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Editorial

Exploring Culturally Diverse Leadership Styles: A Mindset and Multicultural Journey

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With few exceptions, the current theories and research on leadership neglect the value of cultural diversity when considering different leadership styles. Rather, leadership theories continue to reflect a white, North American, heterosexual, male bias and omit dimensions of diversity in researching how leadership is exercised and the values effective leaders promote. Yet, there's little question the growing population diversity in our complex and uncertain world requires a deep understanding of how effective leadership is exercised and the role leaders will play in managing the changes ahead.¹⁻⁵

To prepare ourselves, our communities and our institutions to live and work in this global world of the future require a hard look at existing leadership models that ignore ethnic and racial diversity. These entrenched models are overwhelmingly ethnocentric and gender-biased. They draw on narrow, cultural-specific knowledge and practices that simply are not relevant for a diverse and global population, nor applicable in varying contexts and changing social environments. By failing to explore the deep core of culturally unique leadership styles among non-white populations, researchers too often have overlooked leadership styles that have endured for centuries through sheer effectiveness in leading and governing their people.^{4,6}

How, then, are diverse and contextually relevant leadership styles to gain the respect and action they deserve? It is not simply about the representation of diverse leaders in the ranks of leadership, nor about affirmative action. Rather, it requires paradigm shifts in our theories of leadership that examine and incorporate the ways diversity shapes our understanding of leadership and its effects.

To be effective, our future leaders must be responsive to change, prepared to lead a diverse workforce, and comfortable

with multicultural communities that may differ from their own. This requires that leaders and leadership models be inclusive and sensitive to difference, which in turn requires an openness to diverse leadership styles. Yet when many women and members of non-white racial and ethnic groups become part of the power elite in organizational leadership roles, they often become more like those already in power.⁷ This raises the question of how our institutions and corporate structures constrain leaders to mirror the way those in leadership roles lead.⁸

To avoid the mirroring effect, attention to a more culturally sensitive perspective is highly important. A transformative multicultural style might reframe “empathy” into “inclusive relational empathy” to emphasize a more relationship-centered perspective, for example. A transformative style places emphasis on connecting the follower’s sense of identity and self to the mission and collective identity of the group or organization.⁶

Developing and practicing a culturally inclusive mindset is a dynamic and complex process—a multicultural journey, in effect. An aspiring culturally sensitive leader must focus on developing the appropriate skills, understanding, appreciation, willingness, and ability to lead culturally different followers; the most salient of these is willingness, for without a conscious intent and desire the achievement and realization of cultural competence is not likely to occur.^{4,5}

Amidst rapid technological change, emerging global concerns, changing population demographics, and new social contexts, a diverse leadership style means being competent to:

- Understand how different world-views and lived experiences influence the exercise of leadership and leadership styles;
- Be inclusive of social justice, ethical, and value-based di-

mensions of leadership that are not typically included in mainstream dialogue about leadership;

- Recognize how perceptions and expectations of leaders associated with dimensions of identity (e.g., gender, race, ethnicity) may result in biases that shape leader behaviors and influence appraisals of leader effectiveness for those who do not fit the prototype of a “typical leader”; and
- Reflect the importance of context in shaping leadership, including the leader’s respect for culturally diverse leaders and members.^{4,5,9}

Studies now emerging point to the importance of social identities and lived experiences of leaders in their interaction with diverse followers in social and organizational contexts. Leaders with social identities reflective of marginalized or minority groups are very likely to face a different experience in their positions than the typical white male leader, suggesting leaders with these challenges must develop self-monitoring skills and use race and other dimensions of diversity, such as sensitivity to exclusion, as a positive resource rather than a deficit or weakness.^{7,8}

Becoming culturally competent and sensitive does not imply that one discard the many contributions of past and present social and behavioral scientists and scholars. The challenge is to recognize that we cannot fully understand the human condition without viewing it from a cross-cultural perspective. What has been learned about the human condition in the past can be reframed and tested with a new set of approaches and procedures in cultural contexts not previously considered. We must challenge our existing beliefs about effective leadership, ask new questions, and offer new paradigms to guide how we lead in today’s world. By so doing, we will find a rich vein of specific thought ways and lifeways of various ethnocultural groups with extraordinary value for leadership as a whole.

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CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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Original Research

Repetitive Skin Focused Disorders May Express a Functional Connectome

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ABSTRACT

Background

Repetitive skin focused behaviors, such as nail biting, hair pulling, cutting, and others may involve brain regions that participate in visual and tactile awareness, contextual learning and anxiety.

Methods

Gender and age of onset were collected on 78 patients with a repetitive skin focused disorder from a general dermatology clinic between 2014-2018. The disorders included onychophagia (nail biting), trichotillomania (hair pulling), cutting, pathologic skin picking, acne excoriée (popping pimples) and delusions of infestations.

Results

Sixty/Seventy-eight, (77%) of the patients were female. Onychophagia, trichotillomania, and cutting emerged during key developmental milestones, such as adrenarche and pubarche. The 17 patients with delusions of infestations were middle-aged, between 52-66. Five/Seventy-eight (6%) attempted suicide, all female, three successfully.

Conclusions

Repetitive skin focused behaviors may reflect potentiation in neural circuits that participate in contextual processing, tactile and visual awareness. Trends emerged in gender predominance and age of onset. These disorders may have clinical utility in two key areas, emotional regulation in teenagers and drug toxicity in adults.

Trial Registration

UMKC IRB 16-464.

Keywords

Onychophagia; Trichotillomania; Delusions of infestations; Human connectome project; Locus coeruleus.

INTRODUCTION

Advances in neuroscience are occurring alongside wildly expanding clinical needs in depression and suicide, delirium and dementia.¹⁻⁴ Individuals contemplating suicide or harm to others are interfacing with health care systems that are either not recognizing those at risk or are not putting the riskiest patients in front of the clinicians with the greatest diagnostic acumen.⁵⁻⁷ Clinicians rely on what the patient says, how they say it, and often include performance and cognitive measures to assign a diagnosis.⁸⁻⁹ Many patients seen for routine medical exams have unrecognized needs for mental health care.

Altered patterns of self-grooming have been used to identify anxiety and obsessive-compulsive disorders (OCD) in animals.¹⁰⁻¹² Repetitive grooming behaviors are also seen in humans. Onychophagia (nail biting), trichotillomania (hair pulling), cutting and picking, repetitive piercing and tattooing, excessive use of cosmetic procedures, are common observations in clinical practice (Figures 1 and 2).¹³⁻¹⁷ Repeated behaviors that involve the skin, especially those that leave marks or are accompanied by specimens, can be seen, graded and noted in the chart. In laboratory settings, neuroscientists have created maps of brain function and circuitry in task and non-task related situations.¹⁸ Each hemisphere has been parcellated into regions defined by changes in

Figure 1. Onychophagia in a Middle Aged Adult Male



Figure 2. Scars from Cutting on the Ventral Forearms



Figure 3. Diagram of Projections to and from the Locus Coeruleus

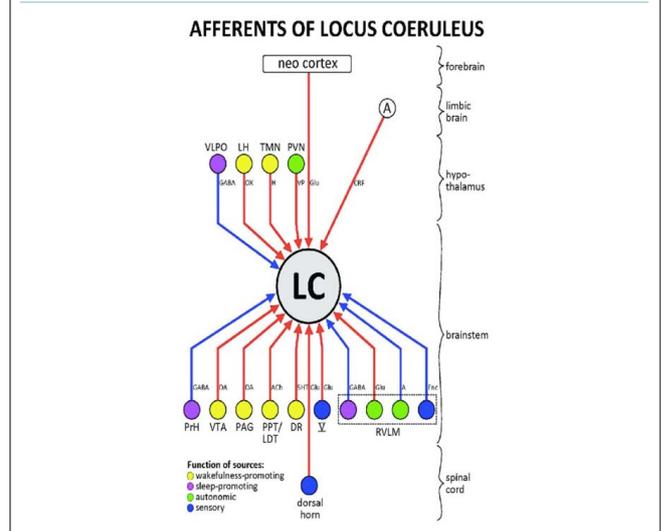
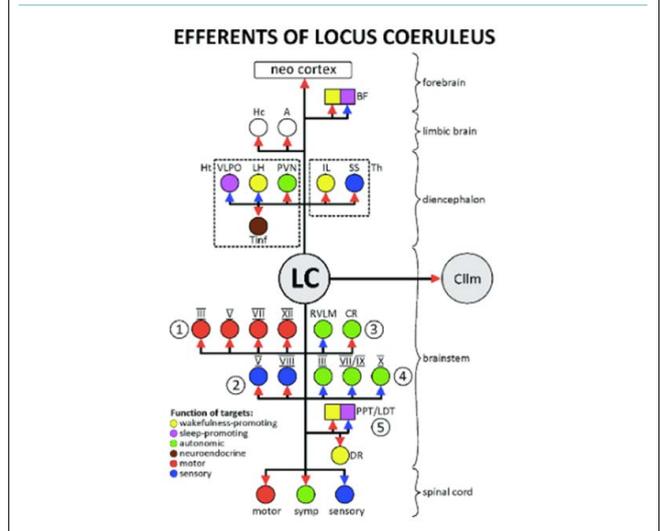


Figure 4. Diagram of Projections to and from the Locus Coeruleus



architecture, topography, connections, and function.¹⁹⁻²⁰ The study of fear conditioning has identified the brain regions that operate together to acquire memory and project that input to the amygdala and hippocampus for emotional processing.²¹⁻²⁴ The olfactory bulb functions as a relay station for environmental clues to admix with new neurons migrating from the dentate gyrus.²⁵⁻²⁹ The locus coeruleus (LC), located in the pons, is a key hub in the governance of the noradrenergic system, and processes the physiologic changes clinicians see in anxious and alert situations (Figures 3 and 4).³⁰⁻³⁴ Variation in heart rate and breathing, freeze and startle responses, pupil dilation, and blinking, sweat conductance in the palms, reflect the contribution of noradrenergic feedback on neural pathways.³⁴⁻³⁹

The LC receives input from over 100 regions in the nerv-

ous system and then projects to targets that activate the physiologic responses to the challenge.³⁰ The repetitive nature of the skin focused responses may accompany changes in the environment, phasic changes in hormones, fear, and memory-related tasks, and drug alteration in neurotransmitters. The development of fully characterized phenotypes around repetitive skin focused disorders may trigger clinical decision support in several areas; emotional well being in puberty, adults at risk for off-target drug effects and individuals with suicidal ideation.

METHODS

The patient data was obtained out of a general dermatology clinic between 2014 and 2018. The study was approved by the Institutional Review Board of the University of Missouri-Kansas City and in-

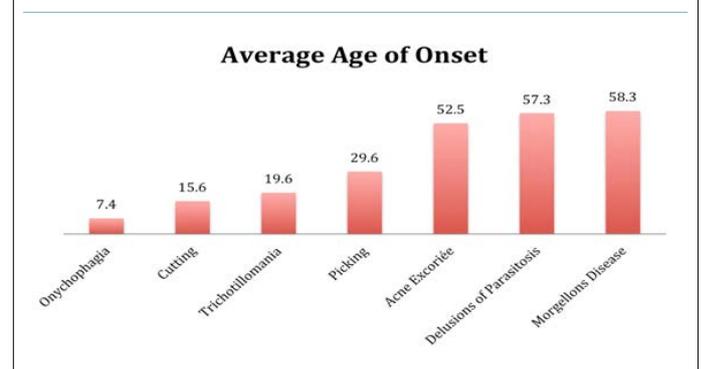
formed consent was obtained from all participants included in the study. The patients presenting with trichotillomania and delusions of infestations used hair loss and sensations of animate material in the skin as their reason for a visit. The rest of the patients were enrolled after a repetitive skin focused behavior was observed during a routine clinical examination. When these findings were recognized, the nature of the study was presented to the patient and informed consent was obtained. The patients were informed that their data would be de-identified and would include age, gender, and age of onset. In addition, all patients with delusions of infestation underwent detailed histories of medical events, medication adjustments and the use of supplements. All material (specimen sign) brought in by the patient was examined under the microscope to document lack of an infestation. Sample: 78 patients were identified with a repetitive skin focused behavior. 60/78 (77%) were female. Onychophagia (n=19, 12/19 female), had the earliest presentation, between ages 3-8. Trichotillomania (n=20, 17/20 female) and cutting (n=9, 6/9 female) appeared between ages 12-14. Acne excoriée and picking (n=13, 12/13 female) emerged at two different points, ages 12-15 and 30-54. Delusions of infestations (n=17, 13/17 female) presented between ages 52-63.

RESULTS

Repetitive skin focused disorders are seen more commonly in women. All of the disorders, with the exception of delusions of infestations, had origins close to a developmental milestone (Figure 5). Eight/Seventeen (47%) of the patients presenting with delusions of infestations believed the infestation could be traced to a

single event, such as exposure to mold, breaking glass or travel to a foreign country, suggesting overlap with fear conditioning. Within this group were trends towards polypharmacy and excessive use of

Figure 5. Repetitive Skin Focused Disorders According to Age of Onset. Delusions of Parasitosis and Morgellons Disease Now Recognized as the Same Process, Delusions of Infestations



supplements. A change in drug type or dose occurred around the time the delusion started in 9/17 (53%). Three/Seventeen (18%) had the same drug change, lisdexamfetamine to dexamphetamine/amphetamine. Other drug changes included continual adjustments in intrathecal bupivacaine and morphine; Simultaneous drug changes from amlodipine to losartan and fluoxetine to citalopram in one woman. Five/Seventeen (29%) patients were on opioids. Two/Seventeen disclosed illicit use of methamphetamine and hydrocodone. Seven/Seventeen (41%) were avid consumers of nutraceuticals (Table 1).

Table 1. Pharmaceutical and Supplement Data on 17 Patients with Delusions of Infestations

Age of Onset	Gender	Associated Findings
52	Female	Ingestion of "all green super food" supplement product line
56	Female	polypharmacy (defined as 5 or greater drugs)
56	Female	Symptoms began after taking DHEA supplementation
63	Female	Polypharmacy in addition to varying doses in intrathecal pain pump
60	Female	Alcohol abuse and multiple anxiolytics
60	Female	Cutting her hand after dropping a glass plate. At time of injury, statin, SSRI and ARB, which continue
57	Male	Symptoms began after cutting from lisdexafetamine to dexamphetamine
63	Female	Solaray vitamin supplementation
45	Male	Work related fiberglass exposure near time of job loss. Ongoing methamphetamine and cocaine exposure
45	Female	Clonazepam, lisdexamfetamine to dexamphetamine
44	Female	Sertraline, naltrexone. Symptoms began after sertraline doubled in dose.
54	Female	Testosterone injections at 48, bioidentical troches purchased off the internet, 8 additional supplements
49	Female	Effexor, metoprolol, positive urine drug screen for oxycodone
71	Female	Duloxetine, lisinopril, dexamphetamine, simvastatin, supplements. Started after coma after surgery complications at age 67
68	Female	Simvastatin, amlodipine: sensation started after change from lisinopril to amlodipine/olmesartan and did not resolve with cessation of olmesartan
45	Male	Specimen sign, dexamphetamine
53	Female	Specimen sign, armodafanil, esomeprazole, dexamphetamine, nucynta, apple cider vinegar, fish oil

Five/Seventy-eight (6%) patients attempted suicide, all female, three successfully. The successful suicides were seen in women with extreme presentations of a repetitive skin focused disorder. These included near total scalp trichotillomania, the presentation of elaborate microscopic images of normal skin and hair clippings, and deep mutilating scars on the wrists. 4/5 of this group described multiple suicide attempts.

DISCUSSION

Clinicians need additional tools to assess risk for self-harm or the emergence of thoughts to hurt others. Many psychiatric and neurologic diseases proceed over a temporal continuum, an initial complaint or observable feature, viewed in isolation, may not register as a critical feature until additional and more severe expressions unmask the true potential of the problem. In a study of 571 suicides, 41% had sought health care within 4-weeks of their death, although far fewer disclosed their intent during the visit.⁴⁰⁻⁴² There is a similar problem with mass shooters. Often those closest to them have no idea of their plans.⁴³

There may be aspects of the physical exam that would provide additional information to the provider on the emotional regulation of the patient, no matter the reason for a visit. The age of onset, gender, proximity to a developmental milestone or a medication change, could be key diagnostic features in a machine learning paradigm.⁴⁴ Seventy-seven percent of the patients in this series were female, suggesting that there may be gender differences in brain regions involved with emotion and perception (Table 2).⁴⁵⁻⁵⁰

Condition	N	Median Age of Onset	Onset Range	M:F	M:F%
Onychophagia	19	7	3-24	7:12	37:63
Cutting	9	15	14-18	3:6	33:67
Trichotillomania	20	15	6-54	3:17	15:85
Picking/acne excoriée	13	26	12-15 and 30-54	1:12	8:92
Delusions of Infestations	17	59	52-63	4:13	24:76

The effect of oral contraceptives and menstrual cycle phase on fear, memory, and anxiety remain largely unknown.⁵¹⁻⁵² Women approach medical care differently, being open to taking prescriptions while also showing interest in natural approaches that include supplements and self-directed care.⁵³⁻⁵⁴

A review of classic drug-induced neurotoxic syndromes reveal specific vulnerabilities in the basal ganglia, the autonomic nervous system, and areas related to sleep, anxiety and thought.⁵⁵⁻⁶⁰ The enzymatic oxidation of cholesterol to bile provides key metabolic functions, such as drug metabolism, the absorption of dietary lipids and protection of the endocrine system. Drug metabolism uses the same pathway as cholesterol catabolism. These pathways are inducible and can be compromised by age, illness, and co-ingestion with other medications.⁶¹ The cholesterol-bile salt pathway

is a frequent target of the pharmaceutical industry for diabetes, metabolic and cardiovascular disease.⁶² Two commonly prescribed drug classes, HMG-CoA receptor antagonists (statins) and proton pump inhibitors (PPI's), were introduced in 1987 and 1990, respectively. Omeprazole, the first drug in this class to be introduced, inhibits the main efflux transporter in many organs, including the blood-brain barrier, permeability glycoprotein-1 (Pgp-1).⁶³ These two drug classes, statins and PPI's, are frequently seen in combination and impact the bile salt pathway and the receptors that govern drug clearance in ways that may not be predictable or recognized as an off target drug effect. Dopamine agonists, prescribed for Parkinson's disease and restless leg syndrome, can disrupt reward systems related to sex and gambling, although this is rarely brought up in the clinic.⁶⁴ Specialty visits usually focus on a specific outcome, and dose adjustments are made to performance measures of that outcome. Statins are adjusted for cardiovascular risk, Parkinson's medications titrated for tremor, additional adjustments are made for gastric reflux, bladder irritability, pain, and so forth, neglecting the balance of effect on other issues that may be of real importance to the patient.⁶⁵ Patients presenting with early drug-induced neurotoxicity syndromes tend to be exposed to a wide variety of medical practitioners including primary care providers, dermatologists, dentists, gastroenterologists, otolaryngologists, neurologists, psychiatrists. The common cause of injury (drug toxicity) is missed because each specialty is focusing on its specific dysfunction rather than the overall pattern.

Research on neural function has little uniformity and diagnostic categorizations do not scale across providers and researchers.⁶⁶⁻⁶⁸ Our most basic clinical needs, the need to identify those at risk for self-harm and harm to others, are not being met. Repetitive skin focused disorders may reflect potentiated and possibly toxic communication between the thalamus, amygdala, locus coeruleus, insula, and hippocampus. The development of fully characterized phenotypes around repetitive skin focused disorders may provide a 'risk signature' that would scale across provider types.

CONCLUSIONS

There are missed opportunities in health care for individuals with mental health issues. Clinicians observe the manifestations of repetitive skin focused behaviors every day but may not know what to call it, how it should be factored into complex clinical presentations or whether the reason for a visit should be shifted to include emotional well-being. The development of fully characterized phenotypes around repetitive skin focused disorders may trigger clinical decision support in three key areas; mental health issues that emerge at puberty, adults at risk for polypharmacy and individuals with suicidal ideation.

CONFLICTS OF INTEREST

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Original Research

Nested, Place and Relational Multiple Social Identities among Latinx and White College Students in California, USA

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ABSTRACT

Aim

The purpose of this exploratory study was to examine the relationships of nested concentrically enlarged social identities of family (most proximal), neighborhood, cognitive-ethnic, affective-ethnic, state (California), national (American), and global-human (most distal) identities among a diverse group of American undergraduate college students in California, as well as within groups of self-designated Latinx (instead of Latino/a to replace gender notation) and White students.

Method

Participants were 256 ethnically diverse college undergraduate students in a long-established non-profit private university in California (179 women and 77 men). Each social identity was measured using established scales that showed good internal consistencies for the current sample with Cronbach alphas ranging from 0.75 to 0.89.

Results

The results showed that in the overall sample, the relative strength (rank) of the social identities going from most proximal (strongest) to the most distal (weakest) are as follows: Family, national (American), cognitive-ethnic, State (California), global-human, affective-ethnic, and neighborhood. The rankings (relative strength) based on the mean identity scores were somewhat different for Latinx and White samples but significantly correlated. Also, for the Latinx sample family identity and ethnic identity appear to have both relational and place attributes. For the White sample, family and global-human identities were polarized.

Conclusion

The findings suggest the complexity of the ways nested identities may be related rather than being related in a concentrically linear fashion, and may be different for different groups and collectives.

Keywords

Social Identities; Nested identities; Place identities; Relational identities; Nested concentricity model.

INTRODUCTION

Social identities have been widely studied by a social and behavioral scientist with significant theorizing related to a variety of identities such as ethnic, racial, professional, national, cosmopolitan, and role identities.¹⁻³ Early works by Mead,⁴ Erikson,⁵ and Tajfel,⁶ have often been used as anchors for theorizing and em-

pirical research on social identities. Brewer⁷ has proposed a model where social identities are seen as a means of incorporating opposing needs for differentiation from others and the tendency to promote group cohesion to adopt and assimilate. Capozza and Brown⁸ have reviewed the historical development of theories and research on multiple identities and their influence in intergroup relations and conflict. Gamst, Liang and Der-Karabetian⁹ have

compiled and reviewed empirical measures of identities for different ethnic/racial groups as well as disabilities, and their utilization in multicultural research and practice. Herb and Kaplan¹⁰ have examined the relationships of social identities as they are concentrically enlarged from local to national to regional identities. Leary and Tangney¹¹ in their edited volume have highlighted the importance of social identity in the development of the self throughout the lifespan and its implications for self-regulation and well-being. Phinney¹² and Sue and Sue¹³ have presented a collection of research to propose an integrated approach to understanding the implications of multiple social identities for personal development and use in applied settings. Furthermore, the symbolic interactionist approach has provided an early theoretical framework in the examination of multiple nested identities emphasizing the importance of situational contexts that influence the relationships among different socially constructed identities.¹⁴

The theoretical framework of concentrically nested identities has not received much empirical attention in the study of multiple identities.^{10,15,16} The nested concentricity framework of multiple identities stipulates that identities concentrically closest to each other tend to be related more strongly than those further away from each other. Goyder¹⁷ has examined such relationships among Canadians. Medrano and Gutierrez¹⁸ have studied European and national identities in Spain. Kalin and Berry^{19,20} have shown the importance of social context in determining the nature of the relationship of multiple identities.

In the nested identity framework family and ethnic identity would be considered proximal (closest) to the center of concentricity. They would also be considered relational identities concentrically closest to each other, generating a strong sense of belonging and would be correlated by virtue of being relational.²¹⁻²³ The state and national identities would be more concentrically distal identities generating a relatively weaker sense of belonging but would be correlated more strongly with each other and would be less strongly related to more proximal identities of family or ethnicity. According to Laczko²¹ and Dixon and Durheim²⁴ attachments to different identities also tend to be inversely proportional to the distance from everyday life and tend to be less relational.

The purpose of this study was to explore the relationship of conceptually identified concentrically enlarged nested identities of family, neighborhood, cognitive and affective ethnic identities, state (California), nation (America) and global-human (cosmopolitan) identities. Here the family would be considered closest to the center of the expanding concentric circle and may be the strongest sense of identity, and the global-human identity would be considered the most distant and relatively weakest among the nested identities. Moreover, the relationship and hierarchy (relative strength) of these nested identities will be examined among a group of diverse California undergraduate college students overall, as well as separately within subgroups of Latinx and White undergraduates. Even though the concentrically nested identities framework suggests the nature of the relationship

among the identities it is difficult to hypothesize such relationship because of the lack of strong empirical literature base.

It is important to recognize that social identities tend to be influenced by social situations and circumstances.^{14,25} Contextual factors of social composition of settings where identity is studied such as school, workspace, church, cultural events or organizational setting may impact the salience of social identities.^{26,27} Given the potential impact of such situational and contextual factors it is desirable to assess multiple social identities in a relatively neutral setting such as a classroom where the impact of context is minimized.

METHODS

Participants

Volunteer participants were 256 ethnically diverse college undergraduate students in a long-established nonprofit private school in California (179 women and 77 men). Of the total sample, based on self-identification, 39% were Latinx (N=100), 27% White (N=70), 14% multiracial or multiethnic, 7% African American, 6% Pacifica Islander/Asian, and 7% were other/unspecified. "Latinx" notation is relatively new in use and is used to reflect an undifferentiated gender designation. Ethnic/racial identity was obtained by an open-ended question where participants had to write in how they identified. Participants who identified ethnically with a Latin American country (i.e. Mexican-American) or some other traditionally used labels, such as Hispanic or Latino, were included in the Latinx group. This approach is commonly used, even though racially some Latinx may consider themselves White. If they happened to identify themselves as "White" they would have ended up in the White group. Participants who identified with self-designations such as White, Caucasian, or European-American were placed in the White group.

Measures

Family identity was measured using a somewhat modified form of Vazsonyi et al. Family Closeness subscale that had 6 items and an overall alpha=0.82 (95% CI=0.78-0.85) for the current sample;²⁸ example of an item is: "I am closer to my family than are a lot of young people my age." Neighborhood identity was measured using a somewhat modified version of Vazsonyi et al.'s Neighborhood Attachment subscale that had 10 items and an overall alpha=0.90 (95% CI=0.88-0.92) for the current sample;²⁸ example of an item is: "Living in this community gives me a sense of community." Ethnic Cognitive identity was measured using the Phinney and Ong Multiethnic Identity Measure (MEIM-R) that had 6 items and an overall alpha=0.87 (95% CI=0.85-0.90) for the current sample.²⁹ Cognitive ethnic identity may be considered a bit more distal and less relational than Ethnic Affective identity (below); an example of an item is: "I have spent time trying to find out more about my ethnic/racial group, such as its history, traditions,, and customs."

Der-Karabetian et al scales in somewhat modified form

were used to measure affective ethnic identity, state (California) identity, national (American) identity, and global-human identity.^{30,31} Affective ethnic identity had 6 items and an overall alpha=0.76 (95% CI=0.71-0.80) for the current sample. Affective ethnic identity may be considered as more proximal and relational; an example of an item is: “*I feel members of my ethnic/racial group all over the world are like relatives to me.*” Both cognitive and affective ethnic identities were measured since they tend to be correlated but not very strongly, suggesting that they may be related but reflect somewhat different aspects of ethnic identity.^{9,26} California identity had 7 items and an overall alpha=0.75 (95% CI=0.70-0.79) for the current sample; an example of an item is: “*My fate and future are bound with all Californians.*” National (American) identity had 7 items and an overall alpha=0.75 (95% CI=0.70-0.80) for the current sample; an example of an item is: “*If I were to be born again, I would wish to be born in the United States.*” Global-human identity had 7 items and an overall alpha=0.75 (95% CI=0.70-0.80) for the current sample; example of an item is: “*I think of myself as a citizen of the world.*” The minor modifications of items from the original included making references to the target identity such as “California” or to “my ethnic/racial group” instead of “Mexican” to make them more applicable. Another modification was the rating scale for consistency. Each of the 49 items across all the measures were rated on a 6-point Likert scale, 6=Strongly Agree, 1=Strongly Disagree, since some of the measures in their original formats used different Likert scales. This was important to do since the items of the different measures were randomly distributed in the survey form to control for potential order effect. (All the items of the survey may be obtained by contacting the corresponding author).

Procedure

The study was approved by the Institutional Review Board. The survey forms were administered anonymously mostly in psychology classroom settings where participants signed a consent form that was separated from the survey form. Students in the lower division and introductory classes came from different academic departments since these courses met general education requirements. They could decline participation with no consequences. Summary of the findings was sent to participants who requested them on the consent form.

RESULTS

Rank and Relative Strength of Nested Identities

The relative strength of each identity was based on the mean scores of the total sample and the two subgroups of Latinx and White samples (Table 1). The highest mean identity score was given the rank of 1; the next highest score was given the rank of 2, and so on. In Table 1 the numbers to the left of the name of the identity represent the conceptually nested rank of the identity. The numbers next to the right of the means with a slash represent the rank of that identity. Using Rank Order correlation (Rho), The rankings were correlated to examine if the rankings of the total, Latinx and White samples were similar or comparable to the

conceptual ranking (relative strength) of nested identities and if the rankings were comparable between the two subgroups. A significant correlation would indicate the rankings (relative strength) of the nested identities to be similar or comparable.

Table 1. Mean, Standard Deviation, and t-tests Comparing Means of Latino/A and White Samples on Nested Identity Measures

Identities (Conceptually Nested Rank)	Total Sample (N=256)	Latinx (N=100)	White (N=70)
	Mean/SD Rank	Mean/SD Rank	Mean/SD Rank
1. Family	5.05/1 0.85	5.07/1 0.84	5.01/1 0.81
2. Neighbor	2.10/7 1.03	2.96/7 1.02	3.15/6 1.02
3. Ethnic/ Cognitive	3.97/3 1.09	4.12/3 1.04	3.39/5 0.90
4. Ethnic/Affective	3.61/6 0.94	3.76/5 0.88	3.15/6 0.76
5. State/California	3.74/4 0.85	3.87/4 0.84	3.58/4 0.87
6. Nation/America	4.27/2 0.85	4.36/2 0.86	4.18/2 0.92
7. Global-Human	3.64/5 0.87	3.66/6 0.81	3.66/3 0.88

The conceptually identified concentricity ranking of nested identities of family (1), neighborhood (2), affective ethnic (3), cognitive ethnic (4), state (California) (5), nation (America) (6) and global-human (cosmopolitan) (7) identities did not match well (not statistically significant) with the rankings of the total sample (Rho=0.29), Latinx sample (Rho=0.43), or the White sample (Rho=0.08). This finding fails to support the conceptual concentricity of nested identities. However, Latinx sample and White sample rankings matched well and appear to be comparable (statistically significant) (Rho=0.72, *p*<0.05). Family was the highest ranked (strongest) identity in the total, Latinx, and White samples matching the nested concentricity framework. Family, national, and cognitive ethnic identities were highest (strongest) in the total sample that matched with the Latinx sample. Family, national and global-human identities were highest (strongest) in the White sample. Neighborhood and affective ethnic identities were ranked lower (weaker) in the total, Latinx, and White samples. The empirically obtained concentricity of the identities did not fall quite in line with the conceptual nested concentricity and varied somewhat within the two ethnic samples.

Inter-correlations of Identities

Identity scores were inter-correlated to examine if conceptually nested identities close together were more strongly related to each other, and if relational identities and place identities were more strongly related to each other within their categories. Table 2 shows the correlations for the total sample; Table 3 shows the correlations for the Latinx sample, and Table 4 shows the correlations for the White sample.

Stronger relationship of concentrically closer identities was present but was not uniformly true for the total, Latinx and White samples, partially supporting the nested concentricity framework. Identification as American (national) and Californian (state) correlated significantly with all other identities for the Latinx sample, perhaps serving as super (enlarged) inclusive identi-

Table 2. Inter-Correlation of Nested Identity Scores for the Total Sample (N=256)

	Family	Neighbor.	Ethnic/ Aff.	Ethnic/ Cog.	State	Nation	Global
1. Family	-						
2. Neighborhood	0.12*	-					
3. Ethnic/Affective	0.26**	0.37**	-				
4. Ethnic/Cognitive	0.26**	0.30**	0.78**	-			
5. State/California	0.20**	0.29**	0.37**	0.26**	-		
6. Nation/America	0.25**	0.21**	0.28**	0.22**	0.63**	-	
7. Global-Human	0.07	0.41**	0.40**	0.28**	0.22**	0.27*	-

*p<0.05, **p<0.01

Table 3. Inter-Correlation of Nested Identity Scores for the Latinx sample (N=100)

	Family	Neighbor.	Ethnic/ Aff.	Ethnic/ Cog.	State	Nation	Global
1. Family	-						
2. Neighborhood	0.14	-					
3. Ethnic/Affective	0.16	0.23*	-				
4. Ethnic/Cognitive	0.15	0.41**	0.77**	-			
5. State/California	0.24*	0.23*	0.31**	0.25**	-		
6. Nation/America	0.30**	0.22*	0.37**	0.30**	0.75**	-	
7. Global-Human	0.13	0.59**	0.53**	0.35**	0.26**	0.40**	-

*p<0.05, **p<0.01

Table 4. Inter-Correlation of Nested Identity Scores for the White Sample (N=70)

	Family	Neighbor.	Ethnic/ Aff.	Ethnic/ Cog.	State	Nation	Global
1. Family	-						
2. Neighborhood	0.11	-					
3. Ethnic/Affective	0.29*	0.46**	-				
4. Ethnic/Cognitive	0.19	0.46**	0.76**	-			
5. State/California	0.32**	0.41**	0.67**	0.41**	-		
6. Nation/America	0.28**	0.22	0.53**	0.43**	0.63**	-	
7. Global-Human	-0.12	0.12	0.12	0.11	0.11	0.11	-

*p<0.05, **p<0.01

Table 5. Factor Analysis with Principle Components and Varimax Rotation of Seven Nested Identity Scores for the Total, Latinx and White Samples

	Factor 1	Factor 2	Factor 3
Overall Sample (N=256)			
Chi Square=558.56 (df=21), p<0.001); KMO Sampling Adequacy=0.676			
Eigenvalues	2.91	1.17	1.01
Percent of variance explained	42%	17%	14%
Total variance explained=73%			
MEIM-R	0.840		
Ethnic/Affective	0.777		
Family	0.645		
National/America		0.884	
State/California		0.837	
Global-Human			0.785
Neighborhood			0.701
Latinx Sample (N=100)			
Chi Square=284.90 (df=21, p<0.001); KMO Sampling Adequacy=0.684			
Eigenvalues	3.20	1.33	
Percent of variance explained	37%	27%	
Total variance explained=64%			
Ethnic/Affective	0.867		
Neighborhood	0.782		
MEIM-R	0.782		
Global-Human	0.727		
National/America		0.876	
State/California		0.871	
Family		0.547	
White Sample (N=70)			
Chi Square=164.99 (df=21, p<0.001); KMO Sampling Adequacy=0.762			
Eigenvalues	3.21	1.13	
Percent of variance explained	46%	16%	
Total variance explained=62%			
Ethnic/Affective	0.889		
State/California	0.814		
MEIM-R	0.803		
National/America	0.716		
Neighborhood	0.629		
Global-Human			-0.762
Family			0.683

Note: There is no conflict of interest in the data collection and publication of this manuscript

ties. The range of correlations for national identity ranged from 0.22-0.75, and from 0.24 to 0.40 for state identity. Identification with family appears to be the most separated identity from the others for both the Latinx and the White samples, perhaps serving as an exclusive sense of belonging, which is also reflected in its being the strongest (top-ranked) most proximal identity. For the Latinx sample family identity was significantly correlated only with state and national identities (r=0.24 and 0.30, respectively). For the White sample it was correlated with affective-ethnic, state and national identities (r=0.29, 0.32. and 0.28, respectively).

Noticeable difference between the two groups was identification with the global human community. For the Latinx sample, it was connected to the other identities except for family identity (correlations ranged from 0.26 to 0.59), even though it was ranked low (6th). For the White sample, global human identity was connected to none of the other identities but was ranked relatively high (3rd ed), suggesting a separated but important sense of belonging. The pattern of correlations suggests that relational identities (family, ethnic) and place identities (state, national, and neighborhood) might have overlapping aspects of a sense of belonging and affiliation.

Factor Analysis of Identities

To take the examination of the nature of the relationships among the identities a step further, the mean scores of the identities were factor analyzed separately for the total, Latinx and the White samples using principle components and varimax rotation to determine how the identities were grouped (Table 5). The KMO sample adequacy indicator showed an adequate sample size for all three of the analyses. The total explained variances were quite high for the total, Latinx, and White samples, 73%, 64% and 62%, respectively. In general, relational and place identities tended to group together within their categories, partially supporting the conceptual nested concentricity. However, the factor structures of the Latinx and the White groups differed somewhat.

In the total sample, as expected, the first two factors that emerged reflect the grouping or clustering of proximal/relational identities (Factor 1) and distal/place identities (Factor 2). The grouping in Factor 3 seems to suggest that neighborhood identity may have more in common with the conceptually most distal global-human identity, perhaps reflecting the impersonal and distanced nature of neighborhoods.

In the Latinx sample, only two factors emerged. The first factor reflects the grouping of the mixture of place and relational identities: ethnic, neighborhood and global-human Identities. The inclusion of the neighborhood identity may suggest its relative salience and importance along with ethnic identity in reinforcing a sense of belonging that may be enhanced by living in a neighborhood (place) near other members of one's own ethnic group. The second factor seems to suggest the core nature of identification with the family that is nested with place identities of state and nation. It appears that family identity may have both a relational as well as place attributes, and may reinforce the sense of place attachment.

In the White sample, two factors emerged. In the first factor, similar to the Latinx sample, relational and place identities appear to be clustered together. Ethnic identity as a relational identity shares a connection with the place identities of the neighborhood, state and national identity. It is likely that ethnic identity also like family identity may carry both relational and place attributes. The second factor includes the family and global-human identities that are polarized since the former has a positive factor loading and the latter a negative factor loading. This is not surprising since the two identities represent the two most distant identities consistent with the nested concentricity framework.

DISCUSSION

The concept of multiple social identities stipulates that sense of belonging and identity may be tied to geographical and territorial entities.^{32,33} They may also be relational identities that involve intergroup and comparative interactions that enhance in-group distinctiveness and cohesion.³⁴⁻³⁷ Another element that contributes to understanding multiple identities is the notion that identities vary in terms of enlarged and superordinate identities impacted by minority-majority statuses, sociopolitical conditions, and situational

variations.³⁸⁻⁴⁰ The nested concentricity framework provides yet another possible way of conceptualizing the way multiple identities can be related in addition to other conceptual frameworks.^{10,17,41}

The results here suggest that conceptually identified concentricity dimensions do not necessarily line up going from the proximal intimate and relational identities to the distal and geographic or territorial identities. In the total sample relative strength (rank) going from most proximal (closest to the center of concentricity) to the most distal were as follows: Family, national (American), cognitive-ethnic, State (California), global-human, affective-ethnic, and neighborhood. Ranking of the strength of identities in the total, Latinx, and White sample do not match well (uncorrelated) with the conceptual expectation of the concentrically expanding identities. However, the ranking of the strength of identities was comparable (correlated) between Latinx and White college students. It is possible that the nested concentricity may be influenced by the primary dimensions of social identity proposed by Jackson and Smith that involve attraction to the in-group, belief in common fate and depersonalization of the self as group member and less as a unique person.⁴¹ The in-group attribute of common fate may be extended to a sense of belonging to a more enlarged sense of identity as a Californian and as an American.

Separate factor analyses of the mean scores for the total, Latinx and White samples showed a somewhat different grouping of the seven social identities. In the total sample, as expected, relational identities were grouped together (ethnic and family), place identities (national and state) were grouped together, and neighborhood and global-human were grouped together. Consistent with such grouping the results also showed that relational and place identities were more strongly correlated within their categories. Moreover, proximal identities tended to generate a stronger sense of belonging than distal identities in line with findings by Laczko regarding local and national attachments.²¹

It was noteworthy to see that in the two ethnic samples the identities were grouped somewhat differently in the factor analyses. For the Latinx sample family identity and ethnic identity appear to have both relational and place attributes since they were nested close to place identities. For the White group ethnic and place, identities nested together, while family and global-human identities were polarized in a separate factor. Such ethnic group difference in the nesting of identities and their relative strength may be partially due to the social contextualization of the groups as suggested by de Rivera and Carson,³⁹ Harwood et al⁴² and Pollman.¹⁵ The social-political contexts experience by the Latinx (minority status) and the White samples (majority status) may partially be implicated in understanding the differences in the way social identities are endorsed. It is also reasonable to think of relational and place identities as co-extensive rather than differentiated or independent.

CONCLUSION

The compelling conclusions from the current data suggest the complexity of the way relational and place identities may be related rather than being related in a concentrically linear fashion. Also,

the nested concentricity of multiple relational and place identities may differ within different collective groups due to various social and contextual factors. Future research could examine the way relational and place identities may be related within different, national, ethnic/racial, regional, organizational or professional entities using the nested concentricity framework of multiple identities. The notion of concentrically enlarged social identities may be constructed differently for different social groupings and entities. How such constructions may be reflections of the cultures and social-political status of different groups or organizational entities provide ample opportunity for further research.

One of the limitations of this study is the limited generalizability of the findings because of the nature of the samples. While it was assumed that the classroom setting was relatively neutral in elevating one identity over another, it is not possible to establish such neutrality. However, the classroom settings where the data were collected represented good diversity of ethnic/racial backgrounds. Whereas if there was a homogenous representation of one group or another it may have elevated that group's sense of affiliation over others.

CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

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Original Research

Gender Pay Gap: A Cross-Sectional Study of the Effect of Workplace Entitlement on Pay Differences

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ABSTRACT

Aim

Past empirical studies investigating the possible causes of the gender pay gap have focused on cognitive trait differences between males and females. While several researchers have concluded that personality (or non-cognitive) traits play a role in the pay gap, no definitive lists of personality variables have been discovered to explain the gender pay differentials. We explored whether self-entitlement may result in sex differences in expected salaries.

Methods

We surveyed 413 undergraduate students from an introductory university course studying management to investigate the possible relationship between employee entitlement and expected pay. The survey included two parts of questions asking about participants' employee entitlement and expected pay for different occupations, which reflected potential careers from the management program.

Results

While the results showed some sex differences, there were only a few significant relationships between employee entitlement and expected pay.

Conclusion

Although entitlement correlated positively with some of the expected starting salaries, the results do not definitely explain the sex differences in pay as men and women scored higher on certain facets of entitlement.

Keywords

Employment entitlement; Pay differences; Expectations; Salaries.

INTRODUCTION

The gender pay gap ratio for some countries is shrinking but is still far from parity. For example, in Canada, the ratio is approximately 0.87 according to Statistics Canada,¹ which means that females earn \$0.87 for every dollar that males earn. While Canada ranked highly in gender equality in the global gender gap report from the World Economic Forum,² the report also indicated that the pay gap will take up to 217-years to close. Scholars studying the underlying reasons for the pay gap, besides gender discrimination, have focused on factors such as educational background or occupational differences. For example, Summers³ reported that women tolerate being underpaid more than men. The

aim of the current study is to investigate the relationship between the gender pay gap and the personality trait of employee entitlement. In particular, do men score higher on employee entitlement than do women, and if so, does employee entitlement correlate with higher estimates of starting salaries? If men have higher employee entitlement and expect a higher salary when beginning their career, these expectations may influence the gender pay gap by influencing factors such as bargaining for a higher starting salary at the beginning of their career.

Gender Pay Gap and Personality

Statistics Canada⁴ concluded that female workers are more devot-

ed to traditional gender roles, such as childcare, and therefore work less than male workers across different industries. In addition to the statistical reports of employment frequency by gender, stereotypes are held by individuals about positions that are characteristically staffed by either men or women. For example, Collins, Reardon, and Waters⁵ found that if students were told that more women would be entering a male-dominated profession, men showed a decrease in interest in that profession. These perceptions may influence the expectation people have about the compensation they should receive in their careers.

Brenner and Bertsch⁶ reported sex differences with respect to merit pay. Specifically, men who were assertive preferred merit pay but assertive women preferred seniority-based pay. This difference in salary expectation helps to illustrate the joint influence of gender and personality traits, such as assertiveness. In general, past results have shown that the very existence of the gender pay gap may be because of social norms and the deeply rooted gender bias in society.⁷ However, if females and males exhibit different patterns of behavior due to gender differences, is there a possibility that the personality differences between men and women influence the gender difference in salaries? Mueller and Plug⁸ stated that personality, also known as non-cognitive traits, plays an essential part in shaping earning differentials.

Researchers have gone further with this assumption and selected different variables to analyze the relationship between personality and salaries in the workplace. For example, the locus of control and the preferences of challenge *versus* affiliation have been suggested to be key non-cognitive traits in the workplace reward system. Women exhibit a higher degree of internal locus of control and need for affiliation, whereas the workplace rewards external locus of control and the need for challenge.⁹⁻¹¹ These non-cognitive traits in the literature only partially explain the gender pay gap but provide insight into the relationship between personality and pay differentials.⁹⁻¹¹ It is worth noting that both variables, locus of control and preferences for challenges, more strongly effect female earnings than male earnings, therefore using only these variables to describe both male and female differences may not be satisfactory.

With respect to other personality dimensions, some have examined the big five personality factors (extroversion, neuroticism, agreeableness, conscientiousness, and openness to experience), and the gender pay gap. In one study, Mueller and Plug⁸ concluded that personality is a strong predictor of pay differentials for both male and female earnings. Agreeableness was found to be the strongest indicator when predicting male and female earning differences. Males gain an advantage for being less agreeable and females are typically rewarded for being more agreeable.⁸ Again, these results demonstrate a joint influence of gender and personality in pay and work-related rewards.

Employee Entitlement

The concept of entitlement has gained attention recently. The fact that entitlement is considered to have a negative effect in academic-related fields, causes concern in the workplace.¹² Employee

entitlement refers to employees' beliefs that they deserve better treatment than others in the workplace without any additional work input.^{13,14} The concept of employee entitlement also links to counterproductive behaviours and is thought to be associated with narcissism and self-focus.¹⁴ However, few empirical studies have discussed the possible link between employee entitlement and expected pay.

Hogue, Yoder, and Singleton¹⁵ showed that males tend to internalize their social status of being privileged even when they do not deserve higher pay. Williams, Paluck, and Spencer-Rodgers¹⁶ stated that society perceives that maleness is strongly associated with wealth; therefore, males inherently believe they deserve a higher pay (see also DuBrin¹⁷ on the importance of perception and sex differences in tactics). These studies focused solely on why males have elevated entitlement regarding salary, but due to the lack of a well-established measurement, the possibility of employee entitlement as a personality trait to explain the gender pay gap has yet to be found.

Measure of Employee Entitlement

A recent scale developed by Westerlaken et al,¹⁴ the measurement of employee entitlement (MEE) assesses employee entitlement based on the framework of the psychological entitlement scale (PES) by Campbell, Bonacci et al.¹⁸ Although the MEE is relatively new and does not have a considerable number of replicated studies, Westerlaken et al¹⁴ reported that the MEE was positively associated with the PES, was negatively associated with a measure of positive reciprocity, and that there was a non-significant correlation with self-esteem. It is worth noting that the three validation studies by Westerlaken et al¹⁴ did not explicitly report sex differences in scale scores, suggesting that this area requires further analysis.

Present Study

To investigate how entitlement may play a role in contributing to the gender pay gap, the present study explores the correlations between the entitlement scale scores and the reported expected salaries. If men do score higher on the entitlement scale, and if entitlement correlates with higher expected starting salaries, then these findings may help to explain later sex differences in pay such that if men expect a higher starting salary, they may be better at negotiating a higher starting wage.

METHODS

Participants

Following institutional ethics approval, 421 undergraduate university students enrolled in a first-year management course stated they were willing to participate. Incomplete responses (2%) were excluded resulting in a total of 413 respondents. Of these participants, 143 were male (34.6%) and 270 were female (65.4%). The respondents' ages ranged from 17 to 38-years-old (M=18.81, SD=1.88). Of note, students in this program include students studying marketing, human resources management, finance, ac-

counting, and commercial aviation. The students enter the program based on a higher entrance grade average than comparable students within the faculty.

Materials and Procedure

Questions were completed using a secure online survey. Individuals first indicated if they were a man or a woman and their age (in years). Following, participants completed the entitlement measure and then provided estimates of their expected starting salary for 10 entry-level positions (listed below). These positions were selected specifically because they reflect possible careers that students may enter into after completion of their management degree.

Measure of Employee Entitlement (MEE)

The 18 item measure of employee entitlement¹⁴ scale measures the degree to which an individual believes that they deserve preferential treatment in the workplace (example item, “Any organization should be grateful to have me as an employee”). Items are responded to using a 6-point Likert scale (1=strongly agree to 6=strongly disagree). The MEE contains three subscales, including reward as a right, self-focus, and excessive self-regard. In the present study, the nine-item reward as a right scale (example item, “I expect regular pay increases regardless of how the organization performs”) was found to be internally consistent ($\alpha=.89$; 95% confidence interval=0.87 to 0.91) with alpha not increasing with the deletion of any item. The reliability estimate of 0.89 is slightly higher than the 0.81 to 0.85 values reported by Westerlaken et al.¹⁴ The five-item self-focus scale (example item, “I should be able to take leave whenever it suits me”) also showed an acceptable internal consistency ($\alpha=0.78$; 95% confidence interval=0.74 to 0.81), and the alpha would increase to 0.83 with the deletion of the item, “Employers should accommodate my personal circumstances?”. Westerlaken et al.¹⁴ reported alpha values of 0.77 to 0.83 for the self-focus scale. The four-item excessive self-regard scale (example item, “I believe I have exceptional skills and abilities”) exhibited a lower consistency ($\alpha=0.68$; 95% confidence interval=0.63 to 0.73) with alpha not increasing with the deletion of any item. Although the 0.68 estimate is lower than the other reliability values, the value is in line with the 0.67 to 0.68 values reported by Westerlaken et al.¹⁴ Interestingly, the inter-scale correlations varied for this scale. The correlation between reward as right and self-focus was 0.81 whereas the correlation between the reward as right and excessive self-regard was 0.33 and the correlation between self-focus and excessive self-regard was 0.35. These correlations suggest that the measure of focusing on the self and viewing rewards as rights are almost interchangeable. In addition to the subscales, a total MEE scale score was computed with a coefficient alpha value of 0.90 (95% confidence interval=0.89 to 0.91) in the present study which is higher than the 0.87 to 0.88 reported by Westerlaken et al.¹⁴

Expected Salaries

Participants were asked to estimate what they would expect to earn as an annual salary if hired at the entry level for 10 occupations located within the city of the university they were attending. The 10 occupations included: retail merchandise assistant; retail management trainee in a retail company; teller at a commercial bank; accountant assistant in a corporation; payroll assistant in a human resources department; assistant manager at an airport; entry operation manager in a warehouse; safety inspector for the provincial government; sales associate at a store in a local mall; and marketing generalist for a marketing company. These positions were chosen because they reflected the areas within the academic program for the participants.

RESULTS

MEE Sex Differences

Sex differences in the MEE sub-scales and total scores were assessed and the values are reported in Table 1. The test of the homogeneity of variances (F-tests) was based on Levene’s Test and was found to be non-significant, suggesting that men and women were equally variable in their scale responses. With respect to mean differences, women scored higher than men on the reward as right and the self-focus scales. Men scored higher than women on the excessive self-regard scale. Men and women did not differ significantly on the total MEE score.

	Men Mean (S.D.)	Women Mean (S.D.)	F	t
Reward as a Right	25.40 (8.29)	27.28 (9.35)	2.61	-2.02*
Self-Focus	12.69 (4.40)	13.71 (4.67)	0.68	-2.16*
Excessive Self Regard	16.40 (3.73)	14.94 (3.30)	3.23	4.09*
Total Scale Score	54.50 (13.88)	55.93 (15.05)	0.89	-0.95

* $p<0.05$, two-tailed; 143 men and 269 women

Expected Starting Salaries

Surprisingly, there were no significant sex differences in the expected starting salary values across the 10 occupations with respect to variance differences (based on Levene’s F-tests) and mean differences (based on independent groups t-tests), suggesting that men and women expected similar starting salaries. The expected salaries ranged from \$25,000 to an ambitiously high estimate of \$100,000. The correlations between the salary estimates and the entitlement scales are reported in Table 2. Although not robust, some of the correlations show some interesting patterns. Scores on the self-focus subscale had the greatest number of significant positive correlations with salary expectations, followed by the reward as a right scale and the total MEE scale. Scores on the self-regard scale did not correlate significantly with any of the salary expectations.

Table 2. Correlations between Expected Salaries and Entitlement

Occupation	Reward as a Right	Self-Focus	Self-Regard	Total MEE
Retail Merchandise Assistant	0.19**	0.18*	-0.04	0.17*
Retail Management Trainee	0.15*	0.15*	-0.01	0.14*
Teller	0.07	0.12	-0.10	0.06
Accountant Assistant	0.10	0.19**	0.01	0.12
Payroll Assistant	0.07	0.15*	-0.09	0.07
Airport Assistant Manager	0.11	0.14*	-0.03	0.10
Warehouse Operation Manager	0.10	0.09	-0.04	0.09
Provincial Safety Inspector	0.12	0.16*	-0.03	0.12
Mall Sales Associates	0.19**	0.24**	-0.02	0.19**
Marketing Generalist	0.07	0.08	-0.04	0.06

DISCUSSION

The overall results failed to support the suggestion that gender differences in pay may be due to differences in entitlement, which results in differences in expected salaries. With respect to scale scores on the MEE,¹⁴ women scored higher on the reward as a right and self-focus subscales and men scored higher on the excessive self-regard scale. Because sex differences were not reported by Westerlaken et al¹⁴ for the MEE, these results add to the understanding of the entitlement literature. Of note, there were some small but significant positive correlations between the self-focus and reward as right subscales and expected to start salaries. As women scored higher on these two entitlement measures, this pattern may explain why we failed to find significant sex differences in expected starting salaries.

Westerlaken et al¹⁴ describe the reward as a right scale as reflecting the expectation that preferential treatment is automatic. The self-focus scale is also described as a reflection of self-serving attribution bias. These MEE subscales may show some association with the external end of locus of control and if so, support the findings by Semykina and Linz^{10,11} in regards to females' high external locus of control in the workplace. How MEE scale scores correlate with measures of locus of control is an area requiring future study. The results in salary estimations also contradict with the previous literature^{19,20} that males have a higher salary expectation than females. This lack of sex differences in salary expectations could be the product of the changing demographics in the sample since the majority of the participants are "Generation Z", and this particular generation may exhibit different attitudes toward gender inequality compared to earlier other generations. For example, in an analysis of Canadians, Desmarais and Curtis²¹ reported that in 1984, men and women were equal, in terms of proportions, with respect to the amount of income that they reported to deserve but that in 1994, more women reported deserving additional pay than did men.

LIMITATIONS

Although this study does add to the body of literature examining possible factors associated with gender differences in pay, the study is limited due to the sample homogeneity in that only first-year management students were tested, a fact which reduces the generalizability of the results. Although researchers such as Desmarais and Curtis²² reported that previous income did not significantly predict how men and women would pay themselves, the nature of the present sample may be a limitation. As the participants were first-year managerial students, this fact may explain some of the ambitious and extreme salary expectations provided by the students, who although are pursuing careers in the areas assessed, may not be familiar enough with the current labor market to provide realistic salary expectations. Future studies may want to assess graduating students who have possibly spent more time thinking about their future salaries. Future studies may also want to examine different aspects associated with salaries. For example, Orpen²³ examined various aspects of pay and motivation by examining satisfaction with benefits and raises. Possibly sex differences may emerge with respect to expected benefit packages offered by employers. Another area worth investigating is what is termed, "the paradox of the contented female worker".^{24,25} This paradox is the finding that although a woman may know that she is paid less than men are, she may not feel entitled to more pay.²⁴ Recently Valet²⁵ demonstrated that the paradox is not present when women are in male-dominated careers. Future studies with students may first ask students their perceptions of the gender make-up for certain positions and then ask their expected starting salaries.

A further limitation of the present study is that the scale employed, the MEE¹⁴ is very new and has not been thoroughly tested. For example, the scales may be vulnerable to response bias effects. How factors such as faking-good or social desirable responding influence scores on the MEE is an area which requires further investigation.

CONCLUSIONS

Overall, this study does present a new angle for studying personality and pay differentials. Based on the limitations of the current study, future research is suggested to emphasize more on the sample selection in order to enhance the sample generalizability. The second suggestion is to educate students on having a more realistic employment expectation at the entry level. Peirone and Maticka-Tyndale¹² address the importance of clear communication on realistic salaries and job duties. In addition, future research may ask for participants' ideal hourly wage instead of an annual salary that is sometimes too complicated to calculate. Finally, future studies may investigate the possible effect of sex differences on the MEE subscales since the present study show that the males' and females' responses do differ in different subscales. In conclusion, it was of great interest that the sample tested did not show any sex differences in the expected starting salary estimations. Past research, such as the findings reported by Summers³ has reported significant sex differences such that men expected higher salaries than wom-

en. These findings are both novels and encouraging as they may reflect equality in pay expectations of this younger generation.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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Brief Research Report

What Were They Thinking? Analytic and Cognitive Language in Instagram Captions

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ABSTRACT

Background

We examined content and expression of Instagram captions of major celebrities who differed according to sex and status, with a focus on determining whether these variables influenced the use of analytic language and cognitive content.

Method

Instagram captions (n=942) were analyzed with the linguistic inquiry and word count (LIWC), which delineated percentage of language reflecting analytical thought and various cognitive mechanisms, such as causality and discrepancy.

Results

Men and low-status persons used more functional analytic language, demonstrating critical thought; in contrast, high-status celebrities showed more causality. Women more than men “qualified” their speech with discrepancy. These findings were not a function of sentence length.

Conclusion

Status increased the tendency to construct and explain, perhaps because higher status celebrities (particularly women) knew that they could hold followers’ attention with complex content. The tendency to write captions that were concrete was seen in those lower-status persons who may have perceived that followers would not wade through a lot of complicated thoughts. Thus, status contributes to the manner in captioning based, perhaps, on having a broader audience willing to read more complex language.

Keywords

Language use; Status; Instagram; Sex differences in linguistics.

INTRODUCTION

A simple Google search of “sample Instagram post” leads to 276,000,000 results, confirming that social media is both important to people and perhaps more complicated than it would appear on the surface. Given that Instagram is designed to share visual content, why is there so much advice about what words to use to caption Instagram posts?

A wealth of research shows that words do, indeed, matter. Several avenues for the analysis of linguistic content are available to understand how people use language based on several per-

sonal and social variables. For example, language can be classified into naturally-occurring groupings that reflect a user’s current affective state, as well as more enduring traits, *via* an “open” vocabulary analysis approach.¹ The “closed” approach, exemplified by the linguistic inquiry and word count (LIWC),² analyzes content words and speech devices by categorizing these into a dictionary of nearly 6400 different words, including text and internet-related abbreviations for words. The LIWC automatically produces more than 90 dependent measures per file of text; most of these measures take the form of a percentage. So, for example, the LIWC will compute the percentage of analytic language, or pronouns, or language of cognitive processes in each file.² The

most recent LIWC dictionary has been generated by the analysis of over 80,000 separate speakers and writers who have produced over 230 million words.² These samples have been taken across several contexts, from personal expressive writing to the Internet and social media postings, to books and plays, to news articles and speeches.² The closed approach using the LIWC has revealed ways that language reflects a speaker's motivation, state, sex, status, and ways-of-thinking.

Emotional (affective) language, for example, signals important aspects of the speaker, including sex and status. Women more than men use language with positive emotion,^{1,3} as do those high in extraversion,⁴ conscientiousness,⁵ and agreeableness.^{6,7} Not surprisingly, celebrities using Twitter most often discuss their preferences,⁸ yet affect language among celebrities on Twitter also differs, with positive emotion seen in less "followed" (i.e., lower social status) celebrities, regardless of sex,⁹ perhaps because those persons wanted to be seen as agreeable, and light—therefore, more fun to follow.

Status and sex also influence the use of the function words that mirror a focus on the self, as seen *via* the first-person pronoun "I". On Twitter, for example, women and lower-status persons used "I" in their Tweets, but "I" was equal (and less-likely) in both women and men of higher social status.¹⁰ The use of an informal and friendly style that includes self-referencing is seen in men of lower social status, perhaps in effort to engage more people and enhance their own status through more self-referencing. The use of "I" signals a more "narrative" or "story-like" approach to provide perspective, omitting sophisticated language, and avoiding cognitive mechanisms.¹¹

Language signaling thought, causality, and insight is used in predictable circumstances, such as when people wish to transmit facts or reconstruct events and provide explanations for them.¹² Such use may also suggest that a story or argument is well-known because it does not contain hedges and fillers. So, for example, cognitive processes are reflected when people use words such as "know" or "because". Discrepancy and tentativeness are also markers of thought, and may be seen when people use "should" or "maybe". Differentiation may qualify what is said ("but"), although certainty may reinforce what is said (i.e., "always").² People show more cognitive sophistication in their language as they age,¹³ and men more than women use prepositions and articles across different types of communication contexts,¹⁴ although women employ discrepancies (should, could) more than men in most communication contexts.

Analytic thought as expressed in language is decreasing as technology, issue-complexity, and global political shifts toward populism are increasing.¹⁵ Analytic language includes the use of articles (e.g., the, and) and prepositions (e.g., above, with) designed to show connections and critical relations among points. On the other hand, the "informal" style includes more narrative, ideas, actions, and stories.¹⁵ Although shifts away from analytic language are occurring most acutely in the political realm, other common

textual information (such as in movies and on television) also trends toward informality.¹⁵ Thus, linguistic simplicity may be a key marker of the speech of persons in the public eye. Our study examined the analytic expression, as well as evidence of cognitive thought, in speech of celebrities who have the attention of the public, in this case by examining their language used on a specific type of social media: Instagram.

Instagram is a social media platform that includes text captioning along with the primary focus of sharing visual content (photos and videos). People post videos or photos and write text to "caption" their visual posting. According to <https://www.websitehostingrating.com/instagram-statistics/>,¹⁶ Instagram posts garner more reactions or responses (termed "engagements") than any other social media site—58 times more than Facebook. Moreover, 1 billion people worldwide use Instagram, and 38% of users in the US visit multiple times a day, spending 30 min on average on the site, often "liking" posts at a rate of 4.2 billion per day. Over 100 million photos are added to Instagram each day. As the videos and photos are intended to be the primary communication, the captions may, therefore, allow for analysis of expression, given that the visual provides the content. We thus examined how sex and status influenced the use of analytic and cognitive language in Instagram captions.

METHOD

Sample

The "Most Powerful Celebrities with Highest Social Ranking" was obtained from www.ranker.com¹⁷ in August 2018. The original list included 100 celebrities, but some of those were members of groups (such as rock bands) and some did not have verifiable Instagram accounts, which we checked by locating the small blue "check mark" for verified accounts. Our sample thus included 41 celebrities (15 women, 26 men) who produced 942 Instagram posts (with captions) in a six-week period (August 14, 2018 to September 28, 2018). Each Instagram caption was taken verbatim from the post and placed into a word document, where we then applied the Linguistic Inquiry and Word Count 2015.²

Following Beach et al¹⁰ we used a median split of number of followers to delineate high and low status, and then used a 2×2 (Sex×Status Median Split) between-subjects ANOVA with number of followers as the dependent measure to check our manipulation. Table 1 shows the mean number of followers according to our independent variables. This analysis was statistically significant for status, $F(1, 37)=22.79, p<0.001, \eta_p^2=0.38$, as the 21 persons designated as high status had significantly more followers ($M=53,066,667, SD=45,571,541$) than the 20 persons designated as low status ($M=2,873,800, SD=2,401,524$). However, neither the main effect for sex, $F(1, 37)<1, p>0.05$, nor the interaction, $F(1, 37)<1, p>0.05$, were statistically significant. The number of Instagram captions that comprised the sample according to sex and status can be seen in Table 2.

Table 1. Means and Standard Deviations for Number of Followers as a Function of Sex and Status

	Status	
	High	Low
Women	63,277,778 (43,899,367)	2,369,333 (1,907,432)
Men	45,408,333 (47,170,743)	3,090,000 (1,907,432)

Note. Followers differ between high- and low-status celebrities.

Table 2. Number of Instagram Captions According to Sex and Status

	Status	
	High	Low
Women	329	166
Men	285	162

RESULTS

One concern in the examination of analytic expression and content was that these may have been a function of words given per sentence, as longer sentences might suggest a higher degree of analytical expression and cognitive thought. Words per sentence (WPS) were therefore used as a dependent measure in a 2x2 (SexxStatus Median Split) between-subjects ANOVA. There was a statistically significant main effect of status, $F(1, 938)=9.75$, $p<0.003$, $\eta_p^2=0.01$, but no statistically significant effect of sex, $F(1, 938)=3.60$, $p>0.05$. High status (HS) celebrities ($M=8.84$, $SD=6.11$) used significantly fewer WPS than did low-status (LS) celebrities ($M=10.22$, $SD=6.87$), although the effect was qualified by a statistically significant interaction, $F(1, 938)=6.44$, $p<0.012$, $\eta_p^2=0.007$. Post-hoc tests (simple effects) showed that men's WPS was relatively regardless of their status ($M_{LS}=9.25$, $SD=5.51$ vs. $M_{HS}=8.99$, $SD=5.78$), $t(938)<1$, $p>0.05$, but that high-status women used significantly far shorter captions ($M=8.71$, $SD=6.39$) than did lower-status women ($M=11.18$, $SD=7.87$), $t(938)=4.08$, $p<0.001$. Additionally, lower-status women had higher WPS than their low-status men counterparts, $t(938)=2.75$, $p<0.05$. Therefore, WPS was used as a covariate in the subsequent analyses.

Analytic Language

The means and standard deviations for the 2x2 (SexxStatus) between-subjects ANCOVA on analytic language can be seen in Table 3. There was a statistically significant main effect of status, $F(1, 937)=12.05$, $MSE=965.35$, $p<0.002$, $\eta_p^2=0.013$, and sex, $F(1, 937)=9.49$, $p<0.003$, $\eta_p^2=0.010$. Men ($M=79.97$, $SD=29.80$) used significantly more analytic language with prepositions and articles more than women did ($M=66.33$, $SD=32.69$). Additionally, low-status (LS) persons used significantly more analytic language than did high-status (HS) persons ($M_{LS}=75.27$, $SD=28.33$; $M_{HS}=67.12$, $SD=32.84$). The interaction was not statistically significant $F(1, 937)=2.44$, $p>0.05$. Observed power was 0.93 and 0.87 for status and sex, respectively.

Table 3. Means and Standard Deviations for Percentage of Various Aspects of Language as a Function of Sex and Social Status

	Sex			
	Men		Women	
	Status			
	Low	High	Low	High
Analytic Language	76.63 (28.34)	72.47 (30.55)	73.95 (28.33)	62.49 (34.07)
Cognitive Mechanisms Insight	0.97 (2.18)	1.70 (3.56)	1.50 (2.93)	1.48 (2.91)
Causation	0.29 (1.06)	0.93 (2.98)	0.85 (2.30)	1.18 (3.71)
Discrepancy	0.33 (1.25)	0.40 (1.41)	0.87 (2.26)	0.58 (2.02)
Tentativeness	1.20 (2.97)	0.91 (2.92)	1.31 (2.78)	1.23 (3.13)
Certainty	1.23 (2.71)	1.57 (3.93)	1.26 (2.55)	1.52 (3.27)
Differentiation	0.87 (2.06)	0.87 (2.31)	1.42 (2.87)	1.29 (3.59)

Note: Numbers represent percentage of language classified in the LIWC category.

Cognitive Mechanisms

The linguistic variables that comprise the category of cognitive thought (differentiation, discrepancy, causation, insight, tentativeness, and certainty) were entered as dependent variables in a 2x2 (SexxStatus Median Split) MANCOVA, holding WPS constant. The means and standard deviations from the individual variables in this category are displayed in Table 3.

The MANCOVA produced statistically significant main effects of sex of celebrity, $F(6, 932)=2.50$, $p<0.022$, Wilks' $\lambda=0.98$, $\eta_p^2=0.016$, and status, $F(6, 932)=2.33$, $p<0.032$, Wilks' $\lambda=0.99$, $\eta_p^2=0.015$. The interaction was not statistically significant, $F(6, 932)<1$, $p>0.05$. Observed power was 0.84 and 0.81 for the main effects of sex and status, respectively.

Follow-up ANCOVAs with a Bonferroni correction for six dependent variables were performed. Significantly more discrepancy (e.g., "should" or "maybe") was seen in women ($M=0.68$, $SD=2.10$) than in men ($M=0.37$, $SD=1.36$), $F(1, 937)=7.51$, $p<0.039$, $\eta_p^2=0.008$. Observed was power 0.78. Additionally, the language of high-status persons ($M=1.07$, $SD=3.39$) showed a trend toward more causality (e.g., "because") than that of low-status celebrities ($M=0.57$, $SD=1.82$), $F(1, 937)=6.78$, $p=0.052$, $\eta_p^2=0.007$, observed power=0.74. No other statistically significant differences were found located for sex or status.

The foregoing analyses highlight differences between expression and content, and suggest there should be an inverse relationship between analytic language (content) and cognitive mechanisms (transmission). Indeed, analytic language and the language of cognitive processes were statistically inversely related, $r(942)=-.298$, $p<0.001$.

DISCUSSION

The results of this study revealed men and low-status persons, in comparison to women and high-status celebrities, used language that showed more “analytic” expression designed to demonstrate critical thought. Yet, high-status celebrities captioned their visuals with more causality. Women employed discrepancy “hedging” their language somewhat. The findings were not a function of words per sentence.

The findings with regard to causality and analytic language are on the surface paradoxical: the content of the captions of high-status celebrities were more likely to include facts and, perhaps, their own stories, as language with causation may reflect personal experiences.¹⁴ Thus, the manner in which they wrote their captioning was different from that of low-status celebrities and men. The latter used analytical language, which typically includes articles and prepositions, termed “function” words.¹⁵ As Jordan and colleagues¹⁵ note, these linguistic mechanisms reflect a simplification and unpacking of more complicated ideas. Thus, low-status persons and men communicated analytically, perhaps omitting personal experiences. Indeed, this argument is supported by an analysis of 150 Instagram posts of three major women celebrities that showed that the most popular captions (measured by likes) were those that dealt with personal issues or one-sided (i.e., parasocial) relationships with fans.¹⁸

Pennebaker and colleagues^{12,14} have shown that men use more prepositions and articles across several types of writing, and our data confirm that men provided more simplification of their ideas on the captions, as measured through analytical language. Low-status celebrities did the same, which may also provide a reason why their words-per-sentence were high. While low-status celebrities and men used more words, the content of captions from high-status celebrities may have been more complex because they have sufficient followers to retain attention, regardless of the complexity of their content.

As in previous research,¹⁴ women’s language included more discrepancies, a style that is generally more polite. However, discrepancies are somewhat context dependent, varying according to whether the writing is spontaneous or planned, with sex differences more likely in language that is unconstrained,¹⁴ such as with Instagram captions. In this research, captioning did not really include much of this polite, hedging language compared to the standards present by Pennebaker et al² analysis of over 200 million words, generated across multiple contexts by about 80,000 speakers, demonstrated hedging at a rate 2- to 3-times the rate we found, which is not surprising considering people were captioning their own visual content. Thus, the small amount of differentiation was present but women were using it slight more than men, thereby qualifying their speech. It should be noted that the standard deviations in all our measured categories were relatively high. Yet, even with this type of free-form content, women still used more polite language than men.

Several fruitful avenues of research exist for future analyses of Instagram captioning. Most notably, Instagram captions of non-celebrities should be examined, particularly given our large proportion of captions by high-status women. Additionally, there are several other research questions connected to affect, given that similar work using 140-word Tweets has shown that low-status celebrities and men “keep it light” and positive in that social media platform.¹⁰ Additional variables influencing language use include age¹³ and personality.^{14,7} Most importantly, the nature and valence of the visual—whether it is explained, amplified, complementary, or in contrast to—the text content will also be essential. Do men and women of varying status caption their visual presentation differently, and is their visual presentation different? Perhaps their pictures differentially mirror their content, helping us to understand further how people communicate what is on their minds.

CONCLUSION

Our findings support previous findings with regard to sex and language, and also shed light on how status may mitigate sex-linked language effects. Sex and status contribute to the language used in captioning Instagram posts, perhaps based on the likelihood that an audience will read complex content from high-status celebrities and women, with more concrete language seen in lower-status persons whose followers may not wade through complicated ideas. Regardless of content, women’s captions were more polite.

CONSENT

There is no consent required for research with public documents, and research used public-domain material (public Instagram accounts), which does not require Institutional Review Board (IRB) approval.

CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

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