

Exploring whether mindfulness can enhance ethnic identity among undergraduate and graduate students

Ethnic identity

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Abstract

Purpose – The purpose of this paper is to explore whether attention, emotion, and cognitive regulation (CR) may be strategies to advance one's ethnic identity.

Design/methodology/approach – The paper is presented in three parts. The first section discusses integrative inquiry (INIQ) (Bresciani Ludvik *et al.*, 2016), a mindfulness methodology and mindful inquiry training program, as a potential pathway to help mitigate stress and enhance healthy development and well-being strategies that combat stressors related to ethnic and racial identity; and increase opportunities for positive ethnic identity development. INIQ was designed to influence areas of the brain associated with attention regulation, emotion regulation, and CR in order to decrease stress and anxiety, and heighten executive functions of undergraduate and graduate students. The second section discusses an exploratory study to see whether INIQ resulted in higher mean scores for participants on their ethnic identity, as assessed by the multigroup ethnic identity measure (Phinney, 1992).

Findings – The results indicated that there was a significant increase in pre-test and post-test scores for mindfulness ($p = 0.001$) as well as the dependent measure for learning exploration ($p = 0.028$) among 30 undergraduate, master's- and doctoral-seeking students. There was also a non-significant increase for clear understanding ($p = 0.15$) and overall ethnic identity achievement ($p = 0.387$); and non-significant decrease for ethnic belonging ($p = 0.424$).

Originality/value – These findings suggest that INIQ may increase students' ethnic learning exploration, which is an important process in ethnic identity development (Phinney and Ong, 2007). This study also suggests that INIQ increases mindfulness in participants. The authors conclude with a discussion and recommendations to future INIQ and other diversity centered student support practitioners interested in influencing positive ethnic identity formation.

Keywords Mindfulness, Ethnic identity, Ethnic identity development, Integrative inquiry (INIQ), Multigroup ethnic identity measure

Paper type Research paper

Student identity research suggests that postsecondary institutions must move beyond diversity initiatives that simply focus on access to higher education. There is a need for understanding who “students are, [and] how they identify and see themselves” (Moses, 2014, p. 78), in order to create environments that facilitate their success



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(Hurtado, 2005; Hurtado *et al.*, 2009; Moses, 2014; Rankin and Reason, 2005; Reason and Rankin, 2006; Smith *et al.*, 1997). A comprehensive approach to the success of diverse populations must be integrated into systematized structures, campus culture, policies, and practices (Moses, 2014) in order to rectify structural/institutional racism resulting in the previously mentioned disparity between white and ethnic minority baccalaureate attainment. As postsecondary institutions shift toward a model of institutional transformation, there needs to be concurrent action to provide students with tools to manage their reaction to direct and indirect racism and ethnic discrimination, and how they experience existence in racially and ethnically structured institutions. Institutional racism exists in nearly all aspects of life in the USA (Nesbit, 2015). Thus, exploring potential tools that may be integrated into an educational setting would be useful to educators invested in minority students' academic success and personal well-being.

In an educational system where structural/institutional racism exists (Miller and Garran, 2017), mindfulness may be able to provide strategies to awaken an individual to threats to one's identity, such as in social identity threat or stereotype threat, and make choices based on critical thought (Bresciani Ludvik *et al.*, 2016). In those instances of threat to one's identity, such as racist encounter, a student can attend to the present moment, and observe events as phenomena (i.e. attention regulation (AR)). A student can then become aware of the emotions they are having and how they are regulating those emotions (i.e. emotion regulation (ER)). As a result, they can use cognitive processes to re-appraise the situation and inform their decision making (i.e. cognitive regulation (CR)), thus maintaining their original course of positive goal-directed behavior (Zelazo *et al.*, 2016). Kitayama *et al.* (2000) described emotions as more than private or bodily states, and further described them as social phenomena (DeRivera, 1984; DeRivera, and Grinkis, 1986; Kemper, 1978; Lutz, 1988; Lutz and White, 1986; Parkinson, 1995). When an individual engages and connects in an ongoing relationship with others, this is known as perceived interdependence. However, when an individual disengages from the relationship with others, this is known as interpersonal disengagement (Kitayama *et al.*, 2000; Block, 1957; Dittman, 1972; Lutz, 1988; Reizenzein and Hofmann, 1990). The ability to observe threats to one's identity, observe one's emotional responses to these threats, and then use cognitive processes to decide whether to continue an interdependent relationship with one's own ethnic group instead of disengaging may create opportunities to foster positive ethnic identity development. We hypothesized that utilizing the above mentioned strategies acquired from mindfulness-based practices may result in increased opportunities for positive ethnic identity development.

Context of need

The ethnic and racial composition of college students in the USA has become more diverse. For example, between 1976 and 2010, the minority American college student population increased while the white American college student population decreased (US Department of Education, 2012a, b, c, d); yet, the gap in attaining a bachelor's degree between whites and blacks and between whites and Hispanics remains, with more white students earning degrees (US Department of Education, 2012c). As such, the opportunity for access to graduate school and doctoral level attainment decreases. By 2060, the US Census Bureau forecasted that the US population would be "more racially and ethnically diverse [where] no group is the majority" (US Department of Commerce, 2012b).

Furthermore, 2014-2060 population projections foresee that the black population will have moderate growth from 42 million (13.2 percent) in 2014 to 60 million (14.3 percent) in 2060, American Indians and Alaskan Natives will have moderate growth from 4 million (1.2 percent) to 5.6 million (1.3 percent), the Native Hawaiians and Other Pacific Islanders will increase from 734,000 (0.2 percent) to 1.2 million (0.3 percent). The Asian population is expected to more than double from 17.1 million (5.4 percent) to 39 million (9.3 percent).

Hispanics will more than double from 55 million (17.4 percent) to 119 million (28.6 percent), an increase of 115 percent. This will bring Hispanics to one-quarter of the total population in 2060. Projected to triple from 8 million in 2014 to 26 million in 2060 are people who self-identify as being of two or more races. The white population is projected to fall from 198 million in 2014 to 182 million by 2060. It is the only population that is expected to decrease between 2014 and 2060. In short, the ethnic minority population will likely more than double from 119.2 million (37.8 percent) in 2014 to comprise 224.5 million (56.4 percent) of the total population in 2060 (US Department of Commerce, 2015).

Similarly, the US ethnic minority student population has grown while the white student population has declined. From 1976 to 2010, the percentage of Hispanic students increased from 3 to 13 percent, Asian/Pacific Islander students increased from 2 to 6 percent, and black students increased from 9 to 14 percent. In contrast, the percentage of white students fell from 83 to 61 percent during the same period (US Department of Education, 2012a, b, c, d). The enrollment of US residents in a postsecondary degree granting institution is projected to increase by 42 percent for Hispanic students, 25 percent for black students, 20 percent for Asian/Pacific Islander students, 4 percent for white students, and 1 percent for American Indian/Alaskan Native students between 2010 and 2021 (US Department of Education, 2013).

Despite these changes in the USA and student populations, there remains a gap in conferral of baccalaureate degrees between whites and ethnic minority students. Graduation rates for the first time, full time students who enrolled in bachelor's degree granting institutions in 2004, varied by race and ethnicity. For example, the 2004 cohort's completion rates were highest for Asian/Pacific Islander students at 69 percent, white students at 62 percent, Hispanic students at 50 percent, and black and American Indian/Alaska Native students at 39 percent (US Department of Education, 2012d). Although there were increases in degree attainment in every race, except for whites between 1999 and 2000 and 2009 and 2010, whites still obtained more than 7 out of 10 baccalaureate degrees in the USA. Bachelor's degrees conferred for whites were 72.9 percent, blacks were 10.3 percent, Hispanics were 8.8 percent, Asian/Pacific Islanders were 7.3 percent and American Indian/Alaskan Natives were 0.8 percent (US Department of Education, 2012a). This leads to obvious implications for attainment of graduate degrees for people of color.

Education of the US population is of critical importance to the nation's ability to be a global leader in innovation, ingenuity, and economic competitiveness. Additionally, the success of America's education system is inextricably tied to and influences the strength of the American economy (The White House, 2016). During the twentieth century, advances in the education system and increased graduation of high school and college students led to an economic rise of the USA such that it became the wealthiest country among all other nations. Gone is the twentieth century economy, where the USA was the "most productive, and most competitive in the world; amazing new technologies were invented and commercialized; the workforce became the most educated in the world; and [where] incomes soared while a large middle class emerged and thrived" (US Department of Commerce, 2012a, p. v).

The twenty-first century is described with the USA demonstrating an inability to maintain its preeminent position as a world leader, via stagnated incomes and slowed job growth. By today's standards, the US education system has slipped (US Department of Commerce, 2012a). Today, the USA has fallen internationally from 1st place in 1990 to 12th place in baccalaureate degree attainment among 25-34 year olds (White House, 2014). This is of economic significance, considering a highly educated population is essential to foster innovation and increase living standards (US Department of Commerce, 2012a, b).

Additionally, higher levels of educational attainment correspond to increased earnings (US Department of Education, 2016) and are a “key pathway for social mobility in the USA” (US Department of Education, 2016, p. 1). The economic growth of the nation and prosperity of its population is directly tied to the education of the workforce. Thus, postsecondary educational institutions and educators need to ensure the academic success and graduation of students of color. In less than three decades this demographic will compose a majority of the population. They will need to be prepared to lead innovation and keep the nation at the forefront of the global marketplace.

Trailing behind other industrialized countries in the conferment of high school and college degrees and failing to educate the ethnic minority population of students is an urgent national problem. Of significance is the converse relationship between the increase of a racially and ethnically diverse US population and postsecondary student population vs conferral of baccalaureate degrees to ethnic minority students in the USA. The US Department of Education, under the Obama Administration, recommended that in order to achieve this, institutions must make a commitment to promoting student body diversity and inclusion on campus. Diversity needs to be valued across all levels of the education system including faculty, staff, and students. Institutions must make a commitment to outreach to and recruit diverse groups of students. One of the academy’s highest priorities should be historically underrepresented students; however, institutions have not yet successfully decreased disparities in these students’ persistence and graduation rates (Quaye and Harper, 2015). Support services need to advance students’ academic success such as decreased time in remediation, increased retention, and increase in students earning good grades. There needs to be a commitment to creating an inclusive campus climate (e.g. decreased reports of discrimination and bias, increased cultural competency of leadership, faculty, staff, and students, and financial support to decrease gap for economically disadvantaged students). Additionally, there needs to be further research in ways to advance educational equity for underrepresented groups in terms of students’ enrollment, retention, and graduation rates (US Department of Education, 2016).

A national imperative has been established to increase college graduation rates by 2020 (The White House, 2009), and it is critical to use race as part of the college admissions process in order to ensure a diverse student body which would enrich students’ educational experience (The National Association for College Admission Counseling, 2016). However, postsecondary institutions are still in varying degrees of institutional transformation to address the needs of their diverse student population ranging from models where diversity is valued and tied to an institution’s mission, to those whose diversity initiatives are assigned to individuals who are not in executive roles (Moses, 2014). The aspiration of complete institutional change would have an end goal with diversity valued by higher education leaders and at the core of an institutional mission (Moses, 2014; Gregorian, 2012). Thus, it is important to research opportunities to increase ethnic minority student retention, academic success, and graduation. Broadly speaking, there is a need to consider multi-ethnic student academic and personal needs, and institutional and system wide ethnicity-sensitive policies in postsecondary education. We believed that opportunities to foster minority students’ positive ethnic formation may contribute to these efforts.

Relevant literature

In this manuscript, we explore whether the mindfulness-based practices of attention, emotion, and CR may be strategies to advance one’s ethnic identity. We believe that there may be skills that can create pathways to help foster protective and promotive strategies against stressors related to ethnic and racial identity discrimination and increase opportunities for positive ethnic identity development. This can be particularly relevant to ethnic minority students who exist in social structures and institutions that have been

shaped by a history of racism and discrimination. Mindfulness methodology may also assist those who hold leadership positions within the academy to become more aware of how they may be able to cultivate environments that foster ethnic identity development and positive goal-directed behavior.

Ethnic identity

For ethnic and racial minorities, ethnic identity is vital to psychological functioning and well-being, and is a critical component of their self-concept (Roberts *et al.*, 1999; Phinney, 1990). Categorized as a social identity that is representative of sense of belonging to one's ethnic group, ethnic identity development has been associated with positive psychosocial outcomes such as higher self-esteem (Bracey *et al.*, 2004; Phinney, 1991; Phinney *et al.*, 1996; Romero *et al.*, 2014; Tajfel and Turner, 1986), and lower depressive symptoms (Street *et al.*, 2009; Umãna-Taylor and Updegraff, 2007).

Recent studies on health literature suggest that ethnic minorities, including ethnic minority college students, who perceived racial and ethnic discrimination, may experience increased stress and ultimately, disease. Ethnic minorities' repeated exposure to discrimination elicits both a physiological and psychological response to stress, which can lead to mental and physical illness (Pascoe and Richman, 2009; Williams and Mohammed, 2009). We recognize that this cannot be generalized across ethnic groups, nonetheless, the instruments that are used to measure stress, anxiety, attention, emotion, and CR as well as ethnic identity development are designed and administered in a manner to generalize across all ethnic identity groupings. Donovan's *et al.* (2012) research in perceived discrimination, and depressive symptoms in eight ethnic-generational groups suggest that it is important to recognize that minorities, as a group, and individuals within each ethnic group experience and respond to ethnic discrimination differently, such that research on the relationship between discrimination and ethnic identity vary across different ethnic groups (Fuller-Rowell *et al.*, 2013).

A positive sense of one's ethnic identity is expected to play a favorable role in minority psychosocial functioning by buffering the negative aspects of cultural stressors on well-being (Gonzales-Backen, 2013; Iturbide *et al.*, 2009; Umãna-Taylor *et al.*, 2011) and having a protective stabilizing effect on self-esteem (Romero *et al.*, 2014). This is particularly salient to Mexican-origin youth because it provides them with a sense of purpose, understanding, and confidence in their ethnicity, and ethnic group membership (Umaña-Taylor *et al.*, 2014, p. 190; Neblett *et al.*, 2012; Umaña-Taylor, 2004). For Asian Americans, positive ethnic identity development has been linked to eudaimonic well-being (Iwamoto and Liu, 2010), and moderating symptoms of depression resulting from discrimination (Mossakowski, 2003). Ethnic identity has been associated with quality of life, playing a role in self-esteem, related to self-worth, and happiness (Tovar-Murray and Munley, 2007), and predictor of life satisfaction (Tovar-Murray and Munley, 2007; Diener and Diener, 1995) for African Americans. Similarly, underrepresented college students with achieved ethnic identity have both cognitive and non-cognitive benefits. Research has suggested ethnic identity positively impacts a sense of competence, sense of belonging, interpersonal relationships, and commitments (Maramba and Velasquez, 2012). These positive psychosocial outcomes combined with the proportional growth of children and young adults of color have resulted in researchers' increased interest in ethnic identity development (French *et al.*, 2013).

Although there are a number of studies that have associated ethnic identity development with positive psychosocial outcomes, there is still a need to acquire knowledge about processes and antecedents of identity development (Fuller-Rowell *et al.*, 2013). Here, we consider that the meaning of ethnic identity and preference as contextual and which can be impacted by social milieu (Phinney and Rotheram, 1987). Since students of color have historically been considered members of a devalued group in the USA (Jones, 1997), this

may have, in some cases, resulted in a predisposition to internalizing negative attitudes (Tajfel, 1978) about ethnic group membership (French *et al.*, 2006). Being mindful of these circumstances and considering alternative approaches to one's ethnic identity formation may influence a more positive sense of self. Note that a continual limitation to this discussion and also inherent in this study is the consistent generalization of findings to all students of color. In the next section, we provide an overview of mindfulness and literature pertaining to AR and ER. We will connect these practices and theories to majority and minority groups' use of cognitive reappraisal and expressive suppression strategies and the resulting effect on well-being.

Mindfulness

Mindfulness meditation is the intentional act of focusing attention to one's thoughts, emotions, and body sensations while observing them from inception to end (Hölzel *et al.*, 2011). The interacting components of mindfulness meditation include: AR; body awareness; ER, including reappraisal and exposure, extinction, and reconsolidation (e.g. CR); and change in perspective of self. Hölzel *et al.* (2011) defines mindfulness and mindfulness meditation within the context of current scientific research. Mindfulness is the act of experiencing the present with nonjudgmental attention (Kabat-Zinn, 1990). One may do this by regulating attention so that it is in the present moment, and then orienting self with interest and receptivity to the experience regardless of what it is (Bishop *et al.*, 2004). It is typically attached to meditation practices and has been integrated into sitting meditation, walking meditation, or other mindful movements (Kabat-Zinn, 1990). As a practice, mindfulness meditation is inclusive of focusing attention on one's thoughts, emotions, and body sensations while being cognizant of the experience from the start of the experience to its ending or transition to the next experience (Hölzel *et al.*, 2011).

We hypothesize that the active practice of mindfulness meditation may sway potentially destructive emotional responses to threats on one's ethnic identity. Specifically, interacting components of mindfulness meditation can influence one's ability to focus attention to one's thoughts, and have cognitive control of how one experiences their emotions. As a result, the ability to use cognitive reappraisal to down-regulate negative emotional responses to an external threat (e.g. discrimination and prejudice), and increase executive brain function may foster positive ethnic identity development. What follows is more detail and how that might occur.

AR

As previously mentioned, Hölzel *et al.* (2011) synthesized existing research that describes distinct interacting mechanisms that occur during mindfulness meditation. The first component described is AR. AR is the action of focusing attention on a single object, where if one notices that the mind has wandered away, one is invited to return thoughts back to the intended object (Lutz *et al.*, 2008). This process is also referred to as conflict monitoring or executive attention (Posner and Petersen, 1990). As a result of the repeated practice, Hölzel *et al.* (2011) says, mindfulness meditators with typically developed brains, are able to increase their attention with fewer distractions and self-reported enhanced attentional performance (Barinaga, 2003; Jha *et al.*, 2007; Slagter *et al.*, 2007; Valentine and Sweet, 1999; van den Hurk *et al.*, 2010).

Of particular interest to Hölzel's *et al.* (2011) research and to this study is the neural mechanism of executive attention as it relates to AR. In neuroimaging research, the anterior cingulate cortex (ACC) has been attributed to enabling executive attention. This may mean that distractions during meditation and in conflict with the goal of focusing on one's breath may result in ACC activation which alerts systems in the brain that implement top-down regulation (executive function part of the brain, which is the prefrontal cortex, which down

regulates the reactivity of the emotional reactive part of the brain) (van Veen and Carter, 2002). As a result, one can focus attention back to the breath.

The ACC has been linked to meditation in several neuroscientific studies (Cahn and Polich, 2006). Hölzel's *et al.* (2007) functional Magnetic Resonance Imaging research suggests that there was greater activation in the rostral ACC for experienced meditators who practiced focused attention meditation. The rostral ACC is associated with the limbic region of the brain where emotional responses are generated (Etkin *et al.*, 2011). Other studies aligned with research suggesting greater rostral ACC activation in meditators (Gard *et al.*, 2012; Tang *et al.*, 2009). Structural MRI analysis of brain gray matter indicates that the practice of meditation may result in the cortical thickness in the dorsal ACC for experienced meditators when compared to control subjects (Grant *et al.*, 2010), and white matter integrity in the ACC for participants in an 11-hour integrative body-mind training (Tang *et al.*, 2010). The dorsal ACC is associated with the appraisal of negative emotion and how it is expressed (Etkin *et al.*, 2011). In short, Hölzel *et al.* (2011) argued that mindfulness meditation may result in strengthening AR and ACC performance, which regulates blood pressure and heart rate. As such, the mindful practitioner, who has a typically developed brain, has access to self-initiated ER.

ER

A dearth of literature exists pertaining to ER as a potential influence on positive ethnic identity development. This is particularly interesting because the ability to manage negative emotions that can deter one from positive goal-directed behavior (Zelazo *et al.*, 2016) may be relevant to ethnic minorities in the USA considering various stressors that may impact their psychosocial well-being. There are many opportunities for minorities to develop a negative identity as it relates to membership in one's ethnic group, especially because membership in oppressed and exploited minority groups can increase the tendency to internalize unfavorable perspectives by majority groups (Erikson, 1968). Ethnic minorities deal with "contrasting and often conflicting attitudes, values, practices, and expectations derived from dual frames of reference, their home, or ethnic culture and the culture of the larger society as embodied in their school and among their peers" (Phinney, 2010, p. 34). Within a cultural ecological framework, identity can be influenced by the environment. Racism, prejudice, discrimination, oppression, and segregation can influence the formation of minority children's identity (Eccles *et al.*, 2006; García Coll *et al.*, 1996), and thus, should be considered in the development of ethnic minorities. Additionally, prejudice and discrimination have been associated with stress, lower self-esteem, depressive symptoms, and risky behavior (Adams *et al.*, 2006; Eccles *et al.*, 2006; Edwards and Romero, 2008; García Coll *et al.*, 1996; Jackson *et al.*, 1996; Romero *et al.*, 2007; Romero *et al.*, 2007; Romero *et al.*, 2014; Romero and Roberts, 2003a, b; Spears Brown and Bigler, 2005; Szalacha *et al.*, 2003).

ER is an individual's ability to modulate which emotions one has, when he or she has them, and how one expresses or experience those emotions (Gross, 1998b; Gross and Desteno, 2013). Of interest to this paper is the cognitive reappraisal strategy (e.g. CR), which is the process of re-contextualizing a thought prior to an emotional reaction (Gross, 1998a), to elicit a more positive reaction (e.g. empowering self by choosing how to feel, react, and/or respond to a racist situation), or not personalizing a situation (e.g. delineating that an act of microaggression is about how you are being treated as opposed to who you are as a person). It can be useful as a strategy to thwart negative emotions (John and Gross, 2004), and has been associated with fewer depressive symptoms, less negative affect, more positive affect, greater well-being, and more successful social interactions (Butler *et al.*, 2003; Gross and John, 2003).

In a study measuring the individual differences in the use of cognitive reappraisal and expressive suppression, Gross and John (2003) explored whether emotional expression

varied across different ethnic minority groups. A portion of their research was influenced by the social stratification of race and ethnicity in the USA where European Americans tended to have more power and social status than ethnic minorities. Based on how power influences behavior, Keltner *et al.* (2003) discussed the consequences of power-related behavioral patterns. In short, those with a lower status (minorities) had to minimize the risk of upsetting those who held a higher status (majorities) because they controlled valuable resources. As a strategy, those with lower status carefully monitored and controlled expression of their emotion. This led Gross and John (2003) to hypothesize that ethnic minorities may use emotion suppression as an ER strategy more frequently than European Americans.

Their study found that European Americans showed the least use of suppression as an ER strategy. Based on their ANOVAs, they did not find a difference in suppression as an emotional regulation strategy between minority groups. In line with their original premise, greater use of suppression to regulate emotions was associated with minority status. In the frequency in use of reappraisal, they found no significant differences across the four ethnic groups.

The study then explored the consequences of reappraisal and suppression as ER strategies. In this part of the study, ethnicity was not a consistent moderator for suppression or reappraisal in moderated multiple regression analyses. Findings in this part of the study suggested that inauthenticity, or discrepancy between presentation of self and inner self (Gross and John, 1998) was related to suppression but not reappraisal. Gross and John (2003) believed that individuals who chronically used suppression were aware of their inauthenticity and deceit about inner feelings, attitudes, and beliefs. As a coping mechanism, this may be problematic for ethnic minorities who tended to use suppression to regulate emotions more often than European Americans.

Findings by Juang *et al.* (2016) suggested how the use of suppression to regulate emotions could be problematic for ethnic minorities. They found that lower cognitive reappraisals in combination with higher suppression as ER strategies to combat discrimination (in the form of denigration) has been tied to symptoms of depression, anxiety, and aggression for Latino/Latina and Asian heritage college students. However, the benefits of cognitive reappraisal as an adaptive strategy are also contextual. Soto *et al.* (2012), investigated cognitive reappraisal strategies across Latinos in the context of oppression and strength in numbers. Their study suggests that cognitive reappraisal as an adaptive strategy against discrimination was linked to better psychological functioning for Latinos who were in high-Latino populated counties such as Riverside County, California, but this relationship was absent for Latinos in low-Latino populated counties, such as Lancaster County, Nebraska (Soto *et al.*, 2012). As can be seen, it is important to note that global conclusions or assumptions that one ER strategy is better than another could be misleading; specificity of context should be factored into each scenario (Gross and Desteno, 2013; Soto *et al.*, 2012). For example, in a study exploring ethnic variation in emotion regulation, Arens *et al.* (2013) findings suggested value in conceptualizing ER as a sociocultural phenomenon. In their research, healthy female Turkish immigrants in Germany exhibited a greater ER balance than German women. The Turkish women frequently used both cognitive reappraisal and expressive suppression, and had more positive outcomes of expressive suppression than German women. Their study supports previous research suggesting ER is practiced differently and has different health outcomes across various cultures (Arens *et al.*, 2013; Consedine *et al.*, 2002, 2005; Gross and John, 2003). Thus, factors such as ethnicity, gender, and context may influence nuances in how mindfulness-based strategies are practiced and the health outcomes of mindfulness-based trainings.

As can be seen in our discussion the literature review about mindfulness, AR, and ER there is constant interaction between self, behavior, and the changing environmental setting. One's ethnic and racial identity is experienced in everyday life as a set of "behavioral and

psychological negotiations” (Cross *et al.*, 2017, p. 2). This can be described as a dynamic psychological web where one has to psychologically navigate oneself based on their interaction with varying situations (Cross *et al.*, 2017). This constant internal and behavioral negotiation highlights the importance of developing a positive ethnic identity in order to successfully traverse in everyday life. Thus, we were interested in exploring opportunities to provide strategies that cultivate students’ positive ethnic identity development.

Purpose

The purpose of this study was to learn whether participation in the mindfulness methodology called integrative inquiry (INIQ) resulted in a difference in students’ ethnic identity, as measured by the multigroup ethnic identity measure (MEIM).

INIQ

Using mindfulness methodology and mindful inquiry, INIQ was developed to influence areas of the brain associated with AR, ER, and CR in order to decrease stress and anxiety, and heighten executive function for undergraduate and graduate students. Designed as a 16-week hybrid or online AR, ER, and CR curriculum, undergraduate and graduate students were invited to participate in: reading assignments; online mini-lectures; reflective questions; interactions with nature; mindfulness methodology assignments; creative expression assignments; journal assignments; focused breathing exercises; focused movement exercises; didactic exercises; presentations; compassion exercises; common humanity exercises (including reinforcing compassion and empathy for others and reminding students that all humans have feelings and want to be happy “just like me”); expressive exercises; and community service projects (Bresciani Ludvik *et al.*, 2016).

INIQ participants included undergraduate students who met two hours a week, master’s students who met 15-45 minutes a week, and doctoral students who met two days a month. Bresciani Ludvik’s *et al.* (2016) research found that undergraduate, master’s, and doctoral students participating in a INIQ pilot programs reported significant effectiveness in decreased stress and anxiety and increased AR, ER, and CR.

Participants’ ethnic identity was measured by the MEIM (Phinney, 1992). Mindfulness was measured by the Five Facet Mindfulness Questionnaire (FFMQ) (Baer *et al.*, 2006). Both inventories were given to students before and after participation in INIQ.

Research question

Our research question is:

RQ1. Does participation in INIQ result in higher mean scores for ethnic identity, as assessed by the MEIM (Phinney, 1992)?

Hypotheses

H1. There will be no significant difference ($p < 0.05$) in ethnic identity development for INIQ participants.

H2. There will be no significant difference ($p < 0.05$) in mindfulness for INIQ participants.

Theoretical framework

Phinney’s (1993) three-stage model of ethnic identity was the theoretical framework guiding this study. In this framework, individuals’ degree of exploration and commitment to one’s

ethnic identity is classified into four identity statuses (Gjerde, 2014). Stage 1 describes two identity statuses. This includes one's unexamined ethnic identity as a classification of either diffusion or foreclosure. Diffusion is when one has not explored their feelings and attitudes about one's ethnic identity. In foreclosure, an individual has not explored one's ethnic identity, but may have made a commitment to an ethnic identity based on the opinions and attitudes of others (Phinney, 1993). Stage 2 describes the search and exploration of one's ethnic identity and is classified as moratorium. In Stage 3, an individual has explored one's ethnic identity in depth and has committed to positive sense of oneself. This is described as identity achievement (Phinney, 1993).

This model was created to conceptualize ethnic identity development and led to the instrument used to measure aspects of ethnic identity development and achievement. The components of exploration and commitment from Stages 1 and 2 become the measurable aspects of ethnic identity development in Phinney's MEIM (1992a, b). Using a likert scale to understand extent to which one explores and commits to one's ethnic identity, researchers can quantify these aspects of ethnic identity and in combination measure ethnic identity achievement. In this study, we used Phinney's (1992) MEIM.

Connecting INIQ regulation strategies to theoretical framework

Using mindfulness methodology, INIQ was designed to influence areas of the brain associated with AR, ER, and CR. CR, in the training, encourages individuals to explore a sense of self, self-regulation, and being aware of the one's relationship with experiences within and around oneself. This can be useful during the first stage of unexamined ethnic identity, diffusion and foreclosure, where feelings and attitudes of ethnic identity have not yet been explored. The active practice of "thinking about sense of identity, of self, of belonging, of community, [and] of making meaning out of the experiences that surround one" and of thinking about how one is the same or different from others (Bresciani Ludvik *et al.*, 2016) can influence thinking about oneself in relation to the sense of belonging in one's ethnic group.

AR is the ability to focus attention on a single object, where if one notices that attention has wandered away, then one can return thoughts back to that object (Lutz *et al.*, 2008). During, the second stage of ethnic identity search or moratorium, an encounter can influence one to look at one's own ethnicity and become aware of ethnicity.

Application of this process may look like this: Mike, a Japanese American, meets his University roommate for the first time. During the introductory conversation, Sean, a European American, asks Mike "Where are you from?" Though this question may seem harmless, ethnic minorities may experience it as a threat to their personal identity (Armenta *et al.*, 2013; Tajfel and Turner, 1986; Turner *et al.*, 1987), because of the potential implications that that they may not be "as American as their European American counterparts" (Armenta *et al.*, 2013, p. 131). Having participated in INIQ, Mike notices heat rising in his body. He also notices a mixture of emotions as he begins to interpret what Sean is interested in learning about Mike and he begins to predict the implications of each interpretation. Mike breathes in because he has learned in his training that the breath will literally alter his physiology and down regulate his fight or flight reaction (e.g. amygdala). The breathing may also up-regulate his pre-frontal cortex giving him access to his executive functions. Mike responds "I am from San Francisco." Sean asks for more clarification "Where are you really from?" Mike then moves into mindful inquiry. Fact – Sean is interested in knowing where Mike is from. Interpretation – Sean sees me as someone who is not from here. Fact – Mike is from San Francisco. Interpretation – Sean thinks I am a foreigner. Fact – Sean may or may not realize his comment implies he believes that Mike does not reflect his representation of what a San Franciscan or an American is. Interpretation – Sean sees me as less American than he is. Sean's process of moving through

mindful inquiry gives him an opportunity to bring attention to his emotions and to his thoughts. Then he can choose his next response, as opposed to automatically reacting to and expressing his anger. As a result, Mike decides that he not comfortable answering personal questions about himself. Instead he decides to ask Sean “where he is from,” and learn more about who Sean is as an individual. This is an example of how participants in INIQ are coached to focus attention to their feelings and thoughts so that they may engage in CR of how they experience their emotions. Students are not specifically guided though activities explicitly meant to influence ethnic identity development.

Method

Study population and setting

In this pre-post-assessment study, 30 participants were recruited from an ethnically diverse Hispanic serving institution in Southern California, where students were enrolled in undergraduate, masters and doctoral programs. Two of the students did not complete the post-test, $n = 28$. The undergraduate students were recruited from science, technology, engineering, and mathematics programs geared to supporting underrepresented students. The master’s and doctoral students were recruited from educational leadership programs with a focus on social justice. All students attended an ethnically and racially diverse institution.

The study consisted of 30 students from Spring 2013 and Fall 2014 cohorts of the INIQ program. Two students did not complete the post-test. Demographic information and results sections are representative of a sample size of $n = 28$. The educational composition of the students included: 18 percent undergraduate students, 32 percent master’s students, and 50 percent doctoral students. Students’ ranged from age 19 to 56 years old ($M = 32$; $SD = 11.13$), with 36 percent between the ages 18 and 24 years old, 25 percent between 25 and 34 years old, 25 percent between 35 and 44 years old, 7 percent between 45 and 54 years old, and 7 percent between 55 and 64 years old. The students were predominantly female (75 percent). Their ethnic composition, based on self-reporting measures, was 14 percent black or African American; 18 percent mixed (Parents are from two different groups); 25 percent Hispanic or Latino, including Mexican American, central American, and others; and 43 percent white, Caucasian, Anglo, European American. No students self-reported that they ethnically identified as either Asian or Asian American, including Chinese, Japanese, and others; or American Indian or Native American.

Of the 30 participants who took the pre-test, two people did not complete the post-test. In the t -test there were no missing data, so the sample size was $n = 28$.

A summary of demographic characteristics of the study population can be found in Table I.

Procedure

Data collection for this paper was a part of a larger study that asked students to complete, a pre- and post-packet containing demographic questions, the MEIM, and FFMQ. Additionally, the research team received Institutional Review Board approval to conduct this study in a Hispanic serving institution in Southern California. Consent forms were gathered from all participants prior to engaging in INIQ training.

All data were collected in the form of self-report assessment packets prior to and after completing the training program. Confidentiality was maintained by assigning each participant a unique identification number that was then used on all documents instead of their name or any other personally identifying information.

When students completed and submitted their pre-assessment packets, they received an e-mail with their login details that allowed access to the online modules. The students participated in the hybrid model of INIQ, meaning participants engaged in both face-to-face

Table I.
Demographic
characteristics of
study population

	<i>n</i> = 28	
	Percent	Number
Total participants		
<i>Gender</i>		
Female	75	21
Male	25	7
Total	100	28
<i>Education</i>		
Undergraduate	18	5
Master's	32	9
Doctoral	50	14
Total	100	28
<i>Ethnicity</i>		
Black or African American	14	4
Mixed (parents are from two different groups)	18	5
Hispanic or Latino, including Mexican American, central American, and others	25	7
White, Caucasian, Anglo, European American	43	12
Asian or Asian American, including Chinese, Japanese, and others	0	0
American Indian or Native American	0	0
Total	100	28
<i>Age</i>		
18-24	36	10
25-34	25	7
35-44	25	7
45-54	7	2
55-64	7	2
Total	100	28

and online sessions. Preceding the last week of classes (week 16) and following ECP instruction, participants were given a post-assessment packet to complete and return. All packets were returned to the course instructors who then filed them in a locked filing cabinet for the researchers.

A number of analytical strategies were employed to explore whether participation in INIQ influenced students' ethnic identity, as measured by the MEIM. Our analysis included descriptive analytics to provide insight about participants' characteristics and an exploratory factor analysis to examine the underlying factor structure of MEIM as influenced by students' participation in INIQ. Analytical strategies were conducted using the International Business Machines Corporation Statistical Package for the Social Sciences Software.

Measures

The following measures were used.

MEIM. The MEIM is composed of a 12-item self-report inventory used to measure ethnic identity across diverse populations and ages (Phinney, 1992). It measures two factors including affirmation/belonging and ethnic identity achievement, and overall ethnic identity achievement. With Cronbach's α of 0.80, the MEIM has shown good reliability (Roberts *et al.*, 1999).

FFMQ. The FFMQ is composed of five factors of mindfulness. These factors include observing (which is associated with AR), describing (associated with AR and CR), acting with awareness (associated with AR and ER), non-judging of inner experience (associated with ER and CR), and non-reactivity to inner experience (associated with ER and CR). This self-report inventory includes 38 items (Baer *et al.*, 2006).

Results

This study found that there were significant increases in students' mindfulness ($p = 0.001$) and ethnic learning exploration ($p = 0.028$) pre-test and post-test scores after participation in INIQ. This study also found that there was no significant difference in pre-test and post-test scores for dependent subscales of ethnic belonging ($p = 0.424$) and clear understanding ($p = 0.15$); and overall ethnic identity development $p = 0.387$.

Exploratory factor analysis MEIM

An exploratory factor analysis was conducted on items of the MEIM with a complete data set ($n = 28$). According to Roberts *et al.* (1999) factor analysis, the MEIM is comprised of two factors. These include ethnic identity search (items 1, 2, 4, 8, and 10) and affirmation, belonging, and commitment (3, 5, 6, 7, 9, 11, and 12). These items can then be scored with a mean score reflecting search (five items), affirmation (seven items) and overall score (all 12 items). We were interested in exploring the underlying constructs of ethnic identity search and affirmation, belonging, and commitment as influenced by participation in INIQ. Conducting principle components analysis, we used SPSS to extract factors based on eigenvalues greater than one. In order to make factors more interpretable and presuming factors were not related, we used maximum likelihood with varimax rotation. A three-factor solution was obtained reflecting subscales of 2 items in learning exploration (2, and 4); 5 items in ethnic belonging (5, 6, 9, 11, and 12); and 5 items in clear understanding (1, 3, 7, 8, and 10). Cronbach's α coefficients were 0.89 for the entire sample, 0.49 for learning exploration, 0.91 for ethnic belonging, and 0.84 for clear understanding.

Paired sample t-test procedure

The paired sampled *t*-test statistical procedure was conducted to determine whether students' pre-test mean score for ethnic identity (as measured by MEIM), and mindfulness (as measured by FFMQ) differed from post-test scores after participation in INIQ.

In the first paired sample *t*-test, we examined students whether students' pre-test mean score for ethnic identity (as measured by MEIM) differed from post-test scores after participation in INIQ. The results revealed that there was significant increase in students' learning exploration subscale between the pre-test ($M = 4.89$, $SD = 1.59$) and the post-test scores $M = 5.39$, $SD = 1.50$; $t(27) = 2.32$, $p = 0.028$. The effect size for learning exploration is medium ($d = 0.439$). It also revealed there was no significant difference in students' pre-test and post-test scores for the subscales of ethnic belonging pre-test scores ($M = 3.26$, $SD = 0.618$) and post-test scores ($M = 3.19$, $SD = 0.681$); $t(27) = 0.812$, $p = 0.424$ and clear understanding pre-test scores ($M = 14.85$, $SD = 3.39$) and post-test scores ($M = 15.46$, $SD = 2.92$); $t(27) = 1.4$, $p = 0.15$. Additionally, there was no significant difference in pre-test ($M = 36.07$, $SD = 6.67$) and post-test ($M = 36.82$, $SD = 6.54$) scores for overall ethnic identity achievement $t(27) = 0.880$, $p = 0.387$.

In the second paired sample *t*-test, we examined whether students' pre-test mean score for mindfulness (as measured by FFMQ) differed from post-test scores after participation in INIQ. The results revealed that there was significant increase between the pre-test ($M = 130.63$, $SD = 17.70$) and post-test scores ($M = 151.10$, $SD = 21.2$) for overall FFMQ scores $t(29) = 6.16$, $p = 0.001$. The effect size for mindfulness is large ($d = 1.12$).

A summary of mindfulness, dependent measures of ethnic identity development, and overall ethnic identity achievement pre-test and post-test scores can be found in Table II.

Paired sample t-test procedure on two-factor MEIM

Our exploratory factor analysis resulted in a three-factor solution with a low Cronbach's α for the learning exploration factor. Since the theory we are using is based on Phinney's

(1992a, b) two-factor version of the MEIM, we decided to conduct another paired sample *t*-test statistical procedure to see whether there were differences in ethnic identity development for INIQ participants. The results revealed that there was significant increase in students ethnic identity search pre-test scores ($M=2.66$, $SD=0.669$) and post-test scores ($M=2.82$, $SD=0.663$); $t(27)=2.08$, $p=0.047$. The effect size for ethnic identity search was medium ($d=0.3927$). The results for the affirmation, belonging, and commitment factors had a non-significant decrease in pre-test scores ($M=3.26$, $SD=0.563$) and post-test scores ($M=3.24$, $SD=0.583$); $t(27)=0.127$, $p=0.900$. There was a non-significant increase in the overall 12-item pre-test scores ($M=3.01$, $SD=0.552$) and post-test scores ($M=3.07$, $SD=0.545$); $t(27)=0.880$, $p=0.387$). The Cronbach's α coefficient for identity search (items 1, 2, 4, 8, 10) were 0.73, affirmation, belonging, and commitment (items 3, 5, 6, 7, 9, 11, 12) were 0.89, and overall MEIM (all 12 items) were 0.89.

We summarize the pre-test and post-test scores from the dependent measures of ethnic identity development and overall ethnic identity achievement in Table III.

Analysis of covariance (ANCOVA)

An ANCOVA was conducted in order to control for age or gender. The results indicated there was no significant difference in the MEIM scores based on INIQ participation for age ($f=0.450$, $p=0.508$), and gender ($f=0.612$, $p=0.441$).

Assumptions

Assumptions made in this empirical study were that participation in INIQ activities can inform ethnic identity development, as well as attention, emotion, and CR through improvement in mindfulness. Based on existing literature, we believed that ethnic identity development was measurable by using the MEIM. Additionally, we recognized that assumptions about psychological consequences resulting from ER cannot be generalized across ethnic groups, and can differ with each group's unique cultural values (Arens *et al.*, 2013; Butler *et al.*, 2003).

Limitations

A data limitation in this study were the use of a small sample size of doctoral, master's and undergraduate students $n=28$. An additional limitation was that the learning exploration subscale was measured by two items and had a low Cronbach's α . However, it should be noted that the α coefficient for the ethnic identity search factors in Phinney's two-factor

	Pre-test (<i>M</i>)	Post-test (<i>M</i>)	Significance
Table II. Mindfulness and ethnic identity pre-test and post-test scores	130.63	151.1	$p < 0.001$
Learning exploration	4.89	5.39	$p < 0.05$
Clear understanding	14.85	15.46	ns
Ethnic belonging	3.26	3.19	ns
Overall ethnic identity achievement	36.07	36.82	ns

	Pre-test (<i>M</i>)	Post-test (<i>M</i>)	Significance
Table III. Mindfulness and ethnic identity pre-test and post-test scores on two-factor MEIM			
Ethnic identity search	2.66	2.82	$p < 0.05$
Affirmation, belonging, and commitment	3.26	3.24	ns
Overall ethnic identity achievement	3.01	3.07	ns

MEIM and which measures a concept similar to learning exploration yielded acceptable values of α . Future work with larger samples of students is needed, so as to delineate differences among various ethnic identities.

Discussion

This study found that there was a significant increase in students' pre-test and post-test scores for mindfulness and learning exploration of one's ethnic identity. This study also found a non-significant increase in students' pre-test and post-test scores for clear understanding and overall ethnic identity achievement as well as a non-significant decrease in ethnic belonging. Overall, students who engaged in mindfulness, AR, ER, and CR practices in INIQ had increased scores for mindfulness and the learning exploration component of ethnic identity development. These strategies may be of value for educators interested in integrating opportunities to foster students' positive ethnic identity formation in curricula or in student centered programming.

The connection of mindfulness as a potential factor to influence ethnic identity development is a contemporary concept rooted in Buddhist philosophy, and contextualized in western psychological and psychiatric scholarship (Panaioti, 2015). The metaphysical doctrine that self-as-context (sense of self) can be influenced by recognizing that self can be separated "from (not entangled with) one's private experience" (Hayes and Plumb, 2007 as cited in Panaioti, 2015) is a foundational practice of secularized mindfulness and is the mindfulness methodology used in INIQ.

Although directly influencing ethnic identity development was not a targeted outcome of the INIQ training, we believed activities in the training may influence aspects of ethnic identity exploration. Significant increases in pre-test and post-test scores in factors measuring learning explorations in our three-factors MEIM and similarly measuring ethnic identity search in Phinney's two-factor MEIM indicate that aspects of identity exploration are influenced by participation in INIQ. For example, while practicing mindfulness and CR strategies students were invited to engage in the intentional act of self-exploration. This may have influenced one of the developmental processes of ethnic identity. Specifically, and as measured by the MEIM, exploration of self in relation to their ethnic group, and engagement in activities that included their ethnic group were considered. As a process approach to understanding ethnic identity development, Erikson's theory (1968) suggests that one progresses "through a sequence of identity statuses ranging from low to high levels of identity exploration and commitment" (Yip, 2014, p. 2). The process of exploring the significance and meaning of ethnic identity to oneself, and placing value on ethnic identity results in ethnic identity achievement (Yip, 2014). Sample INIQ exercises that may have influenced exploration and meaning making processes were that students were invited to begin with a focused breathing exercise, and then notice what arose in response to the question "Who am I?" Students were invited to journal on their responses as part of the self-inquiry practice. While doing this, students were encouraged to be in the present moment of their thoughts and be aware of those times that their attention wandered away. They were then invited to engage in inquiry that would later lead to CR exercises, by exploring "sense of self" and "experiences within and around oneself," such as "What do I want? What is my life's purpose? and For what am I grateful?" This inquiry included self-exploration questions that prompted students to reflect on their values, and professional and personal goals through both mindfulness meditation and through reflective journaling. Thus students were invited to engage in a process of self-exploration and meaning making.

The significance of ethnicity and race varies from one moment or context to the other (Yip, 2005, 2009; Yip and Fuligni, 2002). In those moments of self-exploration and inquiry, exploration of ethnic identity may have become more salient to students or they may not have, depending on the context into which the student was reflecting. A content approach to

ethnic identity development emphasizes the “content, meaning, and significance of ethnic identity at a given point in time” (Yip, 2015, p. 4). Factors that may influence whether students engage in a process of ethnic identity exploration during CR exercises during INIQ are centrality, salience, and regard. Yip (2015) describes these as important factors to meaning making and to influencing significance of ethnic identity development. Such that it is important for ethnic identity to be central to one's sense of self, it must be salient to the relevance of one's ethnic identity at that particular time, and one must have regard or feelings about one's group membership (Yip, 2015).

Since participants were undergraduate, master's and doctoral students who were either supported by, or enrolled in social justice-oriented programs at an ethnically and racially diverse institution, these content components of ethnic identity were likely relevant to students who were engaging in INIQ practices. Setting intention to engage in self-inquiry in an environment where ethnic identity was already salient in students' identity may have resulted in the significant increase between pre-test and post-test scores of the learning exploration subscales of the MEIM. Such that there was an increase in exploration of self in relation to one's ethnic group membership and increased reflection of involvement in one's ethnic groups. This suggests that mindfulness methodology, which cultivates increases in AR, ER, and CR, may be useful in proactively prompting exploration of one's own ethnic identity - an important ethnic identity development step (Phinney and Ong, 2007).

Additionally, given that a majority of the subjects under study were master's and doctoral students enrolled in postsecondary educational leadership program, it is possible that their own experiences in the INIQ curriculum may prove beneficial to providing the students they serve with opportunities to cultivate AR, ER, CR, and ethnic identity learning exploration. Such that the strategies they learned in INIQ may be integrated into topics in academic curricula or tools given to students in diversity centered programming.

In all, the findings from this study demonstrate that, in its current format, INIQ resulted in significant increase between pre-test and post-test scores in mindfulness (AR, ER, and CR), as well as the learning exploration subscale in the MEIM. However, the analysis indicated there was non-significant increase in the pre-test and post-test of the MEIM, and clear understanding subscale. A possible explanation for this current finding is that the lack of ethnic-specific focus in the training suggests that the overall MEIM and the clear understanding subscale scores only had non-significant increases because they were not a targeted aspect of the training. Additionally, there was a non-significant decrease in the ethnic belonging subscale. One aspect of the training in INIQ is focused on common humanity activities where students are invited to be mindful about others who are similar to oneself in order to promote pro-social behavior. This may diffuse the sense of belonging aspects of ethnic identity development, and influence students' engagement in commonality with the human experience. However, further studies with larger samples should be conducted to confirm these results. As can be seen in the discussion, intentionally connecting AR, ER, and cognitive reappraisals may be able to enhance positive ethnic formation. Yet, in order to have a greater impact on ethnic identity, INIQ and other diversity centered student support programs must make ethnic identity a central and intentional goal.

In future iterations of the INIQ training, it may be pertinent to this study to integrate activities that have an intentional goal to increase commitment and sense of belonging in an ethnic group, and overall positive ethnic identity achievement. Mindfulness, AR, ER, and CR practices should be inclusive of a process and content approach to increasing ethnic identity achievement. Such that practices should make ethnic identity salient and central and give students an opportunity to think positively about their ethnic identity (positive regard). In tandem, it is important to guide students to intentionally challenge societal and structural threats on one's ethnic identity and ethnic group. Negative interactions such as racism, discrimination, and microaggressions, can make ethnic identity salient as well (Yip, 2014).

Thus, it is important to develop guided activities that integrate AR, ER, and CR practices as tools to sway potentially destructive emotional responses to threats on one's ethnic identity.

Ethnic identity development is a continual process that changes over time (Phinney, 1989; Yip 2014), where the meaning and significance of one's ethnic identity can change at any given point in time (Sellers *et al.*, 1997). These process and content approaches to understanding ethnic identity highlight the value in creating opportunities to intentionally foster ethnic identity development. INIQ gives students mindfulness strategies so that they can be more aware about what they are experiencing in their lives. This can be applicable to increasing students' exploration and commitment to their ethnic identity. Additionally, students are given strategies to become aware of experiences they are having and how they are experiencing them. This is called AR. In those times that ethnic identity becomes salient (both positive and negative) to a student they can focus attention to these experiences. They are also given tools to regulate their emotions. In those times that students' ethnic identity becomes salient in a negative way, they can become aware to the emotions that they are feeling (i.e. feelings of anger, and frustration). They are then invited to use CR strategies to think critically about how to respond to these experiences. As such this thoughtful process may thwart potential threats to their identity. As can be seen these strategies can be helpful to the ways in which students experience their ethnic identity, how it makes meaning in their lives, and how to respond to threats to their identity (e.g. racism, discrimination, microaggressions). In this study, mindfulness, AR, ER, and CR strategies taught in INIQ were associated with significant increase in students' pre-test to post-test scores in mindfulness and ethnic identity exploration. The "behavioral and psychological negotiations" (Cross, *et al.*, 2017, p. 2) of how one experiences one's ethnic and racial identity in everyday life gives responsibility to INIQ and diversity centered programming to equip students with the tools to navigate through the structural and institutional racism impacting their learning environments (Moses, 2014). Intentionality is integral to fostering positive ethnic identity formation and INIQ and diversity centered programs must keep it at the forefront in order to create environments that engage the needs of the growing student of color population.

Recommendations for practice

The following recommendations are for INIQ trainers, student affairs practitioners, faculty, and administrators who are interested in integrating mindfulness practices into programs or academic curricula that foster opportunities for positive ethnic identity formation. They can be integrated into future INIQ trainings by INIQ trainers. Student affairs practitioners may adapt these recommendations into activities they coordinate for undergraduate or graduate students. Faculty may integrate some of these practices into academic curricula or as strategies to deal with instances of racism, discrimination, or microaggressions that occur in the classroom. Administrators may consider providing professional development training for campus staff and faculty so that they are aware of these practices and are given training to teach these strategies inside the classroom or as out-of-class activities. These recommendations are rooted in Phinney's (1993) theoretical framework for ethnic identity development, the three-stage model of ethnic identity; the findings from this study; and adaptations to mindfulness practice from the "UNESCO MGIEP Mindful Compassion Teacher Training Manual" (Bresciani Ludvik, 2017). Recommendations that educators may want to consider include:

- Integrate mindfulness methodology and practices into academic curricula, diversity centered programs, and student centered programs targeting minority students. This study suggests that INIQ increases mindfulness in participants. It also suggests that INIQ may increase students' ethnic learning exploration, which is an important

process in ethnic identity development (Phinney and Ong, 2007). Educators interested in influencing minority students' positive ethnic identity formation may want to consider making INIQ training available to their undergraduate and/or graduate students by integrating strategies taught in INIQ in curricula or as part of out-of-class activities.

- Make ethnic identity a central and intentional goal. In order to have an impact on ethnic identity, administrators, faculty, and staff must be intentional about implementing and developing practices designed to increase positive ethnic identity formation. This can be done by making ethnic identity salient to students, for example, inviting students to actively think about their ethnic identity and contextualize it in their daily lives. To make ethnic identity central to identity, students can be invited to think about one's own ethnic identity in the context of who they are as a person. To capture regard or positivity about one's ethnic group membership (Yip, 2014) practices should invite students to think about positive aspects of their group membership.
- Acknowledge that students come from diverse ethnic backgrounds and may have and may continue to experience overt and covert discrimination, racism, and microaggressions at the hands of other humans. Be mindful about students' sociocultural influences and modify cultural relevancy, language, modifications, and examples used accordingly (Bresciani Ludvik, 2017). Invite students to think about the context of their environment and observe situations as they occur (AR), be aware their emotions that arise as they experience or think about their experiences in these environments (ER), and think critically about these situations as environmental factors that should not influence ethnic identity (CR).
- Develop activities that invite students to mindfully explore cultural characteristics, such as values, language, traditions, and customs of the ethnic group in which they identify.
- Develop activities that guide students to be mindful of their commitment or lack of commitment, and sense of belonging or lack of sense of belonging in the ethnic group in which they identify.
- Invite students to focus attention to their feelings and thoughts of experiences that have influenced their commitment (or lack thereof) and sense of belonging (or lack thereof) in their ethnic group, so that they may engage in CR of how they experienced their emotions.
- Develop activities that train AR, ER, CR, and mindfulness practices as tools that may influence exploration and sense of belonging into one's ethnic group.
- Give students an opportunity to reflect about: their intentional exploration about their ethnic identity and the cultural characteristics about their ethnic group(s); how they experience their belonging and commitment (or lack of belonging and commitment) to their ethnic group(s); and what may have influenced these feelings. Give students an opportunity to reflect about these experiences individually and opportunities to reflect about these experiences as a group.

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