

2021

The FOCUUS Model— Facilitating Occupational Performance on Campus: Uplifting Underrepresented Students

Maribeth Clifton

Washington University School of Medicine in St. Louis

Steven D. Taff

Washington University School of Medicine in St. Louis

Follow this and additional works at: <https://encompass.eku.edu/jote>



Part of the [Occupational Therapy Commons](#), and the [Scholarship of Teaching and Learning Commons](#)

Recommended Citation

Clifton, M., & Taff, S. D. (2021). The FOCUUS Model— Facilitating Occupational Performance on Campus: Uplifting Underrepresented Students. *Journal of Occupational Therapy Education*, 5 (3). <https://doi.org/10.26681/jote.2021.050314>

This Theory is brought to you for free and open access by the Journals at Encompass. It has been accepted for inclusion in Journal of Occupational Therapy Education by an authorized editor of Encompass. For more information, please contact Linda.Sizemore@eku.edu.

The FOCUUS Model– Facilitating Occupational Performance on Campus: Uplifting Underrepresented Students

Abstract

The FOCUUS Model or Facilitating Occupational Performance on Campus: Uplifting Underrepresented Students, is a theoretically-based, evidence-centered model focused on ethnic minority (EM) students in higher education. The FOCUUS Model recognizes minority status as a determinant of health, where the experience of minority status stress (MSS) resulting from racism, stigmatization, marginalization, discrimination, microaggressions, and challenges to one's sense of belonging largely influence one's occupational performance, health, and overall well-being. Historical and contemporary injustices within American culture have resulted in multigenerational occurrences of disparities for EMs. Racial injustice is deeply embedded and still ever-present within practices and traditions in higher education institutions resulting in racialized experiences for EM students and contributing to further disparities in educational outcomes. The FOCUUS Model draws connections between historical and contemporary experiences of injustice by EM students in higher education on physical and mental health and various other outcomes. The FOCUUS Model illustrates the great influence and impact that these factors may have on EM students' overall well-being, educational experiences, and academic performance. This model is intended to be utilized by program administrators and educators in higher education to support EM students including Black and/or African American, Indigenous and/or Native American, and other peoples of color including Latinx or Asian Pacific Islander Desi American. Occupational therapy (OT) programs can utilize this model to 1) gain knowledge about the EM student experience, 2) evaluate their current ideologies and practices, and 3) implement strategies suggested by the model to better support and uplift EM students.

Keywords

Minority, higher education, academic performance, well-being, health

Creative Commons License



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 4.0 License](https://creativecommons.org/licenses/by-nc-nd/4.0/).

Introduction

The lens through which one views, understands, and perceives the world is constructed through culture. Culture is both objective and subjective, and it is fabricated as we exist within various social groups and contexts. It is dynamic and everchanging and it is the foundation of values, beliefs, expressions, and customs that may be unique to an individual or shared within and among groups of individuals (Padilla, 2015). The United States of America has a long and dark history of inequality beginning with the genocide of indigenous peoples and then the ranking of humans by the color of their skin to denote ability and value (Wilkerson, 2020). Throughout history, ethnic minority EM populations have been the subjects of dehumanizing, racialized experiences. Patterns of injustices within American culture have resulted in multigenerational occurrences of disparities for EM populations including lower socioeconomic status, decreased access to resources, and poorer physical and mental health outcomes (Cokley et al., 2013; Mays et al., 2007). These systemic injustices are deeply embedded within American culture which, to this day continue to impact the daily lives of EMs. The FOCUUS Model: Facilitating Occupational Performance on Campus: Uplifting Underrepresented Students focuses on how this inequality in America impacts EMs' experiences in higher education, their health, and their overall well-being.

While some would argue that we are living in a post-racial era, EM students continue to face the consequences of the unjust and ever-present beliefs that underlie mainstream societal culture. In fact, one study found that among a sample of EM students, individuals reported experiencing approximately six discriminatory encounters in a two-week period (Burrow & Ong, 2010). Moreover, explicit racism is not needed to create an uncomfortable academic environment for EM students; "instead, unexamined historically situated White cultural ideology embedded in the language, cultural practices, traditions, and perceptions of knowledge allow these institutions to remain racialized" (Gusa, 2010, p. 465). Ultimately, lack of inclusion in education results in inequity in outcomes including in academic performance and in overall well-being. It is critical that institutions of higher education recognize the dynamic factors that may influence EM students' experiences in education which we can anticipate will impact their future endeavors and unique contributions to their profession of study or society at large.

Furthermore, the recent and disheartening murders of Black lives such as Ahmaud Arbery, Breonna Taylor, and George Floyd by police in America have been followed by large and rightful outpourings of emotion. Movements have arisen encompassing cries for change and a fight for justice and equality. This uprising in America and across the world is not the first, but instead can be compared to former waves of social unrest and demands for reform in response to racial injustice throughout history. Occurring concurrently, the COVID-19 pandemic has sparked fear, anxiety, and loss across the globe all while impacting EMs at disproportionate rates (Tai et al., 2020). These events should posit the FOCUUS Model and its intention at high priority as college and university program administrators and educators must take great consideration as to

how students, particularly EM students, are being impacted, and how they will be impacted long-term personally and professionally by these issues. Additionally, program administrators and educators must recognize that these matters are systemic and EM populations have and will continue to be impacted by similar experiences.

In the American Occupational Therapy Association's Vision 2025, the profession has committed itself to core tenets including acting as influential leaders, providing accessible services through culturally responsive practices, and intentionally embracing diversity through inclusive and equitable opportunities (American Occupational Therapy Association [AOTA], 2020a). Fulfilling this Vision starts in education through the practices and traditions in which students are taught. According to the 2019 AOTA Salary and Workforce Survey, the ethnic makeup of occupational therapy (OT) students is 6.5% Black/African American, 0.3% American Indian/Alaskan Native, 9.2% Asian/Pacific Islander, 5.9% Hispanic/Latino, and 3.6% multiethnic when compared to 74.0% White/Caucasian. The EM makeup of OT practitioners is 3.0% Black/African American, 0.3% American Indian/Alaskan Native, 5.8% Asian/Pacific Islander, 4.0% Hispanic/Latino, and 1.8% multiethnic when compared to 83.8% White/Caucasian (AOTA, 2020b, p. 41). This striking disparity in EMs who are currently pursuing or working in the field of OT compared to their White counterparts should serve as a call to action to employ methods that improve the interest of EMs in the field of OT and promote inclusive learning environments. Ensuring inclusive practices and equitable opportunity in education will not only support and enrich the student population, but ultimately will result in increased diversity in the OT workforce and influence outcomes of the populations we serve.

The FOCUUS Model: Facilitating Occupational Performance on Campus: Uplifting Underrepresented Students is a theoretically-based and evidence-centered model which serves to describe minority status as a determinant of health and the impact of minority status stress (MSS) on EM students' educational experience, health, and overall well-being. The model was developed by an OT student as the capstone of a two-semester course during her doctoral-level studies. Over the course of a year, and under the mentorship of a faculty member, the model was peer-reviewed and vetted through an iterative process by peers and instructors. The FOCUUS Model is being introduced as a means to support the academic performance and well-being of EM students. The FOCUUS Model is intended to be utilized by college and university program administrators and educators to support EM students in higher education including Black and/or African American, Indigenous and/or Native American, and other peoples of color including Latinx or Asian Pacific Islander Desi American. We highlight inequities experienced among EM students and make suggestions for colleges and universities to integrate culturally responsive, diverse, equitable, and inclusive practices to support and uplift these students and their experiences. Though relevant across all fields of study in higher education, OT programs can lead by example, utilizing this evidence-centered model which is informed by the holistic OT perspective to enhance their current practices, better support their EM students, and progress the field of OT. OT programs can utilize The FOCUUS Model to 1) gain knowledge about the EM

student experience, 2) evaluate their current ideologies and practices, and 3) implement strategies suggested by the model to better support and uplift EM students. In order to fully immerse oneself in this model, there are various definitions that should be reviewed, as they set the framework for understanding (see Table 1).

Table 1

Definitions of Key Concepts

Concept	Definition
Social Determinants of Health	Social conditions or positions within society that impact health including socioeconomic status, social support, education, employment, gender, culture, and ethnicity (Braveman & Gottlieb, 2014)
Ethnicity	One's belonging to a group with shared social and/or cultural traits or experiences
Race	A socially constructed concept used to create human division based merely on arbitrary physical characteristics, i.e., skin color
Racism	Actions and institutions which harm EM groups (e.g., Black and/or African American, Indigenous and/or Native American, and other peoples of color) based on arbitrary traits or physical characteristics (Wilkerson, 2020)
Minority Status Stress (MSS)	Unique from general life stressors and experienced by many minority individuals in response to racism, stigmatization, marginalization, discrimination, microaggressions, and challenges to one's sense of belonging (Cokley et al., 2013; Hunter et al., 2019; Stone et al., 2018)
Diversity	Unique individual differences (e.g., personality, life experience, capabilities, beliefs) and group/social differences (e.g., ethnicity, class, gender, sexual orientation, culture)
Equity	The creation of opportunities that account for historical injustices of marginalized groups and that aim to close achievement gaps and disparities in outcomes
Inclusion	The active, ongoing, and intentional engagement with diversity (Association of American Colleges and Universities [AAC&U], n.d.), where an environment of uniqueness is welcomed and leveraged for maximum engagement by all members within the environment (Taff & Blash, 2017)

Theoretical Framework

The FOCUUS Model is based in various theoretical approaches which drive the conceptual foundation of the model and illustrate the dynamic relationships between various factors which influence occupational performance, health, and well-being. These theories provide a comprehensive framework to guide the reader's understanding of the evidence presented below, which supports the FOCUUS Model.

The Person-Environment-Occupation-Performance Model (PEOP)

The PEOP model draws connections and interactions between the person, their environment, and their occupational performance, well-being, and quality of life (Baum et al., 2015, p. 47-55). Critical person factors emphasized in this model which influence occupational performance, participation, and well-being include cognitive, psychological, physiological, spiritual, sensory, and motor. Environmental factors which may act as barriers or facilitators to occupational performance are identified as culture, policy, social factors, physical and natural environment, and technology (Baum et al., 2015, p. 47-55). The PEOP model drives the understanding of the interplay between person and environmental factors in the FOCUUS Model and how this interaction significantly impacts performance of occupations within academia and well-being for EM students.

Doing, Being, Becoming, and Belonging

In the FOCUUS Model, occupation is defined through the transformational occupational health perspective of doing, being, becoming, and belonging (Wilcock, 2007) where occupation is outlined as a synthesis of doing (physical actions; mental thinking), being (nature or essence; related to self-actualization and individual preference), becoming (related to change and development; achievement of goals and aspirations), and belonging (connectedness; sense of home; Hitch et al., 2014a; Hitch et al., 2014b; Wilcock, 1998; Wilcock, 2007). Disruption within this system of occupation can lead to occupational dysfunction, impacting well-being and hindering occupational potential for EM students (Wicks, 2005). With this model, we understand how being an EM student has implications on the experience of doing; one's sense of belonging or connectedness; and ultimately, attaining the necessary personal growth, skills, or competencies to become and fulfill whichever desired roles one wishes to achieve.

Bronfenbrenner's Ecological Systems Theory

Bronfenbrenner's ecological systems theory emphasizes that the individual experience is shaped not only by oneself or one's immediate surroundings, but within multiple levels of the larger social context. This theory considers the environment unique to the individual, but also recognizes shared cultural contexts between individuals or communities. In his theory, Bronfenbrenner placed the individual in the center of multiple layers of the environment with bi-directional influences. The layer closest to the individual is the microsystem (the person's immediate surroundings), followed by the mesosystem (the connection between aspects of the microsystem), exosystem (social system in which the person does not function directly), and macrosystem (overarching cultural attitudes; historical and systemic patterns). Lastly, the chronosystem represents the dimension of time and its influence throughout the life course (Bronfenbrenner, 1979; Bronfenbrenner, 1992). Bronfenbrenner's work describes these various systems

which characterize factors that lead to social stratification (e.g., social class, ethnicity) and systematically describes and distinguishes social contexts of the environment which impact human development (Bronfenbrenner, 1979). This theory is crucial to our understanding of the environmental and social factors which influence EM students and their developmental processes which ultimately interact to influence academic outcomes, health, and well-being.

Stress Process Model

Pearlin's stress process model examines how individual experiences of stress impact mental and behavioral health, and further how social, personal, and coping resources may act as mediators to these health outcomes. In this model, stressful experiences can be traced to surrounding social structures and people's locations within them. The most encompassing of these structures being those social systems of stratification that cut across society and manifest within social institutions based on factors such as social and economic class, ethnicity, gender, and age (Aneshensel & Avison, 2015; Pearlin, 1989). This model supports the foundational elements of the FOCUUS Model which acknowledge ethnicity or minority status as factors which result in disparities due to social structures within American culture.

Description and Conceptual Foundations of The FOCUUS Model

Purpose

The purpose of the FOCUUS Model is to focus on evidence regarding the critical influence that being an EM or one's minority status within American culture has on one's experiences in academia, academic outcomes, health, and overall well-being. This model is intended to serve as an opportunity to build insight and increase awareness of the EM student experience and further, serve as a resource for potential strategies to better support EM students. The model emphasizes the racialized, oppressive nature of the American educational system built on White ideology and privilege, and the need for transformative institutional change that validates the experiences of racism and discrimination by EMs.

Significance

The FOCUUS Model is significant as it offers OT programs a focused guide to assist in enhancing practices that will support and uplift EM students and progress the field of OT by embracing diversity through inclusive and equitable opportunities. This model not only serves to benefit EM students, but the OT student population as a whole by increasing opportunities for diverse learning, consideration of multicultural perspectives, and perhaps furthering the development of critical thinking and communication skills. The FOCUUS Model may also operate to benefit OT administrators and educators by increasing feelings of confidence and self-efficacy in their abilities to support EM OT students. Lastly, this model arguably has the potential to enhance the entire profession of OT as the promotion and enactment of inclusive learning environments will contribute to the interest, success, and development of underrepresented students in the field of OT. Greater diversity is essential for a strong OT practice. Within academia, research, clinical work, and throughout the scope of the OT profession, diversity has the potential

to broaden our definitions of occupation and widen the perspectives from which we approach and develop practices and policies. While the FOCUUS Model is designed for use in higher education, the principles, knowledge, and strategies outlined can also be translated to research, clinical care, and other areas of OT to ensure an inclusive and equitable approach that uplifts EMs throughout the field of OT.

Person and Environment: Influence on Academic Performance and Well-being

The FOCUUS Model was developed and highly influenced by the significant connection and transactional relationship between the person (e.g., the EM student) and their environment (e.g., racism and discrimination). In this section, we highlight evidence to support one's understanding of this transactional relationship and how these factors interact to influence occupation (e.g., academic performance, social relationships/interactions, housing, involvement on campus, use of technology), health (e.g., cognition, emotional wellness, ability to cope, blood pressure, pain, spirituality), and well-being (e.g., life-satisfaction, feelings of inclusion and belonging, sense of empowerment, sense of support).

Person Factors

Factors intrinsic to the EM student which are highly impacted by exposure to features of the environment.

Cognitive. Cognition is defined as the mental processes necessary to acquire, process, and use information in order to accomplish a desired goal. This includes basic cognitive skills like attention and memory, and higher-level functions like executive function, awareness, and insight (Maier & Rotenberg-Shpigelman, 2015). Ethnic minority students are often stigmatized and coping with this stigma requires self-regulation. However, as self-regulation is a limited capacity resource, when EM students must self-regulate to cope with stigma or other racialized experiences, they then have limited resources available to regulate emotions and inhibitions, carry out daily tasks, and regulate academic behaviors (Inzlicht et al., 2006). Additionally, for individuals whose race is central to their identity, racialized events have been found to be even more depleting of self-control resources (Bair & Steele, 2010). When faced with situations in which an EM student fears being reduced to a stereotype, a phenomenon known as stereotype threat, students underperform on tests of intellectual performance (Gonzales et al., 2002; Steele & Aronson, 1995). The race-based disparities in stress and sleep in context model (RDSSC) suggests that stress experienced secondary to racialized experiences impacts the physiological stress response through impaired cortisol levels and sleep processes that further influence cognition, and in turn impact academic performance (Levy et al., 2016).

Psychological. Psychology is associated with overall well-being, life-balance, and life-satisfaction. This factor is internal in nature and dependent on unique personal experiences (Brown & Stoffel, 2017). MSS is associated with depression, negative affect, and other mental health challenges (Arbona & Jimenez, 2014; Hardeman et al., 2015; Jones et al., 2007; Wei et al., 2010); greater risk for low self-esteem (Jones et al., 2007); decreased confidence in intellectual capacities (Hardeman et al., 2015); negative

perceptions of campus climate (Wei et al., 2011); poorer life satisfaction (Prelow et al., 2006); imposter feelings (Stone et al., 2018); and decreased sense of belonging and connectedness (Stone et al., 2018) which has the potential to influence occupational potential by disrupting the transformational system of doing, being, becoming, and belonging (Wicks, 2005). Just as racial identity influences cognitive processes, it has a role in influencing psychological factors. One component of racial identity is racial centrality or the importance of one's race to one's identity. When an individual has high racial centrality, experiences of racial discrimination have been found to be exacerbated (Burrow & Ong, 2010; Sellers et al., 1998). Alternatively, when the component of racial identity referred to as private regard, or the value of belonging to one's group is high, research has found decreased reporting of racial discrimination (Burrow & Ong, 2010), higher self-esteem, and lower levels of imposter feelings (Lige et al., 2016). Another buffer of the associations between MSS and the psychological costs is bicultural competence or the belief that one can function within two cultural groups without compromising themselves (Wei et al., 2010). These findings highlight the resiliency and various coping mechanisms that EMs may employ when dealing with MSS. It is important to consider the unique differences in coping strategies that individuals or groups of individuals may use across different situations and contexts (Pearlin, 1989).

Physiological. Physiology includes cellular, organ, metabolic, and other biological systems crucial to one's performance, participation, and well-being (Rogers, 2017). MSS results in a physiological stress response through cortisol secretion and the activation of the hypothalamic pituitary adrenal (HPA) axis (Richman & Jonassaint, 2008). Situations like exposure to MSS that result in a social-evaluative threat have potential to result in a maladaptive stress response through significant cortisol and stress hormone secretion and longer recovery times (Dickerson & Kemeny, 2004). As explained in Pearlin's Stress Process Model, the structural contexts of people's lives are the fundamental origins of stress (Pearlin, 1989). Racial microaggressions, or subtle or commonplace indignities or insults directed toward people of color (Solorzano et al., 2000; Sue et al., 2007) have been found to contribute to a physiological stress response including muscle aches, back pain, and the inability to sleep for EM students (Franklin et al., 2014). EM students exposed to stress secondary to racialized experiences also have higher rates of cardiovascular reactivity including increases in blood pressure (Blascovich et al., 2001; Hill et al., 2007). In general, EM populations have poorer sleep outcomes than Whites (Hale & Do, 2007; Petrov & Lichstein, 2016; Rutter et al., 2011), perhaps due to the upregulation of the HPA axis which impairs sleep and reciprocally, impaired sleep exacerbates stress levels (Akerstedt, 2006). As sleep and other physiologic processes are fundamental to recovery and maintenance of health and functioning, it is important to consider the potential implications of these findings on occupational outcomes, for example how increased stress and impaired sleep may impair cognitive processes and academic performance (Levy et al., 2016). The physiological stress response has also been found to impair motor system function (Metz et al., 2005) and pre-clinical research has shown an impact on cerebellum information processing, a critical area for motor control and coordination, learning, and memory (Savtchouk & Liu, 2011). Additionally, sleep deprivation impairs reaction time, coordination, and motor tasks of divided attention (Ayalon & Friedman, 2008);

Williamson & Feyer, 2000). Sensory experiences through the capacity to see, hear, touch, smell, and taste allow one to interact with their environment and participate in occupation (Carey, 2017). Sensory processing and attention have been found to be modulated by the affective or emotional significance of a stimuli (Vuilleumier, 2005). Stress is associated with various vision disorders (Sabel et al., 2018) and hearing problems (Canlon et al., 2013) beginning in-utero (Horner, 2003). Additionally, greater hearing problems have been identified for those with poorer self-rating of health and those with poorer sleep quality (Canlon et al., 2013). Acute stress has also been shown to impact taste (Ileri-Gurel et al., 2012). Finally, HPA reactivity and cortisol secretion impacts somatosensation, including touch and pain. High levels of cortisol affect implicit and cortical learning related to tactile acuity (Dinse et al., 2017). Regarding pain, higher cortisol is positively associated with chronic pain intensity (Vachon-Presseau et al., 2013) and more specifically, perceived racial discrimination has been shown to be associated with greater pain for EM populations (Burgess et al., 2009).

Spiritual. Spirituality underlies meaning-making through the process of self-understanding and development of personal identity, beliefs, values, and goals. Meaning is constructed through one's emotions, driving self-understanding and actions based on experiences, personal beliefs, and values. Spirituality is often defined in terms of religiosity and sacred matters of religion and organizational practices and beliefs (Eakmann, 2017). The literature highlights spirituality as a buffer or mediator for the effects of MSS (Kim, 2017; Patton & McClure, 2009). While spirituality has been found to have positive benefits for all students, higher levels of spirituality and religious practices are seen in EM populations (Walker & Dixon, 2002) and it is particularly predictive of psychological well-being for EM students when compared to their White counterparts (Blaine & Crocker, 1995). Overall, spirituality and religiosity result in increases in motivation, self-esteem, sense of control, life-satisfaction, and life-meaning (Blaine & Crocker, 1995; Patton & McClure, 2009); psychological well-being and positive affect (Cavazos Vela et al., 2014; Kim, 2017); coping sources (Patton & McClure, 2009); health behaviors (Bowen-Reid & Smalls Glover, 2004); and time spent on academic work, satisfaction at college, and academic performance and achievement (Mooney, 2010; Walker & Dixon, 2002). Spirituality has been found to be critically important for EM students' sense of self and belonging (Tachine et al., 2017), directly relating to "being" and "belonging" in Wilcock's occupational health perspective of doing, being, becoming, and belonging. Perhaps spirituality is not only critical for one's sense of being and belonging, but also one's becoming, as spirituality has been found to underlie meaning-making and drive self-understanding and development (Eakmann, 2017; Wilcock, 2007).

Environmental Factors

Environmental factors are extrinsic to the EM student and are often influenced by social context.

Culture. Culture is the overarching factor of influence in the FOCUUS Model. Historical patterns of injustices which are largely shared among EM groups and experienced within American culture have resulted in multigenerational occurrences of disparities (Cokley et al., 2013; Mays et al., 2007). Historic ideologies and practices within the structure of society and institutions situate EM students in the position to experience MSS which occurs secondary to various racialized and discriminatory experiences (Cokley et al., 2013; Hunter et al., 2019; Stone et al., 2018). These cultural implications result in lack of inclusive learning environments, equitable opportunities, and overall representation of diversity on college and university campuses. American society, largely built for the majority, may influence feelings of belonging and impact other aspects of the occupational health perspective of doing, being, becoming, and belonging. As explained in Bronfenbrenner's Ecological Systems Theory, this nested environmental structure within the blueprint of American culture can have a distinct impact on an individual and their development (Bronfenbrenner, 1979).

Policy. Institutional, state, and federal level policy has the ability to profoundly impact student learning and access to quality educational opportunities. The macrosystem of Bronfenbrenner's Ecological Systems Theory refers to the cultural values and underpinnings that have influence on all other systems within one's environment, the most critical here being policies that affect the developing person (Bronfenbrenner, 1979). The historical and contemporary culture of America has resulted in systemic barriers including exclusion, segregation, underfunding, fewer resources, and lower familial wealth contributing to the potential for some EM students being 'less competitive' applicants and ultimately, impacting their educational experiences. Affirmative action allows for special consideration of underrepresented minority students in the context of a holistic evaluation during the admissions process (Lutz et al., 2019). There are criticisms to affirmative action such as it constitutes reverse discrimination on majority groups, creates a mismatch between the abilities of the student and the academic demands required for success, and it stigmatizes individuals (Fischer & Massey, 2007). The mismatch hypothesis has been disproven in various studies (Fischer & Massey, 2007; Lutz et al., 2019) however, some research suggests this policy does elicit stereotype threat due to stigmatization, though the effect may be minimal when compared to other determinants of academic success (Fischer & Massey, 2007). Affirmative action takes a step towards more equitable admissions processes by heightening the chance that a minority student will receive more fair and comprehensive consideration, ultimately creating an opportunity for colleges and universities to promote diversity and develop a student body more representative of the larger population. On a state or institutional level, policies that inform tuition and needs-based aid have the ability to impact persistence rates. The amount of needs-based aid a student can access as compared to tuition is predictive of enrollment patterns and dropout rates among EM students (Allen & Wolniak, 2019; Chen & John, 2011).

Social Support and Capital. As individuals partake in their day to day lives, they inevitably interact with others and within communities. These engagements are central to one's ability to thrive, access resources, build social networks, and have a sense of connection to something greater than oneself. Social support is the advice or guidance

one receives from family, friends, or strangers. It is the tangible materials or services one obtains, and further, the development of these supports can facilitate one's social capital. Social capital is developed through community connectedness and trust, and results in benefits to all members of a community through reciprocal acts of giving and receiving and accessing and sharing power and influence (Bass & Haugen, 2015). One could argue that social support and social capital reinforce one's sense of belonging. In the occupational health perspective of doing, being, becoming, and belonging, Wilcock (2007) defined belonging as that which is developed through one's interpersonal relationships, "the contextual element, of the connectedness of people to each other as they do and of the major place of relationships within health" (p. 5). Belonging has also been defined as the result of social interaction, mutual support and reciprocity, friendship, and a sense of inclusion (Hammell, 2004; Rebeiro et al., 2001). Political context and social determinants of health including socioeconomic status, ethnicity, early life experiences, and education all influence one's access to social support and social capital (Bass & Haugen, 2015). Limited social support and social capital only further contributes to disparities and inequities in underserved populations, likely influencing one's sense of belonging. Ethnic minority students have more negative perceptions of social support compared to their White peers and more difficulty establishing peer support networks and working relationships (Orom et al., 2013; Williams, 2002). One can think of an individual's immediate social supports as belonging to their microsystem in Bronfenbrenner's Ecological Systems Theory. For a student with fewer social support resources, there is likely to be a consequence to their exosystem wherein their social network may develop (Bronfenbrenner, 1979). Self-beliefs, social support, and comfort in the university environment have all been shown to be significantly predictive of the academic non-persistence decisions among EM students, with social support being the strongest predictor (Gloria et al., 2005; Gloria & Robinson Kurpius, 2001). Lower quality social support is shown to increase mental health challenges (Hefner & Eisenberg, 2009), while more extensive ties to professors and involvement in social activities on campus are tied to greater satisfaction and academic success (Fischer, 2007). Social capital has the potential to increase access to resources for students and is positively correlated with persistence attitudes for EM students (Dika & Martin, 2017; Wells, 2008). Through support from faculty, EM students develop social capital and receive exposure to real world expertise and resources necessary to navigate the academic environment (Sandoval-Lucero et al., 2014; Yosso, 2005). Development of social support and social capital for EM students is of particular importance for future outcomes, especially when considering the many barriers this population has historically faced in accessing social advantages (Hawes & Rocha, 2011; Hero, 2003). It is important to consider how social support and social capital may serve as stress mediators or buffering protection against negative outcomes on occupational performance, health, and well-being for EM students (Aneshensel & Avison, 2015; Pearlin, 1989).

Physical Environment. The physical environment includes the personal and public spaces in which individuals perform daily occupations. These spaces might include one's home, dorm, school, library, or local restaurants and stores (Stark et al., 2015). Characteristics of these spaces include noise, crowding, quality, building size, or

design (Evans, 2006). Housing and neighborhood quality have been found to be related to academic performance and achievement for children and youth (Evans, 2006). Additionally, household crowding and home ownership have been found to be predictive of educational attainment at age 25 (Conley, 2001). This is particularly important to consider, as disparities in household crowding and home ownership have been present for generations and continue to be prominent for EM populations (Kuebler & Rugh, 2013).

Physical spaces where students live and convene on campus have significant potential for both harmful and beneficial influence on academic outcomes. The PEO model helps illustrate how an individual's physical environment may have influence on other aspects of their environment (e.g., social support) or person factors (e.g., psychological well-being) (Baum et al., 2015, p. 47-55). Harmful physical environmental circumstances to consider are within residence halls which are often thought an essential part of the college or university experience offering a community of support, a sense of safety and security, and aiding in the transition to college or university life. EM students have been found to experience microaggressions in residence halls including racial slurs written in dorm spaces, segregated living environments, and unequal treatment of housing security and maintenance. This results in decreased feelings of belonging and safety (Harwood et al., 2012). Another example is the visuals and artwork that line the walls of institutions. One study found that EM students feel portraits on campus lack diversity and representation which ultimately impacts sense of belonging (Fitzsousa et al., 2019). Alternatively, there are many positive and beneficial spaces that could be thought of as 'safe spaces' for EM students including student cultural centers, minority student organizations, minority student conferences, and minority student and faculty networking spaces. These spaces have been found to have multiple benefits including increasing access to resources, improving students' sense of community and belonging, aiding in racial/ethnic identity development, increasing self-efficacy, and allowing for opportunity to network and build social support (Casad et al., 2016; Grier-Reed, 2010; Museus, 2008; Patton, 2006a; Patton, 2006b).

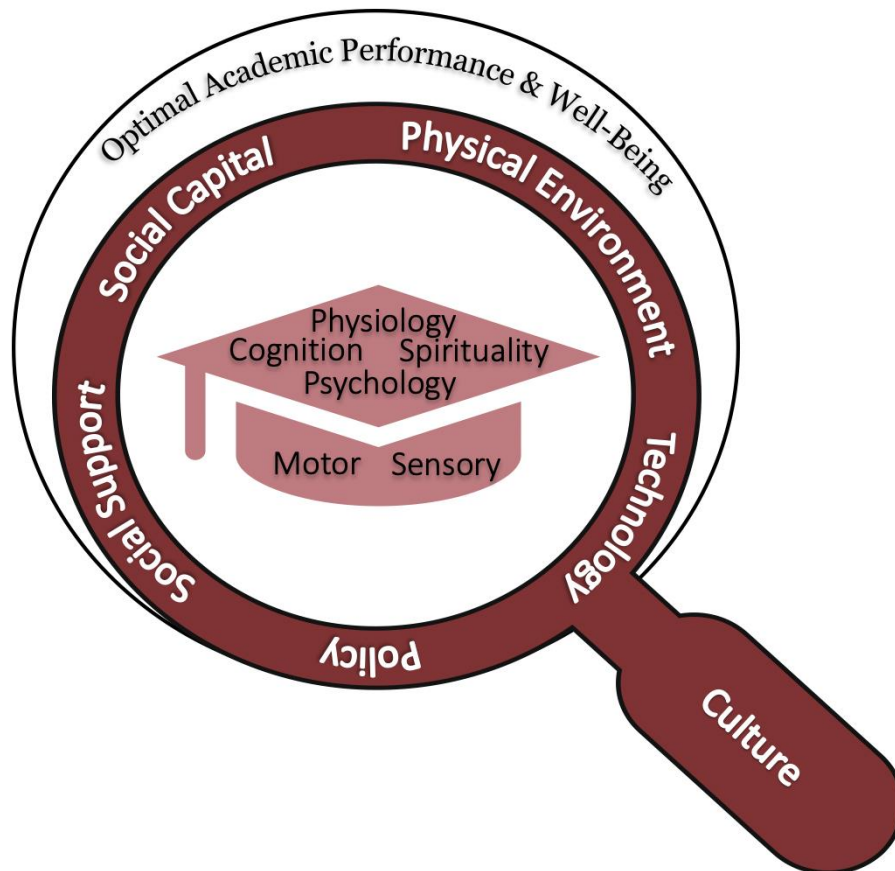
Technology. Technology is an incredibly prominent aspect of daily occupation. Digital technology in particular is increasingly used as a tool to facilitate education (Polgar, 2015) and largely has become a necessity secondary to the COVID-19 pandemic. In higher education, social media and other online formats are used for student recruitment, student/educator communication, and are thought to enhance student learning. Additionally, digital technology offers a space for personal and academic discussion, self-expression, building of social networks, and development of a greater sense of belonging and community (Kumi-Yebaoh & Blankson, 2014; Yu et al., 2010). While technology has many positive benefits, it is not without barriers and even negative impacts, particularly for EM students. Benefits of the use of technology and online learning in higher education include a space for the development of relationships and social acceptance from peers which promotes learning outcomes for students including cognitive and skill-based learning (Yu et al., 2010) and increased opportunity for the creation and maintenance of social capital (Ellison et al., 2007). Potential drawbacks to the use of technology include misleading representation of student and

faculty diversity on college and university websites (Wilson & Meyer, 2009); online victimization which is more often experienced by EM students and results in associated stress and more negative perceptions of campus climate (Tynes et al., 2013); and exposure to discriminatory, trauma-inducing events in the media such as police brutality or immigrant detainment in which witnessing may result in post-traumatic stress or depressive symptoms (Tynes et al., 2019) or have adverse effects on physiological processes (Alang et al., 2017; Holman et al., 2014). Lastly, social justice movements often arise from widely broadcasted traumatic events in the media and are largely participated in via social media platforms among college students and other community members (e.g., #BlackLivesMatter, #DREAMers). These movements allow individuals to engage collectively as communities (Bonilla & Rosa, 2015) perhaps offering a sense of belonging, empowerment, and support in order to cope.

Model Description

The FOCUUS Model: Facilitating Occupational Performance on Campus: Uplifting Underrepresented Students

A transactional relationship between person and environmental factors are examined in this model and further, how the interplay amongst factors results in impairment to occupation. Experiences of MSS, a determinant of health based on being a minority, has significant implications on physical and mental health outcomes, and performance of occupation for EMs. Social systems of stratification and cultural contexts lead to disruption in the system of doing, being, becoming, and belonging leading to impaired academic performance and overall well-being. The goal of the FOCUUS Model is to provide an evidence-based framework for program administrators and educators within institutions of higher education to reference for specific and practical action items intended to promote balance between person and environmental factors, allowing EM students to feel embraced, uplifted, and with a developed sense of belonging. The FOCUUS Model illustrates (see Figure 1) dynamic factors which influence the EM students' optimal academic performance levels, health, and overall well-being. The model is represented by a magnifying glass which situates the EM student in the center of focus. The EM student is represented in the center via the graduation cap with the most significantly influenced person factors situated at the top of the cap (e.g., cognition, psychological, physiological, and spirituality). The person is surrounded by environmental factors in the frame and handle of the magnifying glass, and culture is intentionally placed on the handle as it is the predominant driver of the EM student experience. In the FOCUUS Model, the EM student is viewed through the lens of the magnifying glass by the collective society or culture. This model additionally recognizes that the EM student may have varying experiences throughout their educational journey which may be influenced by individual-level interactions. Not only does the society at large view and influence the student through the lens of the magnifying glass, but any person the EM student comes into contact with may grip the magnifying glass and view the EM student with their own unique and distinct cultural values, then having the potential to influence various and unique experiences and outcomes for the EM student.

Figure 1*The FOCUUS Model***Implementation and Outcomes****Training and Implementation**

The FOCUUS Model should be made accessible to leadership in education such as program administrators, educators, advisers, mentors, and student advocates. These individuals should immerse themselves in the evidence presented in this model and seek to understand the interaction among factors which influence academic performance and well-being for EM students. Once this basic level of knowledge has been acquired, it must be applied to current programming. It should be acknowledged that training is a systematic process which evolves over time with continued knowledge and skill development to incorporate inclusivity and equity into programming.

As each institution or program's capacities and needs vary, a unique self-exploration process to identify gaps in inclusivity, areas for improvement, and set specific goals and activities is needed. Programs should first consider existing resources within their programs such as identifying an appropriate administrator, faculty, and/or staff to explore current programming and consider how students are currently impacted based on the evidence provided by the FOCUUS Model. Students and individuals from diverse backgrounds and perspectives should be included in this process. Second, programs should consider enlisting a source outside of the program to audit and examine current practices from an outside perspective. This individual should act as a moderator to facilitate conversation among administrators, educators, staff, and students. This person may be someone from an office of diversity within the institution, an individual from another academic program, or an expert in the area of diversity, equity, and inclusion. Lastly, program administrators and educators should inform themselves with inclusive pedagogies and elicit opportunities for suggestions and feedback from students, both present and past. Table 2 offers specific strategies for the implementation of the FOCUUS Model, expected outcomes, evaluation of outcomes, and potential barriers and challenges.

Table 2

Implementation and Outcomes

Strategies to Support EM Students	<p>Incorporate diverse and inclusive learning experiences and assessments into curriculum design and course content</p> <p>Create intentional opportunities for students to offer their experiences and participate in dialogue that will support strategic planning and the development of an inclusive cultural environment</p> <p>Provide training for faculty on how implicit bias, microaggressions, and stereotype threat can manifest themselves in learning situations, and how to mitigate those occurrences</p> <p>Develop awareness of the distinction between general-life stressors and MSS</p> <p>Consider the impact of low rates of diversity in faculty, staff, and students</p> <p>Promote the implementation of interventions such as sleep diaries and routines, positive health behaviors, coping mechanisms, meditation/mindfulness, and opportunities to increase social support (Rogers, 2017; Sabel et al., 2018)</p> <p>Provide accessible physical and mental health resources on campus</p>
--	---

Offer resources and availability of spiritual mentoring, physical spiritual “safe spaces,” deep self-reflection and conversations, and intentional spiritual dialogues or readings

Promote minority student organizations, minority student/faculty networking spaces, and minority student conferences to provide opportunities to enhance racial/ethnic identity development, self-concept, and cross-cultural communications

Take caution not to tokenize or place pressure on EM students to speak on behalf of all other EM students (Harper & Quaye, 2007)

Take caution not to generalize the EM student experience

Promote programming targeted at capacity building among all faculty, staff, and students that will serve to build trust, relationships, and social networks

Ensure an inclusive environment in online learning programs and formats

Evaluate representation of diversity in learning activities (e.g., case studies) and visuals/artwork throughout the institution or program

Increase awareness of issues that arise in the media which may significantly impact students

Support and encourage student participation in peaceful movements which act to empower marginalized students and populations

Expected Outcomes

Transformative learning practices and inclusive learning environments

Increased satisfaction and participation among EM students

Improved academic performance among EM students

Enhanced physical and mental well-being among EM students

Increased interest and retention of EM students

Enhanced profession with more diverse perspectives

Increased confidence and self-efficacy in the implementation of inclusive pedagogies among leaders in education

Improved patient and/or consumer outcomes

Evaluation of Outcomes	<p>Survey program faculty, staff, and students before and after implementation</p> <p>Track EM student interest compared to those who actually apply to a program</p> <p>Monitor EM student retention and graduation rates</p> <p>Determine strategies or measures to quantify constructs such as sense of belonging and sense of inclusion</p> <p>Utilize strategies to objectively and subjectively assess EM students' satisfaction with performance levels and overall well-being</p> <p>Run focus groups with current EM students to encourage their individual voices and perspectives</p>
Potential Barriers and Challenges	<p>As each EM student experience is unique and individual, caution must be taken so as not to generalize this model across all EM students' experiences</p> <p>Implementation of this model requires strong, supportive leadership with an open approach and ability to be critical of themselves and their institution or program</p> <p>This model is not a "one time, fix all," rather it requires a longtime commitment to facilitate change</p>

Implications for Occupational Therapy Education

The field of OT has a great need and potential for growth, change, and action in order to increase the representation of EMs in the profession, however increasing the representation of EMs in the field alone is not enough. Beyond this, the field must make efforts to support and uplift EMs by incorporating an equity lens and increasing inclusivity in learning environments. Students who feel that they belong are more motivated and engaged in their learning and are more successful academically (Ibanez, et al., 2004; Pittman & Richmond, 2007). The FOCUUS Model serves as a great resource for OT programs to gain knowledge and insight about the experience of EMs and to challenge their current practices and ideals which may be particularly harmful to their EM students. The FOCUUS Model is the first theoretically-based and evidence-centered guide that has been developed with an OT lens, and with specific relevance for OT education.

Conclusion

Historical and contemporary organizational culture of academic institutions continues to create inequities in education, health, and well-being. Even outside of the academic context of higher education, EM students endure realities that many of their White counterparts do not. These issues present a need for the incorporation of practices that will uplift underrepresented students and facilitate a more equitable and inclusive educational experience. The purpose of the FOCUUS Model is to uplift EM students to reach their optimal academic performance levels and outcomes, support their physical/mental health and well-being, and empower them to reach their desired goals and aspirations. The FOCUUS Model recognizes minority status as a determinant of health, illustrating the complex and dynamic relationship between minority status stress and various factors which influence the educational experience, health, and well-being of EMs. This model is a unique contribution to the field of education as it is designed from the holistic perspective of OT and framed to support occupational performance. The low rates of diversity within the field of OT should serve as a call to action to seek and utilize methods that promote inclusive learning, improve the interest of EM populations, and enhance administrator and educator capacities. Greater diversity and inclusion in OT are essential for a strong OT practice as it serves to broaden our definition of occupation and widen the perspectives from which we approach and develop practices and policies.

References

- Akerstedt, T. (2006). Psychosocial stress and impaired sleep. *Scandinavian Journal of Work, Environment, & Health*, 32(6), 493-501. <https://doi.org/10.5271/sjweh.1054>
- Alang, S., McAlpine, D., McCreedy, E., & Hardeman, R. (2017). Police brutality and Black health: Setting the agenda for public health scholars. *American Journal of Public Health*, 107(5), 662-665. <https://doi.org/10.2105/AJPH.2017.303691>
- Allen, D., & Wolniak, G. C. (2019). Exploring the effects of tuition increases on racial/ethnic diversity at public colleges and universities. *Research in Higher Education*, 60(1), 18-43. <https://doi.org/10.1007/s11162-018-9502-6>
- American Occupational Therapy Association. (2020a). *2019 salary & workforce survey*.
- American Occupational Therapy Association. (2020b). *AOTA unveils Vision 2025*. <https://www.aota.org/AboutAOTA/vision-2025.aspx>
- Aneshensel, C. S., & Avison, W. R. (2015). The stress process: An appreciation of Leonard I. Pearlin. *Society and Mental Health*, 5(2), 67-85. <https://doi.org/10.1177/2156869315585388>
- Arbona, C., & Jimenez, C. (2014). Minority stress, ethnic identity, and depression among Latino/a college students. *Journal of Counseling Psychology*, 61(1), 162-168. <https://doi.org/10.1037/a0034914>
- Association of American Colleges and Universities (AAC&U). (n.d.). *Making excellence inclusive*. <https://www.aacu.org/making-excellence-inclusive>
- Ayalon, R. D., & Friedman, F., Jr. (2008). The effect of sleep deprivation on fine motor coordination in obstetrics and gynecology residents. *American Journal of Obstetrics & Gynecology*, 199(5), 576.e571-575. <https://doi.org/10.1016/j.ajog.2008.06.080>

- Bair, A. N., & Steele, J. R. (2010). Examining the consequences of exposure to racism for the executive functioning of Black students. *Journal of Experimental Social Psychology, 46*(1), 127-132. <https://doi.org/10.1016/j.jesp.2009.08.016>
- Bass, J. D., & Haugen, K. (2015). Environmental factors: Social determinants of health, social capital, and social support. In Christiansen, C.H., Baum, C.M., & Bass, J.D. (Eds.), *Occupational therapy: Performance, participation, and well-being* (4th ed., pp. 359-386). SLACK Incorporated.
- Blaine, B., & Crocker, J. (1995). Religiousness, race, and psychological well-being: Exploring social psychological mediators. *Personality and Social Psychology Bulletin, 21*(10), 1031-1041. <https://doi.org/10.1177/01461672952110004>
- Blascovich, J., Spencer, S. J., Quinn, D., & Steele, C. (2001). African Americans and high blood pressure: The role of stereotype threat. *Psychological Science, 12*(3), 225-229. <https://doi.org/10.1111/1467-9280.00340>
- Baum, C. M., Christensen, C. H., & Bass, J. D. (2015). The Person-Environment-Occupation-Performance (PEOP) Model. In Christiansen, C.H., Baum, C.M., & Bass, J.D. (Eds.), *Occupational therapy: Performance, participation, and well-being* (4th ed., pp. 47-55). SLACK Incorporated.
- Bonilla, Y., & Rosa, J. (2015). #Ferguson: Digital protest, hashtag ethnography, and the racial politics of social media in the United States. *American Ethnologist, 42*(1), 4-17. <https://doi.org/10.1111/amet.12112>
- Bowen-Reid, T., & Smalls Glover, C. (2004). Stress, spirituality and health promoting behaviors among African American college students. *Western Journal of Black Studies, 28*, 283-291.
- Braveman, P., & Gottlieb, L. (2014). The social determinations of health: It's time to consider the causes of the causes. *Public Health Reports, 129*(2), 19-31. <https://doi.org/10.1177/00333549141291S206>
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
- Bronfenbrenner, U. (1992). Ecological systems theory. In R. Vasta (Ed.), *Six theories of child development: Revised formulations and current issues* (pp. 187-249). Jessica Kingsley Publishers.
- Brown, C., & Stoffel, V. (2017). Person factors: Psychological. In Christiansen, C.H., Baum, C.M., & Bass, J.D. (Eds.), *Occupational therapy: Performance, participation, and well-being* (4th ed., pp. 217-232). Slack Incorporated.
- Burgess, D. J., Grill, J., Noorbaloochi, S., Griffin, J. M., Ricards, J., Van Ryn, M., & Partin, M. R. (2009). The effect of perceived racial discrimination on bodily pain among older African American men. *Pain Medicine, 10*(8), 1341-1352. <https://doi.org/10.1111/j.1526-4637.2009.00742.x>
- Burrow, A. L., & Ong, A. D. (2010). Racial identity as a moderator of daily exposure and reactivity to racial discrimination. *Self and Identity, 9*(4), 383-402. <https://doi.org/10.1080/15298860903192496>
- Canlon, B., Theorell, T., & Hasson, D. (2013). Associations between stress and hearing problems in humans. *Hearing Research, 295*, 9-15. <https://doi.org/10.1016/j.heares.2012.08.015>

- Carey, L. (2017). Person factors: Sensory. In Christiansen, C.H., Baum, C.M., & Bass, J.D. (Eds.), *Occupational therapy: Performance, participation, and well-being* (4th ed., pp. 249-265). Slack Incorporated.
- Casad, B. J., Chang, A. L., & Pribbenow, C. M. (2016). The benefits of attending the Annual Biomedical Research Conference for Minority Students (ABRCMS): The role of research confidence. *CBE— Life Sciences Education*, 15(3).
<https://doi.org/10.1187/cbe.16-01-0048>
- Cavazos Vela, J., Castro, V., Cavazos, L., Cavazos, M., & Gonzalez, S. L. (2014). Understanding Latina/o students' meaning in life, spirituality, and subjective happiness. *Journal of Hispanic Higher Education*, 14(2), 171-184.
<https://doi.org/10.1177/1538192714544524>
- Chen, R., & John, E. P. S. (2011). State financial policies and college student persistence: A national study. *Journal of Higher Education*, 82(5), 629-660.
<https://doi.org/10.1080/00221546.2011.11777220>
- Cokley, K., McClain, S., Enciso, A., & Martinez, M. (2013). An examination of the impact of minority status stress and impostor feelings on the mental health of diverse ethnic minority college Students. *Journal of Multicultural Counseling and Development*, 41(2), 82-95. <https://doi.org/10.1002/j.2161-1912.2013.00029.x>
- Conley, D. (2001). A room with a view or a room of one's own? Housing and social stratification. *Sociological Forum*, 16(2), 263-280.
<https://doi.org/10.1023/A:1011052701810>
- Dickerson, S. S., & Kemeny, M. E. (2004). Acute stressors and cortisol responses: A theoretical integration and synthesis of laboratory research. *Psychological Bulletin*, 130(3), 355-391. <https://doi.org/10.1037/0033-2909.130.3.355>
- Dika, S. L., & Martin, J. P. (2017). Bridge to persistence: Interactions with educators as social capital for Latina/o engineering majors. *Journal of Hispanic Higher Education*, 17(3), 202-215. <https://doi.org/10.1177/1538192717720264>
- Dinse, H. R., Kattenstroth, J. C., Lenz, M., Tegenthoff, M., & Wolf, O. T. (2017). The stress hormone cortisol blocks perceptual learning in humans. *Psychoneuroendocrinology*, 77, 63-67.
<https://doi.org/10.1016/j.psyneuen.2016.12.002>
- Eakmann, A.M. (2017). Person factors: Meaning, sense-making & spirituality. In Christiansen, C.H., Baum, C.M., & Bass, J.D. (Eds.), *Occupational therapy: Performance, participation, and well-being* (4th ed., pp. 313-331). Slack Incorporated.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4), 1143-1168.
<https://doi.org/10.1111/j.1083-6101.2007.00367.x>
- Evans, G.W. (2006). Child development and the physical environment. *Annual Review of Psychology*, 57, 423-51.
<https://doi.org/10.1146/annurev.psych.57.102904.190057>
- Fischer, M. J. (2007). Settling into campus life: Differences by race/ethnicity in college involvement and outcomes. *Journal of Higher Education*, 78(2), 125-161.
<https://doi.org/10.1080/00221546.2007.11780871>

- Fischer, M. J., & Massey, D. S. (2007). The effects of affirmative action in higher education. *Social Science Research, 36*(2), 531-549. <https://doi.org/10.1016/j.ssresearch.2006.04.004>
- Fitzsosa, E., Anderson, N., & Reisman, A. (2019). "This institution was never meant for me": The impact of institutional historical portraiture on medical students. *Journal of General Internal Medicine, 34*(12), 2738-2739. <https://doi.org/10.1007/s11606-019-05138-9>
- Franklin, J. D., Smith, W. A., & Hung, M. (2014). Racial battle fatigue for Latina/o students: A quantitative perspective. *Journal of Hispanic Higher Education, 13*(4), 303-322. <https://doi.org/10.1177/1538192714540530>
- Gloria, A. M., Castellanos, J., Lopez, A. G., & Rosales, R. (2005). An examination of academic nonpersistence decisions of Latino undergraduates. *Hispanic Journal of Behavioral Sciences, 27*(2), 202-223. <https://doi.org/10.1177/0739986305275098>
- Gloria, A. M., & Robinson Kurpius, S. E. (2001). Influences of self-beliefs, social support, and comfort in the university environment on the academic nonpersistence decisions of American Indian undergraduates. *Cultural Diversity and Ethnic Minority Psychology, 7*(1), 88-102. <https://doi.org/10.1037/1099-9809.7.1.88>
- Gonzales, P. M., Blanton, H., & Williams, K. J. (2002). The effects of stereotype threat and double-minority status on the test performance of Latino women. *Personality and Social Psychology Bulletin, 28*(5), 659-670. <https://doi.org/10.1177/0146167202288010>
- Grier-Reed, T. L. (2010). The African American Student Network: Creating sanctuaries and counterspaces for coping with racial microaggressions in higher education settings. *Journal of Humanistic Counseling, Education and Development, 49*(2), 181-188. <https://doi.org/10.1002/j.2161-1939.2010.tb00096.x>
- Gusa, D. L. (2010). White institutional presence: The impact of Whiteness on campus climate. *Harvard Educational Review, 80*(4), 464-490. <https://doi.org/10.17763/haer.80.4.p5j483825u110002>
- Hale, L., & Do, D. P. (2007). Racial differences in self-reports of sleep duration in a population-based study. *Sleep, 30*(9), 1096-1103. <https://doi.org/10.1093/sleep/30.9.1096>
- Hammell, K. W. (2004). Dimensions of meaning in the occupations of daily life. *Canadian Journal of Occupational Therapy, 71*(5), 296-305. <https://doi.org/10.1177/000841740407100509>
- Hardeman, R. R., Przedworski, J. M., Burke, S. E., Burgess, D. J., Phelan, S. M., Dovidio, J. F., Nelson, D., Rockwood, T., & van Ryn, M. (2015). Mental well-being in First year medical students: A comparison by race and gender: A report from the medical student CHANGE Study. *Journal of Racial and Ethnic Health Disparities, 2*(3), 403-413. <https://doi.org/10.1007/s40615-015-0087-x>
- Harper, S.R., & Quaye, S.J. (2007). Student organizations as venues for Black identity expression and development among African American male student leaders. *Journal of College Student Development, 48*(2), 127-144. <https://doi.org/10.1353/csd.2007.0012>

- Harwood, S. A., Huntt, M. B., Mendenhall, R., & Lewis, J. A. (2012). Racial microaggressions in the residence halls: Experiences of students of color at a predominantly White university. *Journal of Diversity in Higher Education*, 5(3), 159-173. <https://doi.org/10.1037/a0028956>
- Hawes, D. P., & Rocha, R. R. (2011). Social Capital, racial diversity, and equity: Evaluating the determinants of equity in the United States. *Political Research Quarterly*, 64(4), 924-937. <https://doi.org/10.1177/1065912910379231>
- Hefner, J., & Eisenberg, D. (2009). Social Support and mental health among college students. *American Journal of Orthopsychiatry*, 79(4), 491-499. <https://doi.org/10.1037/a0016918>
- Hero, R. E. (2003). Social capital and racial inequality in America. *Perspectives on Politics*, 1(1), 113-122. <https://doi.org/10.1017/S1537592703000094>
- Hill, L. K., Kobayashi, I., & Hughes, J. W. (2007). Perceived racism and ambulatory blood pressure in African American college students. *Journal of Black Psychology*, 33(4), 404-421. <https://doi.org/10.1177/0095798407307042>
- Hitch, D., Pépin, G., & Stagnitti, K. (2014a). In the footsteps of Wilcock, part one: The evolution of doing, being, becoming, and belonging. *Occupational Therapy in Health Care*, 28(3), 231-246. <https://doi.org/10.3109/07380577.2014.898114>
- Hitch, D., Pépin, G., & Stagnitti, K. (2014b). In the footsteps of Wilcock, part two: The interdependent nature of doing, being, becoming, and belonging. *Occupational Therapy in Health Care*, 28(3), 247-263. <https://doi.org/10.3109/07380577.2014.898115>
- Holman, E. A., Garfin, D. R., & Silver, R. C. (2014). Media's role in broadcasting acute stress following the Boston Marathon bombings. *Proceedings of the National Academy of Sciences of the United States of America*, 111(1), 93-98. <https://doi.org/10.1073/pnas.1316265110>
- Horner, K. C. (2003). The emotional ear in stress. *Neuroscience and Biobehavioral Reviews*, 27(5), 437-446. [https://doi.org/10.1016/S0149-7634\(03\)00071-X](https://doi.org/10.1016/S0149-7634(03)00071-X)
- Hunter, C. D., Case, A. D., & Harvey, I. S. (2019). Black college students' sense of belonging and racial identity. *International Journal of Inclusive Education*, 23(9), 950-966. <https://doi.org/10.1080/13603116.2019.1602363>
- Ibanez, G. E., Kuperminc, G. P., Jurkovic, G., & Perilla, J. (2004). Cultural attributes and adaptations linked to achievement motivation among Latino adolescents. *Journal of Youth and Adolescence*, 33(6), 559-568. <https://doi.org/10.1023/B:JOYO.0000048069.22681.2c>
- Ileri-Gurel, E., Pehlivanoglu, B., & Dogan, M. (2012). Effect of acute stress on taste perception: In relation with baseline anxiety level and body weight. *Chemical Senses*, 38(1), 27-34. <https://doi.org/10.1093/chemse/bjs075>
- Inzlicht, M., McKay, L., & Aronson, J. (2006). Stigma as ego depletion: How being the target of prejudice affects self-control. *Psychological Science*, 17(3), 262-269. <https://doi.org/10.1111/j.1467-9280.2006.01695.x>
- Jones, H., Cross, J. W., & DeFour, D. (2007). Race-related stress, racial identity attitudes, and mental health among Black women. *Journal of Black Psychology*, 33, 208-231. <https://doi.org/10.1177/0095798407299517>

- Kim, P. Y. (2017). Religious support mediates the racial microaggressions–mental health relation among Christian ethnic minority students. *Psychology of Religion and Spirituality*, 9(2), 148-157. <https://doi.org/10.1037/rel0000076>
- Kuebler, M., & Rugh, J. S. (2013). New evidence on racial and ethnic disparities in homeownership in the United States from 2001 to 2010. *Social Science Research*, 42(5), 1357-1374. <https://doi.org/10.1016/j.ssresearch.2013.06.004>
- Kumi-Yebaoh, A., & Blankson, H. (2014). Social media and use of technology in higher education. In W. Victor (Eds). *Handbook of research on education and technology in a changing society*, 217-234. IGI Global. <https://doi.org/10.4018/978-1-4666-6046-5.ch017>
- Levy, D. J., Heissel, J. A., Richeson, J. A., & Adam, E. K. (2016). Psychological and biological responses to race-based social stress as pathways to disparities in educational outcomes. *American Psychologist*, 71(6), 455-473. <https://doi.org/10.1037/a0040322>
- Lige, Q. M., Peteet, B. J., & Brown, C. M. (2016). Racial identity, self-esteem, and the impostor phenomenon among African American college students. *Journal of Black Psychology*, 43(4), 345-357. <https://doi.org/10.1177/0095798416648787>
- Lutz, A., Bennett, P. R., & Wang, R. (2019). How affirmative action context shapes collegiate outcomes at America's selective colleges and universities. *Journal of Law and Social Policy*, 31, 71-91.
- Maeir, A. & Rotenberg-Shpigelman, S. (2015). Person factors: Cognition. In Christiansen, C.H., Baum, C.M., & Bass, J.D. (Eds.), *Occupational therapy: Performance, participation, and well-being* (4th ed., pp. 233-247). Slack Incorporated.
- Mays, V. M., Cochran, S. D., & Barnes, N. W. (2007). Race, race-based discrimination, and health outcomes among African Americans. *Annual Review of Psychology*, 58, 201-225. <https://doi.org/10.1146/annurev.psych.57.102904.190212>
- Metz, G. A., Jadavji, N. M., & Smith, L. K. (2005). Modulation of motor function by stress: A novel concept of the effects of stress and corticosterone on behavior. *European Journal of Neuroscience*, 22(5), 1190-1200. <https://doi.org/10.1111/j.1460-9568.2005.04285.x>
- Mooney, M. (2010). Religion, college grades, and satisfaction among students at elite colleges and universities. *Sociology of Religion*, 71(2), 197-215. <https://doi.org/10.1093/socrel/srq035>
- Museum, S. (2008). The role of ethnic student organizations in fostering African American and Asian American students' cultural adjustment and membership at predominantly White institutions. *Journal of College Student Development*, 49, 568-586. <https://doi.org/10.1353/csd.0.0039>
- Orom, H., Semalulu, T., & Underwood, W., 3rd. (2013). The social and learning environments experienced by underrepresented minority medical students: A narrative review. *Academic Medicine*, 88(11), 1765-1777. <https://doi.org/10.1097/ACM.0b013e3182a7a3af>
- Padilla, R. (2015). Environment factors: Culture. In Christiansen, C.H., Baum, C.M., & Bass, J.D. (Eds.), *Occupational therapy: Performance, participation, and well-being* (4th ed., pp. 335-358). SLACK Incorporated.

- Patton, L. D. (2006a). Black culture centers: Still central to student learning. *About Campus*, 11(2), 2-8. <https://doi.org/10.1002/abc.160>
- Patton, L. D. (2006b). The voice of reason: A qualitative examination of Black student perceptions of Black culture centers. *Journal of College Student Development*, 47(6), 628–644. <https://doi.org/10.1353/csd.2006.0068>
- Patton, L. D., & McClure, M. L. (2009). Strength in the spirit: A qualitative examination of African American college women and the role of spirituality during college. *Journal of Negro Education*, 78, 42-54. <https://doi.org/10.1353/csd.2006.0068>
- Pearlin, L. I. (1989). The sociological study of stress. *Journal of Health and Social Behavior*, 30(3), 241-256. <https://doi.org/10.2307/2136956>
- Petrov, M. E., & Lichstein, K. L. (2016). Differences in sleep between Black and White adults: An update and future directions. *Sleep Medicine*, 18, 74-81. <https://doi.org/10.1016/j.sleep.2015.01.011>
- Pittman, L. D., & Richmond, A. (2007). Academic and psychological functioning in late adolescence: The importance of school belonging. *Journal of Experimental Education*, 75(4), 270–290. <https://doi.org/10.3200/JEXE.75.4.270-292>
- Polgar, J.M. (2015). Environment factors: Technology. In Christiansen, C.H., Baum, C.M., & Bass, J.D. (Eds.), *Occupational therapy: Performance, participation, and well-being* (4th ed., pp. 441-464). SLACK Incorporated.
- Prelow, H., Mosher, C., & Bowman, M. (2006). Perceived racial discrimination, social support, and psychological adjustment among African American college students. *Journal of Black Psychology*, 32, 442-454. <https://doi.org/10.1177/0095798406292677>
- Rebeiro, K. L., Day, D. G., Semeniuk, B., O'Brien, M. C., & Wilson, B. (2001). Northern Initiative for Social Action: An occupation-based mental health program. *American Journal of Occupational Therapy*, 55(5), 493-500. <https://doi.org/10.5014/ajot.55.5.493>
- Richman, L. S., & Jonassaint, C. (2008). The Effects of race-related stress on cortisol reactivity in the laboratory: Implications of the duke lacrosse scandal. *Annals of Behavioral Medicine*, 35(1), 105-110. <https://doi.org/10.1007/s12160-007-9013-8>
- Rogers, S. (2017). Person factors: Physiological. In Christiansen, C.H., Baum, C.M., & Bass, J.D. (Eds.), *Occupational therapy: Performance, participation, and well-being* (4th ed., pp. 289-312). Slack Incorporated.
- Ruiter, M. E., DeCoster, J., Jacobs, L., & Lichstein, K. L. (2011). Normal sleep in African-Americans and Caucasian-Americans: A meta-analysis. *Sleep Medicine*, 12(3), 209-214. <https://doi.org/10.1016/j.sleep.2010.12.010>
- Sabel, B. A., Wang, J., Cárdenas-Morales, L., Faiq, M., & Heim, C. (2018). Mental stress as consequence and cause of vision loss: The dawn of psychosomatic ophthalmology for preventive and personalized medicine. *The EPMA Journal*, 9(2), 133-160. <https://doi.org/10.1007/s13167-018-0136-8>
- Sandoval-Lucero, E., Maes, J. B., & Klinsmith, L. (2014). African American and Latino(a) community college students' social capital and student success. *College Student Journal*, 48, 522-533.
- Savtchouk, I., & Liu, S. J. (2011). EModeling of synaptic AMPA receptor subtype alters the probability and pattern of action potential firing. *Journal of Neuroscience*, 31(2), 501-511. <https://doi.org/10.1523/jneurosci.2608-10.2011>

- Sellers, R. M., Smith, M. A., Shelton, J. N., Rowley, S. A. J., & Chavous, T. M. (1998). Multidimensional model of racial identity: A reconceptualization of African American racial identity. *Personality and Social Psychology Review*, 2(1), 18-39. https://doi.org/10.1207/s15327957pspr0201_2
- Solorzano, D., Ceja, M., & Yosso, T. (2000). Critical race theory, racial microaggressions, and campus racial climate: The experiences of African American college students. *Journal of Negro Education*, 69(1/2), 60-73.
- Stark, S., Sanford, J., & Keglovits, M. (2015). Environment factors: Physical and natural Environment. In Christiansen, C.H., Baum, C.M., & Bass, J.D. (Eds.), *Occupational therapy: Performance, participation, and well-being* (4th ed., pp. 387-420). SLACK Incorporated.
- Steele, C. M., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality Social Psychology*, 69(5), 797-811. <https://doi.org/10.1037//0022-3514.69.5.797>
- Stone, S., Saucer, C., Bailey, M., Garba, R., Hurst, A., Jackson, S. M., Krueger, N., & Cokley, K. (2018). Learning while Black: A culturally informed model of the impostor phenomenon for Black graduate students. *Journal of Black Psychology*, 44(6), 491-531. <https://doi.org/10.1177/0095798418786648>
- Sue, D. W., Capodilupo, C. M., Torino, G. C., Bucceri, J. M., Holder, A. M. B., Nadal, K. L., & Esquilin, M. (2007). Racial microaggressions in everyday life: Implications for clinical practice. *American Psychologist*, 62(4), 271-286. <https://doi.org/10.1037/0003-066X.62.4.271>
- Tachine, A. R., Cabrera, N. L., & Yellow Bird, E. (2017). Home away from home: Native American students' sense of belonging during their first year in college. *Journal of Higher Education*, 88(5), 785-807. <https://doi.org/10.1080/00221546.2016.1257322>
- Taff, S. D. & Blash, D. (2017) Diversity and inclusion in occupational therapy: Where we are, where we must go. *Occupational Therapy in Health Care*, 31(1), 72-83. <https://doi.org/10.1080/07380577.2016.1270479>
- Tai, D. B. G., Shah, A., Doubeni, C. A., Sia, I. G., & Wieland, M. L. (2020). The disproportionate impact of COVID-19 on racial and ethnic minorities in the United States. *Clinical Infectious Diseases*, 72(4), 703-706. <https://doi.org/10.1093/cid/ciaa815>
- Tynes, B. M., Rose, C. A., & Markoe, S. L. (2013). Extending campus life to the Internet: Social media, discrimination, and perceptions of racial climate. *Journal of Diversity in Higher Education*, 6(2), 102-114. <https://doi.org/10.1037/a0033267>
- Tynes, B. M., Willis, H. A., Stewart, A. M., & Hamilton, M. W. (2019). Race-related traumatic events online and mental health among adolescents of color. *Journal of Adolescent Health*, 65(3), 371-377. <https://doi.org/10.1016/j.jadohealth.2019.03.006>
- Vachon-Preseu, E., Roy, M., Martel, M. O., Caron, E., Marin, M. F., Chen, J., Albouy, G., Plante, I., Sullivan, M. J., Lupien, S. J., & Rainville, P. (2013). The stress model of chronic pain: Evidence from basal cortisol and hippocampal structure and function in humans. *Brain: A Journal of Neurology*, 136(Pt 3), 815-827. <https://doi.org/10.1093/brain/aws371>

- Vuilleumier, P. (2005). How brains beware: Neural mechanisms of emotional attention. *Trends in Cognitive Science*, 9(12), 585-594. <https://doi.org/10.1016/j.tics.2005.10.011>
- Walker, K. L., & Dixon, V. (2002). Spirituality and academic performance among African American college students. *Journal of Black Psychology*, 28(2), 107-121. <https://doi.org/10.1177/0095798402028002003>
- Wei, M., Ku, T. Y., & Liao, K. Y. (2011). Minority stress and college persistence attitudes among African American, Asian American, and Latino students: Perception of university environment as a mediator. *Cultural Diversity & Ethnic Minority Psychology*, 17(2), 195–203. <https://doi.org/10.1037/a0023359>
- Wei, M., Liao, K. Y.-H., Chao, R. C.-L., Mallinckrodt, B., Tsai, P.-C., & Botello-Zamarron, R. (2010). Minority stress, perceived bicultural competence, and depressive symptoms among ethnic minority college students. *Journal of Counseling Psychology*, 57(4), 411–422. <https://doi.org/10.1037/a0020790>
- Wells, R. (2008). Social and cultural capital, race and ethnicity, and college student retention. *Journal of College Student Retention: Research, Theory & Practice*, 10(2), 103-128. <https://doi.org/10.2190/CS.10.2.a>
- Wicks, A. (2005). Understanding occupational potential. *Journal of Occupational Science*, 12(3), 130-139. <https://doi.org/10.1080/14427591.2005.9686556>
- Wilcock, A. A. (1998). Reflections on doing, being and becoming. *Canadian Journal of Occupational Therapy*, 65(5), 248-256. <https://doi.org/10.1177/000841749806500501>
- Wilcock, A. A. (2007). Occupation and health: Are they one and the same? *Journal of Occupational Science*, 14(1), 3-8. <https://doi.org/10.1080/14427591.2007.9686577>
- Wilkerson, I. (2020). *Caste: The origins of our discontents*. Random House.
- Williams, K. B. (2002). Minority and majority students' retrospective perceptions of social support in doctoral programs. *Perceptual and Motor Skills*, 95(1), 187-196. <https://doi.org/10.2466/pms.2002.95.1.187>
- Williamson, A. M., & Feyer, A.-M. (2000). Moderate sleep deprivation produces impairments in cognitive and motor performance equivalent to legally prescribed levels of alcohol intoxication. *Occupational and Environmental Medicine*, 57(10), 649. <https://doi.org/10.1136/oem.57.10.649>
- Wilson, J. L., & Meyer, K. A. (2009). Higher education websites: The “virtual face” of diversity. *Journal of Diversity in Higher Education*, 2(2), 91-102. <https://doi.org/10.1037/a0015443>
- Yosso, T. J. (2005). Whose culture has capital? A critical race theory discussion of community cultural wealth. *Race Ethnicity and Education*, 8(1), 69-91. <https://doi.org/10.1080/1361332052000341006>
- Yu, A. Y., Tian, S. W., Vogel, D., & Kwok, R. C.-W. (2010). Can learning be virtually boosted? An investigation of online social networking impacts. *Computers & Education*, 55(4), 1494-1503. <https://doi.org/10.1016/j.compedu.2010.06.015>