | 0.846                 |                   |                     |                                |
| I have a clear understanding to where we are going   | 0.790                 |                   |                     |                                |
| I provide a good model for them to follow  | 0.764                 |                   |                     |                                |
| <b>Total Explained Variance</b>  |                       |                   | 76.01               |                                |

As the academic supervisors become immersed in the translation of vision into reality, they tend to be discerning with their plans, actions, and reactions that could potentially affect the trajectory of the organization and the organizational climate that their subordinates could experience. In effect, they tend to be critical and mindful of their courses of action. Proper educational planning is an avenue where vision could be effectively conveyed (Alexander, 2015). Neigher (2003) rationalized that this is due to the vastly changing landscapes that could have a domino effect on other phases of leadership and management. Strategic planning as to what version of vision to portray while

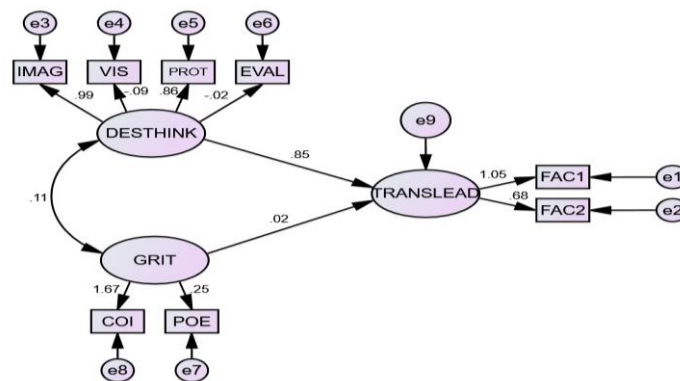
keeping the fold stimulated and engaged combats the unexpected and drastic changes among organizations (Dibrell, Craig, & Neubaum, 2014). Educators are conditioned early on in their careers to be good planners due to the various instances that warrant the creation and evaluation of learning objectives (Baldwin & Rosier, 2016). This feat is carried over as they assume leadership roles.

Moreover, albeit millennials are professionals who normalize bumpy moments (Romano, 2006) and constructive conflict (Bickmore & Parker, 2014), they are still bound to their professional and cultural backdrop. Landa-Jocano (2006) averred that embedded in the culture of Filipinos, regardless of professions, is the concept of Halaga. He portrayed it as the evaluative core of the Filipino culture. Thus, it is not surprising that Filipino leaders will prioritize stepping back to assess any repercussion of their move, significantly if it affects the sum of the parts and the whole.

Factor 2, indicated as reflexive synergism, pertains to Filipino millennial academic supervisors' introspecting attributes geared towards the organizational aspects that warrant contemplation to ride the waves of change. This factor involves the conscious effort in converting inspirational rhetoric into a concrete reality through exemplary attitude, proactive disposition, and role-modeling. In the literature, transformational leadership naturally capitalizes on the introspective tendencies of the leader to set the direction of the organization and its affiliates (Bass, 1985). In the Philippine setting, Landa-Jocano (2006) stressed that deeply etched within the Filipino mind are layers of contemplation that compels them to be modest in their thoughts, feelings, and actions. Thus, even if they sketched millennials as self-centered, risk-takers, and radical, their culture can delimit if not negate any stereotypical casting thrown at them. Landa-Jocano (2006) further imparted the notion of *asal* as the expressive core of the Filipino culture. For him, it lies deep in the subconscious of Filipinos. Landa-Jocano (2008) also explicated that among the work values of Filipinos, they tend to ascribe to relational traits such as *marunong makisama* (able to get along with others), *marunong makitungo* (flexible), and *marunong makiramay* (empathetic). In a way, this *Bayanihan* spirit and prosocial behaviors of Filipino leaders and workers mirror a transformational leader's natural traits. Hence, it is never out of the league and out of reach in a collectivistic society like the Philippines. The values and standards expected of a professional belonging to the teaching vocation are often esteemed and placed on the pedestal. Hence, their acts should reflect whatever they have in mind (Jiang & Cheng, 2016).

### *SEM of the Hypothesized Model*

The study tested the Hypothesized Model to show the impact of design thinking and grit-related behaviors on the Filipino millennial academic supervisor-sensitive transformational leadership attributes and determine the correlation between the independent variables. The processing of the dataset utilizing the IBM AMOS version 24 generated interesting results that warrant an in-depth analysis and resonance with the codified body of knowledge.



**FIGURE 2:** The SEM of the Hypothesized Model

All regression weights were at  $\beta = 1.000$  as the point of comparison used on the Path Diagram in connection to the processing of Maximum Likelihood Estimates. The evolved factor dimensions lifted from the Exploratory Factor Analysis (EFA) part of the study which now makes up the dependent variable: transformational leadership attributes both yielded favorable results, Factor 1 (Critical Synergism) with  $\beta = 1.05$ ;  $p$ -value = 0.00) and Factor 2 (Reflexive Synergism) with  $\beta = 0.67$ ;  $p$ -value = 0.00, respectively. The sub-scale dimensions of design thinking, the results revealed that only the dimensions of imagining ( $\beta = 0.98$ ;  $p$ -value = 0.00) and prototyping are ( $\beta = 0.86$ ;  $p$ -value = 0.00) are contributory to the design thinking facets associated to the collective dimensions of transformational leadership. The other two dimensions of design thinking produced a negative value: visualizing ( $\beta = -0.08$ ;  $p$ -value = 0.21) and evaluating ( $\beta = -0.01$ ;  $p$ -value = 0.81). Meanwhile, in terms of the collective dimensions of design thinking tested as part of the Hypothesized Model, the processing revealed that the independent variable design thinking positively impacts transformational leadership attributes ( $\beta = 0.84$ ;  $p$ -value = 0.00). Hence, there is sufficient evidence to accept Hypothesis 1. From these deductions, it appears that Filipino millennial academic supervisors who exhibit a higher degree of design thinking behaviors positively impact their transformational leadership attributes.

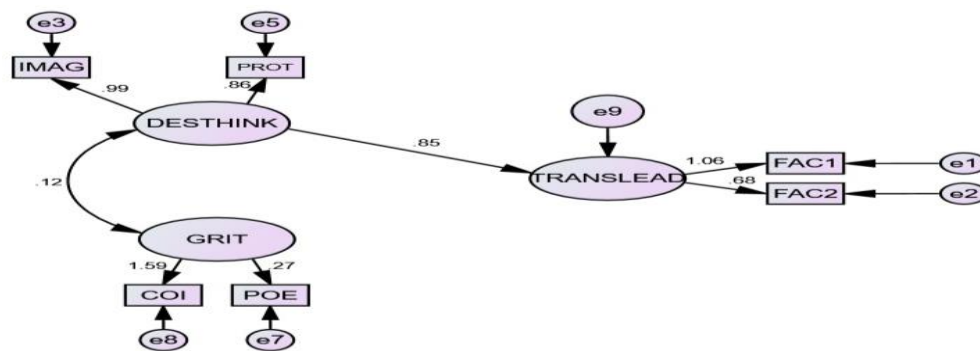
Interestingly, in the results of the first hypothesis, only the construct of imagining and prototyping contributes to the collective design thinking dimension that could impact transformational leadership. Millennials are often experimentative and innovative (Behrstock & Matthew, 2009). Hence, the sub-scale of prototyping associates to their relentless pursuit and diligence in committing trial-and-error mechanisms to offer new solutions to the persisting problems of academic organizations (Dunne, 2018). Upon scrutiny, these are qualities of a transformational leader and design thinker (Podsakoff et al., 1990; Badding 2017). Furthermore, imagining, being one of the essential elements of envisioning an exciting road map for the organization, thrives in the competitive academic environment if transparent and integrated with technology (Akyel, KorkusuzPolat, & Arslankaya, 2012). Thus, while millennials appear to be turning against the tides when things go unfavorable, they may be just scouting for new ground rules to resolve an issue by being imaginative. Lopes & D'Ambrosio (2016) underscored the concept of creative insubordination. It is a conscious effort that prevents organizational entropy when concerned organizational citizens cease subscribing to the norm as they tweak policies to benefit the organization's constituents.

Moreover, the sub-scale dimensions of grit showed that the consistency of interest ( $\beta = 1.67$ ;  $p$ -value = 0.00) and perseverance of effort ( $\beta = 0.25$ ;  $p$ -value = 0.00) contribute to the overall grit dimension, associated with the collective dimensions of transformational leadership. Albeit such is the case, the independent variable grit does not impact the transformational leadership attributes as evidenced by the  $\beta = 0.15$ ;  $p$ -value = 0.38. Hence, there is sufficient evidence to reject Hypothesis 2. From these deductions, it can be concluded that the Filipino millennial academic supervisors who embody grit behaviors do not directly cause their transformational leadership attributes. Surprisingly the collective dimension of grit does not impact the transformational leadership attributes in the second hypothesis, even though the concepts of consistency of interest and perseverance of effort seem to be the common denominators among transformational leaders to bring a complete metamorphosis to academic organizations. Northouse (2006) rationalized that even if transformational leadership has universal applicability, it must be clear-cut that it was a product of the Western mind: straightforward, outspoken, argumentative, and liberal. As juxtaposed with the typical characteristics associated with the millennials discussed in the previous sections of the paper, logic dictates that grit will be associated with transformational leadership in the western world as their interest is evident and remarkably felt. As opposed to such a pattern of behaviors, the Filipino leaders are stamped as more reserved professionals to lead the charge (Andres, 2001), perhaps due to their non-individualistic and communitarian background (Trompenaars & Turner, 1998). Thus, the author argues it may be misconstrued that the inactive and non-participative front of some Filipino leaders is telltale signs of the lack of grit or conviction. Hornedo (2002), as seconded by Timbreza (2003), pointed that it all boils down to the secretive nature of Filipinos. Therefore, either inward-looking or outward tending, their constant loop of conservative demeanor must never be dismissed as lack of interest and freeloading. As primed by their culture, asserting change and leading the consensus-building makes it challenging for them to advocate for change and resist the perilous phenomenon called 'Group Think' (Lunenburg & Ornstein, 2012). Once it plagues the organization, it places the educational institution into a disadvantaged position as the bandwagon tendency overshadows the natural proactive and reactive tendency to challenge the status quo.

Further, in terms of the correlation between the two independent variables, the dataset was first subjected for inspection of collinearity. When the data were intact, processing using the IBM AMOS version 24 ensued. The results yielded the value of  $r = 0.11$  or a weak correlation coefficient. This condition indicates that although both independent variables tend to go up in response to one another, the relationship is classified as minimal (Obilor & Amadi, 2018). Hence, there is sufficient evidence to reject Hypothesis 3. From these deductions, it appears that Filipino millennial academic supervisors' grit-related mindset does not firmly correlate to their design thinking behaviors. Rojas (2015) thoroughly researched Sternberg & Lubart's (1996) Investment Theory of Creativity in the educational context. She said that creative ideation requires the proclivity to take risks, be deeply engrossed, and defy the programmed decisions. Sternberg (2012) mentioned that an individual shows willingness and perseverance to form the habit of creative thought. Sternberg also touched on the premise that creative functioning, such as design thinking, will only occur if there are building blocks of risk-taking and intrinsic motivation in the equation. Analogous with the preceding discussions, one potential rationale for Filipino leaders' low-key creativity and grit regardless of generation is their native lifeways in the Philippine milieu. As Landa-Jocano (2006) would declare, the Filipino cultural epistemology dictates the

would-be actions of its inhabitants in the place of work, study, and worship. He used the term *kalinangan* (way of life) to expound the lifeworld of Filipinos. Such lifeworld has multiple subtle strokes in their undertakings, often misinterpreted as being idle.

*The Emerging Model*



**FIGURE 3:** The Emerging Model

The traces of acceptability in the fit indices (See Table 3) of the hypothesized model prompted the author to further probe into the model fit of the emerging model after removing the non-contributory sub-scales of the independent variables. The deletion of these facets accorded the study with a model that could potentially unlock future research inquiries, discourse platforms, and policy reconceptualization among educational organizations. As elaborated from the previous section of the paper, the sub-scale dimensions: visualizing ( $\beta = - 0.08$ ;  $p$ -value = 0.21) and Evaluating ( $\beta = - 0.01$ ;  $p$ -value = 0.81) under the design thinking variable, and the collective dimension of the other variable, grit ( $\beta = 0.15$ ;  $p$ -value = 0.38), do not infer an impact to the transformational leadership attributes, which promoted their outright omission. The author argues that the correlation between the variables design thinking and grit as the findings succinctly showed minimal correlation and not the absence of correlation between the two independent variables. Therefore, the author opted to include it in the processing of the emerging model.

**TABLE 3:** Model Fit Indices of the Hypothesized and Emerging Models

| MODEL FIT INDICES                               | HYPOTHESIZED MODEL  | EMERGING MODEL      |
|---|---------------------|---------------------|
| Cmin/df ( $p$ -value)                           | 9.99 ( $p < 0.00$ ) | 1.21 ( $p < 0.00$ ) |
| Comparative Fit Index (CFI)                     | 0.83                | 0.99                |
| Incremental Fit Index (IFI)                     | 0.83                | 0.99                |
| Tucker – Lewis Index (TFI)                      | 0.72                | 0.99                |
| Root Mean Square Error of Approximation (RMSEA) | 0.21                | 0.03                |

The table above depicts the model fit summaries of the hypothesized and emerging models as can be gleaned from the tabular representation: the Cmin/df of the hypothesized model generated the value of 9.99, whereas the emerging model produced 1.21. Shi, Lee, & Maydeu-Olivares (2018) noted that the acceptable range of the Cmin/df must be less than 3. The emerging model, then, bested the hypothesized model in this index criterion. Moreover, in terms of the incremental fit indices, the Comparative Fit Index (CFI) and the Incremental Fit Index (IFI) of the hypothesized model yielded the value of 0.83.

On the other hand, the CFI and IFI of the emerging model both bear the value of 0.99. It is also noteworthy to mention that the Tucker-Lewis Index (TLI) of the hypothesized model yielded 0.72, while the emerging model produced the value of 0.99. Thus, the emerging model performed better than the hypothesized model as the latter yielded values notches below the acceptable range considering that the acceptable level of the incremental fit indices like CFI, IFI, and TLI should be above 0.90 to signify acceptability (Schreiber, Stage, King, Nora, & Barlow, 2006). Further, considering the absolute fit index in terms of the Root Mean Square Error of Approximation (RMSEA), the hypothesized model produced the value of 0.21.

In contrast, the emerging model yielded a value of 0.03. Suppose decision rules dictate that the RMSEA must be less than 0.08 to weigh relevance (De Carvalho & Chima, 2014). In that case, it is indicative that the emerging model is more acceptable from the modeling standards and statistical standpoint.

## **Conclusion**

Transformational leadership might be a universal phenomenon, but we must also remember a cultural encounter and an organizational reality (Muenjohn & Armstrong, 2007; Jogulu & Ferkins, 2012). Akin to the analogy of the teaching-learning process, the leadership development in education need not be a paradox since it must also be receptive to the prism of cultural, professional, and generational angles, which could affect the overall lens of the leadership practice accentuated in this study. As the panorama of these thematic discourses remains a research imperative in the field of education, there is a need to elucidate practical efforts on how to imbibe ownership and convert the Filipino millennial academic supervisors' positional lethargy into work productivity, their silent predilection into a roaring immersion and their creative juices into something substantive in communal and organizational level.

The present study contributed to the growing literature by drawing the transformational leadership attributes directly from the respondents' perspectives sensitive to their generational temperament, cultural eccentricities, and occupational distinction through the Exploratory Factor Analysis (EFA). The two-fold evolved typologies from the EFA that resonate with their psyche invite the need to become critical and reflexive. Nevertheless, they remain grounded on the organization's metamorphosis amidst the complex educational landscape and redirect their efforts toward the organization's solidarity they represent. The Structural Equation Modelling (SEM) of the impact of the dichotomous yet conflicting independent variables of design thinking and grit into those derived factor dimensions revealed that only the former's precepts significantly impact the two-fold synergistic transformational leadership facets. The reflective resonance from the literature accounted for these results as the Filipino cultural configuration naturally delimits creativity-borne risk-taking behaviors and primes reserved dispositions even if a professional hail from a progressive generation. This premise also rationalizes the weak correlation that existed among the independent variables of the study.

More than ever, the indigenous consciousness, generational sensibilities, and professional preparation of academic supervisors are integral to their actualization of a leadership modality that could revolutionize their practices. These perspectives could bring the organization to greater heights when infused with the nexus of the millennials' creative facets and willpower. Summarily, this pioneering study paved the way for an emerging model that

---

mapped the spectrum of contributory elements present in the causal relationships. This study could better appreciate the insight into a misunderstood generation from a collectivistic culture juxtaposed to a highly revered leadership modality. This study could serve as guideposts for policy development and praxis formulation among educational organizations and as an evidence-based springboard for future research on the area of generational and cultural avenues that dynamically alter the contemporary academic landscape. Such organizational reality encompasses an eclectic discourse and systemic organizational investment on the steady development of the organizational culture among educational organizations through generational behaviors. Knowing how to better coach, challenge, and care for these uprising talents at the forefront of the educational sector pipeline will set the tone in creating a vibrant organizational culture today and even far-reaching their generation. The researcher now signifies a clarion call for educational researchers to use the salient emic concepts in this scholarly work as a future direction for qualitative studies to generate rich and thick accounts that could offer complementary or alternative expedition on this layer of experience.

**References**

- Abbasi, S., & Belhadjali, M. (2016). A closer look at millennials at work: A literature review. *International Journal of Humanities and Social Science Review*, 2(4), 17–19.
- Aguirre, E. B., & Faller, S. D. (2018). Lived stories of mid-career teachers: Their struggles with millennial learners in the Philippines. *Journal of Educational and Social Research*, 8(1), 39–50. <https://doi.org/10.2478/jesr-2018-0005>
- Akyel, N., KorkusuzPolat, T., & Arslankay, S. (2012). Strategic planning in institutions of higher education: A case study of Sakarya University. *Procedia - Social and Behavioral Sciences*, 58(1), 66–72. <https://doi.org/10.1016/j.sbspro.2012.09.979>
- Al-Mansoori, R. S., & Koç, M. (2019). Transformational leadership, systems, and intrinsic motivation impacts on innovation in higher education institutes: Faculty perspectives in engineering colleges. *Sustainability*, 11(1), 1–26. <https://doi.org/10.3390/su11154072>
- Alegado, P. J. (2018). The challenges of teacher leadership in the Philippines as experienced and perceived by teachers. *International Journal of Education and Research*, 6(6), 291–302.
- Alexander, A. (2012). Understanding and meeting the needs of the millennials in the classroom: A literature review. *Graduate Research Papers*, 123. Retrieved from <https://scholarworks.uni.edu/grp/123> on 09 April 2020
- Alexander, E. R. (2015). There is no planning, only planning practices: Notes for spatial planning theories. *Planning Theory*, 1(1), 15–27.
- Alonso-Almeida, M. D., & Llach, J. (2018). Socially responsible companies: Are they the best workplace for millennials? A cross-national analysis. *Corporate Social Responsibility and Environmental Management*, 26(1), 238–247. <https://doi.org/10.1002/csr.1675>
- Andersen, L. B., Bjørnholt, B., Bro, L. L., & Holm-Petersen, C. (2017). Achieving high quality through transformational Leadership: A qualitative multilevel analysis of transformational leadership and perceived professional quality. *Public Personnel Management*, 47(1), 51–72. <https://doi.org/10.1177/0091026017747270>
- Anderson, H. J., Baur, J. E., Griffith, J. A., & Buckley, M. R. (2016). What works for you may not work for (Gen)Me: Limitations of present leadership theories for the new generation. *The Leadership Quarterly*, 28(1), 245–260. <https://doi.org/10.1016/j.leaqua.2016.08.001>
- Andres, T. Q. (2001). *Understanding Values*. Quezon City, Philippines: Giraffe Books
- Andriani, S., Kesumawati, N., & Kristiawan, M. (2018). The influence of the transformational leadership and work motivation on teachers performance. *International Journal of Scientific & Technology Research*, 7(7), 19–29.

- Ang, M. (2017). Responding to the educational challenges and opportunities of ASEAN integration: A case analysis of St. Paul University. *Asian Education Studies*, 2(4), 19–27.
- Argon T., & Kaya A. (2018). Examination of grit levels of teachers according to personal variables. *Journal of Education and Training Studies*, 3, 5–53.
- Arokiasamy, A. R. A., Abdullah, A. G. K., A Shaari, M. Z. A., & Ismail, A. (2016). Transformational leadership of school principals and organizational health of primary school teachers in Malaysia. *Procedia - Social and Behavioral Sciences*, 229, 151–157. <https://doi.org/10.1016/j.sbspro.2016.07.124>
- Azjen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Azjen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Baeck, A., & Gremett, P. (2012). Design Thinking. In H. Degen, & X Yuan (Eds.), *UX Best Practices: How to achieve more impact with user experience* (pp. 229-233). New York: McGraw-Hill, Inc.
- Badding, S. (2017). The creative synthesis inventory: Constructing quantitative measures capturing attributes of design thinking. Retrieved from [https://mountainscholar.org/bitstream/handle/10217/184013/Badding\\_colostat\\_e\\_0053A\\_14388.pdf?sequence=1](https://mountainscholar.org/bitstream/handle/10217/184013/Badding_colostat_e_0053A_14388.pdf?sequence=1) on 24 May 2020
- Baldwin, C., & Rosier, J. (2016). Growing future planners: A framework for integrating experiential learning into tertiary planning programs. *Planning Education and Research*, 1, 20–31.
- Bass, B. (1985). *Leadership and performance beyond expectations*. New York, NY: Free Press
- Bass, B., & Riggio, R. (2006). *Transformational Leadership*. Hoboken, New Jersey: Lawrence Erl Baum Associates
- Behrstock, E., & Matthew, C. (2009). Leading gen Y teachers: Emerging strategies for school leaders. *TQ Research & Policy Brief*, National Comprehensive Center for Teacher Quality, 1–17.
- Berendt, C., Christofi, A., Kasibhatla, K., Malindretos, J. & Maruffi, B. (2012). Transformational leadership lesson in management today. *International Business Research*, 5(10), 227–232. <https://doi.org/10.5359/ibr.v5n10p227>
- Bickmore, K., & Parker, C. (2014). Constructive conflict talk in classrooms: Divergent approaches to addressing divergent perspectives. *Theory & Research in Social Education*, 42(3), 291–335. <https://doi.org/10.1080/00933104.2014.901199>

- Brahma, S. (2019). Influence of teacher leadership on creativity in business academics/higher education. *International Journal of Innovative Technology and Exploring Engineering*, 8(10), 2215–2221. <https://doi.org/10.35940/ijitee.J9428.0881019>
- Brenner, W. & Uebernickel, F. (2016). *Design thinking for innovation: Research and practice*. New York, NY: Springer
- Brown, C. (2018). Mentoring the millennials: Induction of the millennial generation in education. Retrieved from [https://ecommons.luc.edu/luc\\_diss/2776](https://ecommons.luc.edu/luc_diss/2776) on 30 May 2020
- Carlgren, L., Elmquist, M., & Rauth, I. (2016). Framing design thinking: The concept of idea and enactment. *Creativity and Innovation Management*, 25(3), 344–362. <https://doi.org/10.1111/caim.12153>
- Castillo, I., Alvarez, O., Estevan, I., Queralt, A., & Molina-Garcia, J. (2017). Passion for teaching, transformational leadership, and burnout among physical education teachers. *Journal of Sports Psychology*, 26(3), 57–61.
- Cetin, M. O., & Kinik, F. S. F. (2015). An analysis of academic leadership behavior from the perspective of transformational leadership. *Procedia - Social and Behavioral Sciences*, 207(1), 519–527. <https://doi.org/10.1016/j.sbspro.2015.10.122>
- Çetin, M., & Halisdemir, M. (2019). School administrators and generation Z students' perspectives for a better educational setting. *Journal of Education and Training Studies*, 7(2), 84–597. <https://doi.org/10.11114/jets.v7i2.3773>
- Davies, T. (2000). Confidence! Its role in the creative teaching and learning of design and technology. *Journal of Technology Education*, 12(1), 18–31.
- De Carvalho, J., & Chima, F. O. (2014). Applications of structural equation modeling in social sciences research. *American International Journal of Contemporary Research*, 4(1), 6–11.
- de Castro, B. V., & de Guzman, A. B. (2014). A structural equation model of the factors affecting Filipino university students' shadow education satisfaction and behavioral intentions. *Asia Pacific Journal of Education*, 34(4), 417–435. <https://doi.org/10.1080/02188791.2014.960797>
- Dibrell, C., Craig, J., & Neubaum, D. (2014). Linking the formal strategic planning process, planning flexibility, and innovativeness to firm performance. *Journal of Business Research*, 67(1), 86–92.
- Dosi, C., Rosati, F., & Vignoli, M. (2018). Measuring design thinking mindset. *Human Behavior and Design (International Design Conference 2018 Proceeding)*, 1991–2002. <https://doi.org/10.21278/idc.2018.0493>
- Duckworth, A. L., & Quinn, P. D. (2009). Development and validation of the Short Grit Scale (Grit-S). *Journal of Personality Assessment*, 91(1), 166–174. <https://doi.org/10.1080/00223890802634290>

- Dunne, D. (2018). Implementing design thinking in organizations: An exploratory study. *Journal of Organization Design*, 7(1), 16–19. <https://doi.org/10.1186/s41469-018-0040-7>
- Eisenbach, R., Watson, K., & Pillai, R. (1999). Transformational leadership in the context of organizational change. *Journal of Organizational Change Management*, 12(2), 80–89.
- Elrehail, H., Emeagwali, O. L., Alsaad, A., & Alzghoul, A. (2018). The impact of transformational and authentic leadership on innovation in higher education: The contingent role of knowledge sharing. *Telematics and Informatics*, 35(1), 55–67. <https://doi.org/10.1016/j.tele.2017.09.018>
- Elsbach, K. D., & Stigliani, I. (2018). Design thinking and organizational culture: A review and framework for future research. *Journal of Management*, 44(6), 2274–2306. <https://doi.org/10.1177/0149206317744252>
- Ergeneli, A., Gohar, R. & Temirbekova, C. (2007). Transformational Leadership: Its relationship to culture value dimensions. *International Journal of Inter-cultural Relations*, 31, 703–724. <https://doi.org/10.1016/j.intrel.2007.07.003>
- Everett, L. (2016). *Corporate brand personality: Re-focus your organization's culture to build trust, respect, and authenticity*. London, UK: Kogan Page, Ltd.
- Eyal, O., & Roth, G., (2010). Principals' leadership and teachers' motivation: Self-determination theory analysis. *Journal of Educational Administration*, 49(3), 256–275. <https://doi.org/10.1108/09578231111129055>
- Fabelico, F. L., & Afalla, B. T. (2020). Perseverance and passion in the teaching profession: Teachers' Grit, self-efficacy, burnout, and performance. *Journal of Critical Reviews*, 7(11), 108–119.
- Fishbein, M., & Azjen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison, Wesley.
- Gabriel, A. G., Alcantara, G. M., & Alvarez, J. D. (2020). How do millennial managers lead older employees? The Philippine workplace experience, *SAGE Open*, 1–11. <https://doi.org/10.1177/2158244020914651>
- Gerstner, C., & Day, D. (1994). Meta-analytic review of leader-member exchange theory: Correlates and construct issues. *Journal of Applied Psychology*, 82(1), 827–844.
- Gkolia, A., Koustelios, A., & Belias, D. (2015). Exploring the association between transformational leadership and teacher's self-efficacy in Greek education system: A multilevel SEM model. *International Journal of Leadership in Education*, 21(2), 176–196. <https://doi.org/10.1080/13603124.2015.1094143>
- Gok B., & Erdogan, T. (2011). The investigation of the creative thinking levels and the critical thinking disposition of pre-service elementary teachers. *Journal of Faculty Educational Science*, 44(2), 29–51.

- Gökhan–Bitmiş, M., & Ergeneli, A. (2011). Contingency approach to strategic management: A test of the mediating effect of leader-member exchange on the relationship between psychological empowerment and job satisfaction in the 21st century. *Procedia - Social and Behavioral Science*, 24, 1143–1153. <https://doi.org/10.1016/j.sbspro.2011.09.081>
- Gouldner, K. (2016). Millennial mindset: How to attract millennials to an aging industry. *The Demotech Difference*, 1–4. Retrieved from <https://millersmutualgroup.com/wp-content/uploads/2018/02/Millennial-Mindset.pdf> on 09 April 2020
- Gray, D., & Williams, S. (2011). From blaming to learning: Re-framing organizational learning from adverse incidents. *The Learning Organization*, 18(6), 438–453. <https://doi.org/10.1108/09696471111171295>
- Greenhow, C., Walker, J. D., & Kim, S. (2010). Millennial learners and net-savvy teens? Examining internet use among low-income students. *Journal of Computing in Teacher Education*, 26(2), 63–73.
- Hayton, J., Allen, D., & Scarpello, V. (2004). Factor retention decisions in exploratory factor analysis: A tutorial on parallel analysis. *Organizational Research Methods*, 7(1), 191–205.
- Henriksen, D., Richardson, C., & Mehta, R. (2017). Design thinking: A creative approach to educational problems of practice. *Thinking Skills and Creativity*, 26, 140–153. <https://doi.org/10.1016/j.tsc.2017.10.001>.
- Hobbs, R., & Tuzel, S. (2015). Teacher motivations for digital and media literacy: An examination of Turkish educators. *British Journal of Educational Technology*, 48(1), 7–22. <https://doi.org/10.1111/bjet.12326>
- Hofstede, G. (2001). *Culture consequences: Behaviors, institutions and organizations across nations*. Thousand Oaks, CA: SAGE Publications, Inc.
- Holmberg-Wright, K., Hribar, T., & Tsegai, J. (2017). More than money: Business strategies to engage millennials. *Business Education Innovation Journal*, 9(2), 14–23.
- Hornedo, F. H. (2002). *Pagpapakatao and other essays in contemporary philosophy and literature of ideas*. España, Manila: UST Publishing House
- House, R. (1995). Leadership in the 21st century: A speculative enquiry. In A. Howard (Ed.) *The Changing Future of Work*. San Francisco, CA: Jossey-Bass, Inc.
- House, R., & Aditya, R. (1997). The social scientific study of Leadership: Quo vadis? *Journal of Management*, 23(3), 409–417.
- Howard, Z., Senova, M., & Melles, G. (2015). Exploring the role of mindset in design thinking: Implications for capability development and practice. *Journal of Design, Business, & Society*, 1(2), 183–202. [https://doi.org/10.1386/dbd.1.2.183\\_1](https://doi.org/10.1386/dbd.1.2.183_1)

- Hox, J. J., & Bechger, T. M. (2007). An introduction to structural equation modelling. *Family Science Review*, 11(1), 354–373.
- Huyler, D. D., Ding, W., Norelus, A. and Pierre, Y. (2015). Millennials in the workplace. Retrieved from <https://digitalcommons.fiu.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1424&context=sferc> on 09 April 2020
- Jaiswal, N. K., & Dhar, R. L. (2015). Transformational leadership, innovation climate, creative self-efficacy and employee creativity: A multilevel study. *International Journal of Hospitality Management*, 51(1), 30–41. <https://doi.org/10.1016/j.ijhm.2015.07.002>
- Jiang, Y., & Cheng, C. C. (2016). Integrating knowledge activities for team innovation: Effects of transformational Leadership. *Journal of Management*, 44(5), 1819–1847. <https://doi.org/10.1177/0149206316628641>
- Jogulu, U., & Ferkins, L. (2012). Leadership and culture in Asia: The case of Malaysia. *Asia Pacific Business Review*, 18(4), 531–549. <https://doi.org/10.1080/13602381.2012.690301>
- Kallapadee, Y., Tesaputa, K., & Somprach, K. (2017). Strengthening the creative transformational leadership of primary school teachers. *International Education Studies*, 10(4), 179–186.
- Kelchtermans, G., & Ballet, K. (2002). The micropolitics of teacher induction: A narrative bibliographical study on teacher socializations. *Teaching & Teacher Education Journal*, 18(1), 105–120.
- Khany, R., & Ghoreishi, M. (2014). One the relationship between teachers' sense of responsibility and transformational leadership style. *Procedia - Social and Behavioral Sciences*, 136(1), 302–307. <https://doi.org/10.1016/j.sbspro.2014.05.333>
- Kotz, P. E. (2016). Reaching the millennial generation in the classroom. *Universal Journal of Educational Research*, 4(5), 1163–1166. <https://doi.org/10.13189/ujer.2016.040528>
- Landa-Jocano, F. (2008). *Work values of successful Filipinos*. Quezon City, Philippines: PUNLAD Research House, Inc.
- Landa-Jocano, F. (2006). *Filipino value system: A cultural definition*. Quezon City, Philippines: PUNLAD Research House, Inc.
- Lapeniene, D., & Dumciene, A. (2014). Teachers' Creativity: Different Approaches and Similar Results. *Procedia - Social and Behavioral Sciences*, 116(1), 279–284. <https://doi.org/10.1016/j.sbspro.2014.01.208>
- Lewis, E., Boston, D., & Peterson, S. (2017). A global perspective of transformational leadership and organizational development. *Journal of Research Initiatives*, 2(3), 2-6. Retrieved from <http://digitalcommons.unctfsu.edu/jri/vol2/iss3/5> on 13 Aug 2020

- Liedtka, J., Salzman, R., & Azer, D. (2017). Democratizing innovation in organizations: Teaching design thinking to non-designers. *Design Management Review*, 28(3), 49–55. <https://doi.org/10.1111/drev.12090>
- Litz, D., & Scott, S. (2016). Transformational leadership in the educational system of the United Arab Emirates. *Educational Management Administration & Leadership*, 45(4), 566–587. <https://doi.org/10.1177/1741143216636112>
- Lockwood, T. (2009). Transition: How to become a more design-minded organization. *Design Management Review*, 20(3), 28–37. <https://doi.org/10.1111/j.1948-7169.2009.00019.x>
- Lopes, C. E., & D'Ambrosio, B. S. (2016). Professional development shaping teacher agency and creative insubordination. *Ciência & Educação (Bauru)*, 22(4), 14–23.
- Luka, I. (2014). Design thinking in pedagogy. *Journal of Education Culture and Society*, 2(1), 63–74. <https://doi.org/10.15503/jecs20142.63.74>
- Lunenburg, F. C., & Ornstein, A. C. (2012). *Educational administration: Concepts and practices* (6th Edition). Wadsworth, CENGAGE Learning: California
- Mart, T. C., (2013). A passionate teacher: Teacher commitment and dedication to student learning. *International Journal of Academic Research in Progressive Education and Development*, 2(1), 226–348.
- Millar, C. C. J. M., Groth, O., & Mahon, J. F. (2018). Management innovation in a VUCA world: Challenges and recommendations. *California Management Review*, 61(1), 1–10. <https://doi.org/10.1177/0008125618805111>
- Miller, A., & Mills, B. (2019). 'If they don't care, i don't care': Millennial and generation Z students and the impact of faculty caring. *Journal of the Scholarship of Teaching and Learning*, 19(4), 78–89. <https://doi.org/10.14434/josotl.v19i4.24167>
- Moon, T. M. (2014). Mentoring the next generation for innovation in today's organization. *Journal of Strategic Leadership*, 5(1), 23–35.
- Muenjohn, N. & Armstrong, A. (2007). Transformational Leadership: The influence of culture on the leadership behaviours of expatriate managers. *International Journal of Business and Information*, 2(2), 265–283.
- Neigher, W. (2003). The process is the plan: Defining strategic community futures. *Evaluation and Program Planning*, 26(1), 46–60.
- Ninković, S. R., & Knežević Florić, O. Č. (2016). Transformational school leadership and teacher self-efficacy as predictors of perceived collective teacher efficacy. *Educational Management Administration & Leadership*, 46(1), 49–64. <https://doi.org/10.1177/1741143216665842>
- Noel, L-A., & Liub, T. L. (2017). Using design thinking to create a new education paradigm for elementary level children for higher student engagement and success. *Design and Technology Education*, 22(1), 1–12.

- Northouse, P. (2006). *Leadership: Theory & Practice* (4th Edition) London, UK. SAGE Publications, Inc.
- O'Banion, T., Weidner, L., & Wilson, C. (2011). Creating a culture of innovation in the community college. *Community College Journal of Research and Practice*, 35(6), 470–483. <https://doi.org/10.1080/10668926.2010.515508>
- Obilor, E. I., & Amadi, E. C. (2018). Test for significance of Pearson's correlation coefficient. *International Journal of Innovative Mathematics, Statistics & Energy Policies*, 6(1), 11–23.
- Okoth, U. A. (2018). Transformational leadership practices in curriculum implementation (environmental education) in secondary schools in Siaya County, Kenya. *European Scientific Journal*, 14(10), 320–331. <https://doi.org/10.19044/esj.2018.v14n10p320>
- Ozkal, N. (2014). Relationships between teachers' creativity fostering behaviors and their self-efficacy beliefs. *Educational Research & Reviews*, 9(18), 724-733, <https://doi.org/10.5897/ERR2014.1816>
- Perkins-Gough, D. (2013). The significance of Grit: A conversation with Angela Lee Duckworth. *Resilience & Learning*, 71(1), 14–20.
- Podsakoff, P., McKenzie, S., Lee, J. & Podsakoff, N. (2003). Common method bias in behavioral research: A critical review of literature and recommended remedies. *Journal of Applied Psychology*, 88, 873–903.
- Pyöriä, P., Ojala, S., Saari, T., & Järvinen, K.M. (2017). The millennial generation. *SAGE Open*, 7(1), 1–15. <https://doi.org/10.1177/2158244017697158>
- Reio, T. G., & Shuck, B. (2014). Exploratory Factor Analysis. *Advances in Developing Human Resources*, 17(1), 12–25. <https://doi.org/10.1177/1523422314559804>
- Romano, M. (2006). Bumpy moments in teaching: Reflections from practicing teachers. *Teaching & Teacher Education: An International Journal of Research and Studies*, 22(8), 973–985.
- Rojas, J. P. (2015). The relationships among creativity, grit, academic motivation, and academic success in college students. Retrieved from [https://uknowledge.uky.edu/edp\\_etds/39](https://uknowledge.uky.edu/edp_etds/39) on 22 May 2020
- Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting Structural Equation Modeling and Confirmatory Factor Analysis results: A review. *The Journal of Educational Research*, 99(6), 323–338. <https://doi.org/10.3200/joer.99.6.323-338>
- Shahroom, A. A., & Hussin, N. (2018). Industrial revolution 4.0 and education. *International Journal of Academic Research in Business and Social Sciences*, 8(9), 314–319.
- Shi, D., Lee, T., & Maydeu-Olivares, A. (2018). Understanding the model size effect on SEM fit indices. *Educational and Psychological Measurement*, 79(2), 1–18. <https://doi.org/10.1177/0013164418783530>

- Sipe, B. S. (2019). Embedding design thinking in a culture of innovation at two community colleges. *Community College Journal of Research and Practice*, 29(4), 1–20. <https://doi.org/10.1080/10668926.2019.1631230>
- Spreitzer, G., Pertulla, K. & Xin, K. (2005). Traditionality matters: An examination of the effectiveness of transformational Leadership in U.S. and Taiwan. *Journal of Organizational Behavior*, 26(3), 205–227.
- Sternberg, R. J. (2012). The assessment of creativity: An investment-based approach. *Creativity Research Journal*, 24(1), 3–12. <https://doi.org/10.1080/10400419.2012.652925>
- Sternberg, R. J., & Lubart, T. I. (1996). Investing in creativity. *American Psychologist*, 51(1), 677–688. <https://doi.org/10.1037/0003-066X.51.7.677>
- Stolarski, M., Zajenkowski, M., & Misenberg, G. (2013). National intelligence and personality: Their relationships and impact on national economic success. *Intelligence*, 41(1), 94–101. <https://doi.org/10.1016/j.intell.2012.11.003>
- Strange, J., & Mumford, M. (2006). The origins of vision: Charismatic versus ideological leadership. *The Leadership Quarterly*, 13(4), 343–377.
- Termournejad, K., & Elhghaei, R. (2017). Effect of transformational Leadership on the creativity of employees: An empirical investigation. *Engineering, Technology & Applied Science Research*, 7(1), 1413–1419.
- Thompson, J. (2012). Transformational leadership can improve workforce competencies. *Nursing Management*, 18(10), 21–24.
- Trompenaars, F., & Turner, C.H. (1998). *Riding the waves of culture: Understanding cultural diversity in business* (2nd Edition). London, UK: Nicholas Brealey Publishing, Ltd.
- Timbreza, F. (2003). *Filipino values today*. Mandaluyong City, Philippines: National Bookstore Publishing House
- Wang, N., Wilhite, S., & Martino, D. (2015). Understanding the relationship between school leaders social and emotional competence and their transformational Leadership: The importance of self-other agreement. *Educational Management Administration & Leadership*, 44(3), 467–490. <https://doi.org/10.1177/1741143214558568>
- Weber, G. (2018). Millennials expect less and more: Workplace writing for today's workforce. *Technical Communication Capstone Course*, 24(1), 1–32.
- Williams, G. (2019). Management millennialism: Designing the new generation of employee. *Work, Employment and Society*, 34(3), 371–387. <https://doi.org/10.1177/0950017019836891>
- Yang, Y. (2013). Principals' transformational leadership in school improvement. *Journal of Academic Administration in Higher Education*, 9(2), 77–83.

- 
- Youngs, H. (2017). A critical exploration of collaborative and distributed leadership in higher education: Developing an alternative ontology through leadership-as-practice. *Journal of Higher Education Policy and Management*, 39(2), 140–154. <https://doi.org/10.1080/1360080x.2017.1276662>
- Zhang, Y., Zheng, J., & Darko, A. (2018). How does transformational leadership promote innovation in construction? The mediating role of innovation climate and the multilevel moderation role of project requirements. *Sustainability*, 10(1), 1–19. <https://doi.org/10.3390/su10051506>

**Disclosure statement**

The author declared no potential conflict of interest.

**Acknowledgments**

The author would like to convey his utmost gratitude to his Advanced Educational Statistics professor, Dr. Belinda V. de Castro of UST Research Center for Social Sciences and Education, for teaching him the IBM AMOS software's technical specifications and introducing him to the wonders of Structural Equation Modelling. Moreover, the author wishes to express his heartfelt appreciation to Krisha L. Deveza, MA, RPsy for staying with him through thick and thin.