

A COMPARATIVE GROUP FACTOR ANALYSIS OF THE SIAS: Implications for Measuring Social Justice Leadership Capacity

Abstract

A handful of models and measures currently exist for the purpose of assessing student capacity for leading social change. Ample research suggests that students of different racial and gender identity groups exhibit various understandings, motivations, and behaviors related to social engagement and transformation, yet few studies take into consideration the potential for diverse students to interpret social-change-related survey scale items differently. Using a critical quantitative approach, this study compares factor loading patterns of the Social Issues Advocacy Scale (SIAS; Nilsson, et al., 2011) across eight race/gender subgroups to test the extent to which the factor structure remains invariant. Findings suggest that intersections of race and gender do influence how scale items cluster together. This study lends support for critical quantitative research designs that examine social phenomena using a specific-group approach, and calls for scholars to consider the cultural validity of scales used to measure capacity for social justice leadership.

Introduction

Institutions of higher education have long considered the development of the next generation of leaders among their core responsibilities (Astin & Astin, 2000; Hurtado, 2007; Thelin, 2011). In recent years, however, the inclusion of values related to social justice and social change, specifically, have become more prevalent in college and university mission statements, learning outcome metrics, and student leadership program curricula (Astin & Astin, 2000). The University of North Carolina at Chapel-Hill, for example, describes their commitment to “a bold course of leading change to improve society and to help solve the world’s greatest problems” (UNC Board of Governors, 2014). Similarly, the University of California Los Angeles, expresses a dedication to, “educate successive generations of leaders, and to pass on to students a renewable set of skills and commitment to social engagement” (UCLA

Council on Diversity & Inclusion, n.d)

Social justice capacity refers to the awareness, knowledge, and skills, that students possess around issues of agency, power, and inequality (Mayhew & Fernández Deluca, 2007). A handful of models and measures currently exist for the purpose of assessing student capacity for leading social change, including the widely-used Socially Responsible Leadership Scale (SRLS; Tyree, 1998) and Social Change Model of Leadership Development (SCM; HERI, 1996), and the newer Social Issues Advocacy Scale (SIAS; Nilsson, Marszalek, Linnemeyer, Bahner, & Misialek, 2011) and Social Action, Leadership and Transformation (SALT) Model (Museus, Lee, Calhoun, Sánchez-Parkinson, & Ting, 2017). Research concerning student capacity for leading social change routinely finds that students of different racial and gender identity groups exhibit varying understandings, motivations, and behaviors

related to social engagement and transformation (Arminio et al., 2000; Dugan, Komives, & Segar, 2008; Kodama & Dugan, 2013; Liu & Sedlacek, 1999); yet few studies take into explicit consideration the potential for students of various racial and gender identity groups to interpret social-change-related survey scale items differently.

Critical Quantitative Inquiry

One of the primary objectives of critical quantitative inquiry is to “question the models, measures, and analytic practices of quantitative research in order to offer competing models, measures, and analytic practices that better describe the experiences of those who have not been adequately represented” (Stage & Wells, 2014, p. 2). As one recommendation to address this methodological concern, Carter and Hurtado (2007) suggest a comparative group approach which refers to the method of conducting statistical analyses separately by group when theory and/or prior research suggests there are likely to be group differences. Comparative group analysis allows for variables that affect groups differently to be seen more clearly, and provide greater context for understanding the phenomenon, process, or intervention in question (Carter & Hurtado, 2007). In light of prior literature, this study compares factor loading patterns of the Social Issues Advocacy Scale (SIAS; Nilsson, et al., 2011) across eight race/gender subgroups to test the extent to which the factor structure remains invariant.

Literature Review

Ample research suggests that social identity and social justice capacity are linked. An individual's sense of identity is constructed through the “intersection of context, personal characteristics, and social identities” (Jones and Abes, 2013, xxi). Identity; therefore, is dynamic, fluid, and complex. The

present study focuses specifically on social justice conceptualizations of African American, Latino/a, Asian American, and White men and women college students. Although the definition of social justice differs slightly from context to context, social justice is commonly thought of as both a process and a goal (Bell, 2013).

1. The process involves, “social actors who have a sense of their own agency as well as a sense of social responsibility toward and with others, their society, and the broader world in which we live” (Bell, 2013, p. 21).
2. The goal, “full and equal participation of all groups in a society that is mutually shaped to meet their needs” and “includes a vision of society in which distribution of resources is equitable and all members are physically and psychologically safe and secure” (Bell, 2013, p. 21).

Prior research has shown that students of color tend to possess a stronger awareness of their racial identity than White students (Komives et al., 2005) and are often driven to engage in leadership opportunities or behaviors in an effort to address issues that affect their communities (Harper & Quaye, 2007; Renn & Ozaki, 2010). African American male students, at Predominantly White Institutions (PWIs) in the Midwest expressed awareness and knowledge of key issues facing Black students on campus, such as low graduation and retention rates, and lack of access to important resources for Black and other minority organizations (Harper & Quaye, 2007). This awareness served as the impetus for them to get involved in both Black/minority student organizations as well as predominantly White organizations (Harper & Quaye, 2007). Harper & Quaye (2007) elaborate, “Each student leader articulated a commitment to uplifting the African American community and devoted himself to dispelling stereotypes, breaking down barriers, and opening new doors for other African American students on his campus” (p. 134). Participants of

Harper & Quayle's (2007) study demonstrate a high degree of race salience. According to Cross Jr. and Fhagen-Smith's (2001) model of Black Identity Development, young adults with high race salience likely grew up receiving messages about the importance of Black culture to the development of their self-concept, and have come to possess a clear group orientation that places great value on Black race and culture (Cross Jr. & Fhagen-Smith, 2001; Evans, Forney, Guido, Patton, & Renn, 2009).

The Black male students in Harper & Quayle's (2007) study also cited the ability to communicate and collaborate with people from different racial, ethnic, socioeconomic, and sexual orientation backgrounds as pertinent skills gained through their student organization involvement. Collaboration is one of seven values associated with the Social Change Model (SCM) (Higher Education Research Institute, 1996; Komives et al., 2009), a widely-used student leadership conceptual framework. From the SCM perspective, social change work is inherently collaborative, and must address the root causes of issues (Komives et al., 2009). The model defines seven interrelated social change outcomes, operationalized through the Socially Responsible Leadership Scale (SRLS) (Tyree, 1998). Race has been cited as a significant source of influence in relation to these core areas (Dugan & Komives, 2010; Dugan et al., 2008).

Identifying as African American or Black, for example, is positively associated with the outcome of change—the ability to adapt to environments and situations that are constantly evolving, while maintain the core functions of the group (Dugan & Komives, 2010; Dugan et al., 2008). This finding echoes revelations from members of Black student organizations in Harper & Quayle's (2007) study who discussed leveraging their positions in "majority" organizations such as the Union Board or Board of Trustees to gain access to resources that could then be used to improve the conditions of the Black community on campus. Using these strategies, the student leaders were able to function as members of predominantly White organizations, while keeping Black student needs in mind.

Like the students in Harper & Quayle's (2007) study, students of Latino(a) and Hispanic heritage score high on the outcome of collaboration. In the SCM (2009), collaboration refers to the ability to work with others in a common effort (Dugan et al., 2008). Collaborative leaders view the process of leadership as one that is group or community-oriented, rather than individualistic. These findings are consistent with previous research that indicates that students of color often consider their leadership roles and responsibilities in relation to the group, and may hesitate to exercise the title of "leader" (Arminio et al., 2000; Collins et al., 2017; Guthrie et al., 2013). Nevertheless, Ferdman and Gallegos (2001) caution against overgeneralizing race-based findings for Latino populations, explaining that Latino identity involves complex intersections of culture, ethnicity, skin color, and other familial heritage factors that make influences of "race" more difficult to discern (Evans et al., 2009; Ferdman & Gallegos, 2001).

In a study of leadership and co-curricular perception of incoming Asian American men and women, Liu and Sedlacek (1999) found that although Asian American women identified racism as an important social issue, they expressed an overall lack of interest in political and social groups on campus and, more than men, felt that social demonstrations were a waste of time. Liu and Sedlacek (1999) suggested that this may be due to a cultural value of harmony that stands in opposition to engaging in antagonistic behavior. In relation to the Social Change Model (Higher Education Research Institute, 1996; Komives et al., 2009), Asian American students have been found to score significantly lower than students from all other racial groups on the measure of consciousness of self (Dugan & Komives, 2010; Dugan et al., 2008). The consciousness of self-value describes an awareness of beliefs, values, attitudes, and emotions that motivate one to take action (Dugan et al., 2008; Komives et al., 2011). Given the literature base that suggests student racial and gender identity informs students' social justice-oriented attitudes and behaviors, further investigation of these relationships is warranted.

The Social Issues Advocacy Scale (SIAS)

The Social Issues Advocacy Scale (SIAS) was developed by Nilsson, Marszalek, Linnemeyer, Bahner and Misialek (2011) for the purpose of measuring social justice awareness and behavior. To develop the instrument, Nilsson et al. (2011) conducted several iterations of principal components analysis (PCA) with promax rotation to identify a 21-item scale with

four latent factors that explained 71.4% of variance in the data. The four components included (a) Political and Social Advocacy; (b) Political Awareness; (c) Social Issues Awareness; and (d) Confronting Discrimination. The sample used in the PCA (N = 509), consisted of participants from various degree programs ranging from Bachelor's to Doctoral. The following table provides a demographic breakdown of the sample (N = 509) used to validate the SIAS (Nilsson, et al., 2011).

Table 1.
Demographic Characteristics of SIAS (Nilsson, 2011) PCA sample

Category	<i>n</i>	Percentage of sample
Race		
White	346	68.0%
African American	55	10.8%
Asian/Pacific Islander	51	10.0%
Latino/Hispanic	17	3.3%
Biracial/Multiracial	10	2.0%
American/Alaskan Native	4	1.0%
Other	22	4.3%
Gender		
Woman	387	76.0%
Man	118	23.2%
Transgender	4	1.0%
Degree Program		
Bachelor's Education	125	24.6%
Master's Counseling Psych	121	23.8%
Medicine	88	17.3%
Master's Education	34	6.7%
Doctoral Counseling Psych	14	2.8%

Critically (Re)examining the SIAS. The Social Issues Advocacy Scale (Nilsson et al., 2011) is relatively new, and has only recently been adopted for the purposes of understanding student leadership capacity development (Collins et al.; Rosch et al., 2016; Rosch, Stephens, et al., 2015). It has been used as a measure of leadership motivation in recent studies of student leadership capacity development (Collins, Suarez, Beatty, & Rosch, 2017; Rosch, Stephens, & Collins, 2016). Within these studies, differences in motivation to advocate for social issues have been found with respect to race—with African American and Asian-

American students reporting higher levels than other students prior to participation in a social-justice-oriented leadership program—but White students showing higher scores months after the program ended (Rosch et al., 2016). Differences were also seen between Black male participants of an all-Black-male identity-based leadership program and a matched sample of diverse males across non-identity based sessions of the same program, with participants of the all-Black-male session reporting significantly higher motivation to advocate for social issues prior to program participation (Collins et al., 2017).

However, there are questions about the extent to which the use of the SIAS is valid for use with diverse student populations. For one, the sample used to validate Nilsson et al.'s (2011) scale came from a single institution. Moreover, as evidenced from the table above, the demographic makeup of the sample was predominantly White, predominantly female, and included more graduate and professional students than undergraduates. In a recent psychometric review of instruments for social justice and advocacy attitudes, Fietzer and Ponterotto (2015) offer several critiques of the SIAS (Nilsson, 2011), particularly calling attention to the "philosophical inconsistency in creating a scale for social justice that does not include those populations most impacted by societal inequity" (p. 32). Prominent student leadership development scholars have also brought this tension to light, recognizing that the "lack of attention to racially diverse populations begs the question of how leadership development can serve as a tool for social justice if theory and research fail to direct adequate attention to the powerful influences shaping systems of oppression" (Kodama & Dugan, 2013, p. 184). These theoretical gaps offer compelling justification for a critical examination of the SIAS scale for use with diverse student populations.

Method

To assess whether the underlying factor structure of the SIAS (Nilsson et al., 2011) scale remains invariant across eight race/gender subpopulations of college students, one Exploratory Factor Analysis (EFA) on the SIAS outcome measure was conducted, per group, to compare factor loading patterns.

Data Source. The present sample is comprised of college participants of a six-day, social-change oriented leadership immersion program, called the LeaderShape Institute. LeaderShape is a non-profit organization which partners with postsecondary institutions around the country, and internationally, to host facilitated sessions of The Institute. The Institute brings together college students from one campus (campus-based session) or across many

campuses (national session) to engage in reflection and active participation in large (35-60 members) and small (5-10 members) groups. The program challenges participants to lean into their values, and to lead with integrity and purpose.

Institute participants around the country were invited to voluntarily participate in the completion of hard-copy pre-test on-site or at informational session prior to Day 1 and again immediately following the conclusion of the program on the sixth day. The pre-test and post-test phases yielded n=2,311 participants who completed at least 90% of one survey phase. All partnering institutions were recruited for participation in the national study through an open call from LeaderShape from 2013-2015 yielding a total of 38 campus-based and 9 national sessions. These universities are diverse in terms of size, control, admissions selectivity, and faculty research output. Demographic characteristics and race-gender crosstab information are presented in Tables 2 and 3, respectively.

Table 2.
Demographic Characteristics of Participants from Year 1 and Year 2.

Category	<i>n</i>	Percentage of sample
Race		
White	1163	50.6%
African American/Black	430	18.7%
Asian American	294	12.8%
Latino/Hispanic	196	8.1%
Multi-race	174	7.6%
Middle Eastern	19	> 1.0%
Native American	3	> 1.0%
Prefer no Answer	13	> 1.0%
Other	7	> 1.0%
Gender		
Woman	1428	61.8%
Man	848	36.7%
Trans*	27	1.2%
Prefer no Answer	6	> 1.0%
Other	2	> 1.0%
Class Year		
First Year	672	29.1%
Second Year	744	32.2%
Third Year	621	26.8%
Fourth Year	215	9.3%
Grad Student	58	2.5%

Table 3.
Crosstabs of subgroup by Race and Gender.

Category	<i>n</i>	Percentage of sample
African American/Black Men	176	7.6%
African American/Black Women	245	7.7%
Asian American Men	101	4.4%
Asian American Women	185	8.0%
Latino/Hispanic Men	72	3.2%
Latino/Hispanic Women	115	5.0%
White Men	395	17.1%
White Women	744	32.2%

The pre and post-test surveys contained 87 likert-scale items corresponding to eight subscales represented by the Ready-Willing-Able (Keating, et al., 2014) conceptual model of leadership capacity development, of which the SIAS (Nilsson, et al., 2011) is one. Referred to hereafter as the “modified SIAS” (mSIAS), the items used in the Ready-Willing-Able (Keating, et al., 2014) model differ from the Nilsson et al., (2011) SIAS in number of items (cutting 21 items to 12) and by modifying language to relate to college student experiences. For example, SIAS Item 19 was changed from “I am professionally responsible to confront colleagues who display signs of discrimination” to “I am responsible to confront peers who display signs of discrimination.” Within the larger LeaderShape Study, the Chronbach alpha reliability for the mSIAS ranged from .84 on the pretest to .88 for the post-test.

Analysis and Results

I conducted an exploratory factor analysis of participant pre-test responses to identify the factor structure mSIAS using principal axis factoring extraction and oblique (direct oblimin) rotation. Principal axis factoring takes into account measurement error when estimating the number of factors (Warner, 2014) and was therefore used in lieu of principal component analysis. The large sample size of $N = 2,311$ allows for the creation of multiple subgroups based on intersections of race and gender, which is optimal for the exploratory nature of this study.

The four components of Nilsson et al.’s (2011) SIAS included (a) Political and Social Advocacy; (b) Political Awareness; (c) Social Issues Awareness; and (d) Confronting Discrimination. Items within the mSIAS that correspond to the original SIAS factors include: (a) Political and Social Advocacy: SIAS 1, 2, 3, 4, 5, 7, 8; (b) Political Awareness: N/A; (c) Social Issues Awareness: SIAS 15, 16, 17, 18; (d) Confronting Discrimination: SIAS 19.

Exploratory factor analyses of the modified SIAS scale yielded two primary factors for most student

groups, which I have identified as Awareness of Structural Oppression (ASO) and Personal Values and Responsibility (PVR). The ASO factor includes items that reflect the belief that policies, laws, and social structures grant or prevent access to important resources for individuals, and can shape life outcomes for individuals. This belief stems from an awareness of structural social issues. The items that cluster together to form the PVR factor link students’ personal values with a sense of duty to act. For Latino/Hispanic males, a third factor emerged, splitting the second factor in two. This may suggest that for this population of students, awareness of personal values and a sense of responsibility to act may not be as closely linked as for other students. For most student groups, ASO accounted for more variance than PVR, with the two factors being positively correlated. For White men, Personal Values and Responsibility explained more variance than Awareness of Structural Oppression. Furthermore, these two factors for White men display a negative correlation pattern—suggesting that as their awareness of social issues goes up, their advocacy goes down. Factor loadings for each group are displayed below.

African American Women. For African American women, two factors emerged accounting for a cumulative 74.89% of variance. Factor 1, Awareness of Structural Oppression (eigenvalue = 7.38), explained 61.50% of variance. Factor 2, Personal Values and Responsibility (eigenvalue = 1.61), explained 13.40% of variance. Component correlation for $r_{12} = .58$.

Table 4.

African American Women Modified SIAS Item Stems, Factor Loadings (n=245)

Item Stem	Pattern (Structure)	
	Factor 1	Factor 2
mSIAS17. I believe state and federal policies affect individuals' access to social services.	0.94 (.92)	-0.07 (.51)
mSIAS18. I believe societal forces (e.g. public policies, resource allocation, human rights) affect individuals' educational performance.	0.88 (.90)	0.04 (.55)
mSIAS16. I believe state and federal policies affect individuals' access to quality education and resources.	0.96 (.92)	-0.07 (.49)
mSIAS15. I believe social forces (e.g. public policies, resource allocation, human rights) affect individuals' health and well-being.	0.88 (.83)	-0.08 (.43)
mSIAS4. I plan to volunteer for causes that support my values.	0.67 (.82)	0.26 (.65)
mSIAS3. I plan to call or email policy maker to voice my opinion on social issues that are important to me.	-0.05 (.47)	0.90 (.87)
mSIAS8. I plan to meet with policy makers (e.g. administrators, legislators) to advocate for social issues that I personally believe in.	-0.11 (.44)	0.94 (.88)
mSIAS2. I plan to contact policy makers to voice my opinion on issues that affect me.	-0.01 (.50)	0.94 (.88)
mSIAS1. I plan to participate in demonstrations or rallies about social issues that are important to me.	0.30 (.63)	0.60 (.76)
mSIAS5. I plan to make financial contributions to causes that support my values.	0.43 (.65)	0.47 (.68)
mSIAS7. I plan to use phone calls, emails, and/or social media (e.g. Facebook, Twitter) to influence other people regarding issues that are important to me.	0.36 (.65)	0.50 (.70)
mSIAS19. I am responsible to confront peers who display signs of discrimination.	0.41 (.65)	0.40 (.64)

*Note: Factor loadings over .40 appear in bold. Crossloading is > .32 on two or more factors.

African American Men. For African American men, (eigenvalue = 1.67), explained 13.90% of variance. two factors emerged accounting for a cumulative Component correlation for $r_{12} = 0.53$. 68.42% of variance. Factor 1, Awareness of Structural Oppression (eigenvalue = 6.54), explained 54.52% of variance. Factor 2, Personal Values and Responsibility

Table 5.
African American Men Modified SIAS Item Stems, Factor Loadings (n=176).

Item Stem	Pattern (Structure)	
	Factor 1	Factor 2
mSIAS17. I believe state and federal policies affect individuals' access to social services.	.93 (.90)	-.06 (.44)
mSIAS18. I believe societal forces (e.g. public policies, resource allocation, human rights) affect individuals' educational performance.	.85 (.81)	-.08 (.37)
mSIAS16. I believe state and federal policies affect individuals' access to quality education and resources.	.94 (.91)	-.07 (.44)
mSIAS15. I believe social forces (e.g. public policies, resource allocation, human rights) affect individuals' health and well-being.	.91 (.84)	-.14 (.35)
mSIAS4. I plan to volunteer for causes that support my values.	.58 (.76)	.33 (.64)
mSIAS3. I plan to call or email policy maker to voice my opinion on social issues that are important to me.	-.001 (.47)	.89 (.88)
mSIAS8. I plan to meet with policy makers (e.g. administrators, legislators) to advocate for social issues that I personally believe in.	-.02 (.40)	.80 (.79)
mSIAS2. I plan to contact policy makers to voice my opinion on issues that affect me.	-.01 (.44)	.83 (.83)
mSIAS1. I plan to participate in demonstrations or rallies about social issues that are important to me.	.36 (.66)	.55 (.75)
mSIAS5. I plan to make financial contributions to causes that support my values.	.45 (.56)	.21 (.45)
mSIAS7. I plan to use phone calls, emails, and/or social media (e.g. Facebook, Twitter) to influence other people regarding issues that are important to me.	.47 (.56)	.21 (.46)
mSIAS19. I am responsible to confront peers who display signs of discrimination.	.52 (.65)	.25 (.52)

*Note: Factor loadings over .40 appear in bold. Crossloading is > .32 on two or more factors.

White Women. For White women, two factors emerged accounting for a cumulative 67.99% of variance. Factor 1, Awareness of Structural Oppression (eigenvalue = 6.361), explained 53.01% of variance. Factor 2, Personal Values and Responsibility (eigenvalue = 1.80), explained 14.98% of variance.

Component correlation for $r_{12} = 0.53$.

Table 6.

White Women Modified SIAS Item Stems, Factor Loadings (n=744)

Item Stem	Pattern (Structure)	
	Factor 1	Factor 2
mSIAS17. I believe state and federal policies affect individuals' access to social services.	.95 (.91)	-.08 (.42)
mSIAS18. I believe societal forces (e.g. public policies, resource allocation, human rights) affect individuals' educational performance.	.94 (.92)	-.04 (.45)
mSIAS16. I believe state and federal policies affect individuals' access to quality education and resources.	.91 (.89)	-.04 (.44)
mSIAS15. I believe social forces (e.g. public policies, resource allocation, human rights) affect individuals' health and well-being.	.81 (.82)	0.02 (.44)
mSIAS4. I plan to volunteer for causes that support my values.	.47 (.66)	.36 (.61)
mSIAS3. I plan to call or email policy maker to voice my opinion on social issues that are important to me.	-.10 (.39)	.94 (.89)
mSIAS8. I plan to meet with policy makers (e.g. administrators, legislators) to advocate for social issues that I personally believe in.	-.06 (.37)	.82 (.79)
mSIAS2. I plan to contact policy makers to voice my opinion on issues that affect me.	-.08 (.41)	.94 (.90)
mSIAS1. I plan to participate in demonstrations or rallies about social issues that are important to me.	.23 (.530)	.58 (.70)
mSIAS5. I plan to make financial contributions to causes that support my values.	.28 (.50)	.42 (.57)
mSIAS7. I plan to use phone calls, emails, and/or social media (e.g. Facebook, Twitter) to influence other people regarding issues that are important to me.	.32 (.51)	.36 (.52)
mSIAS19. I am responsible to confront peers who display signs of discrimination.	.41 (.59)	.34 (.55)

*Note: Factor loadings over .40 appear in bold. Crossloading is > .32 on two or more factors.

White Men. For White men, two factors emerged accounting for a cumulative 67.36% of variance. Factor 1, Personal Values and Responsibility (eigenvalue = 6.07), explained 50.57% of variance. Factor 2, Awareness of Structural Oppression (eigenvalue = 2.02), explained 16.80% of variance. Component correlation for $r_{12} = -0.50$.

Table 7.

White Men Modified SIAS Item Stems, Factor Loadings (n=395)

Item Stem	Pattern (Structure)	
	Factor 1	Factor 2
mSIAS17. I believe state and federal policies affect individuals' access to social services.	-.02 (.43)	-.91 (-.90)
mSIAS18. I believe societal forces (e.g. public policies, resource allocation, human rights) affect individuals' educational performance.	-.07 (.39)	-.91 (-.87)
mSIAS16. I believe state and federal policies affect individuals' access to quality education and resources.	-.03 (.42)	-.89 (-.88)
mSIAS15. I believe social forces (e.g. public policies, resource allocation, human rights) affect individuals' health and well-being.	.07(.48)	-.81 (-.85)
mSIAS4. I plan to volunteer for causes that support my values.	.43 (.61)	-.36 (-.57)
mSIAS3. I plan to call or email policy maker to voice my opinion on social issues that are important to me.	.92 (.87)	.10 (-.36)
mSIAS8. I plan to meet with policy makers (e.g. administrators, legislators) to advocate for social issues that I personally believe in.	.89 (.84)	.09 (-.35)
mSIAS2. I plan to contact policy makers to voice my opinion on issues that affect me.	.94 (.89)	-.12 (-.36)
mSIAS1. I plan to participate in demonstrations or rallies about social issues that are important to me.	.68 (.73)	-.11 (-.45)
mSIAS5. I plan to make financial contributions to causes that support my values.	.58 (.57)	-.10 (-.34)
mSIAS7. I plan to use phone calls, emails, and/or social media (e.g. Facebook, Twitter) to influence other people regarding issues that are important to me.	.53 (.58)	-.10 (-.37)
mSIAS19. I am responsible to confront peers who display signs of discrimination.	.32 (.54)	.32 (-.60)

*Note: Factor loadings over .40 appear in bold. Crossloading is > .32 on two or more factors.

Latina/Hispanic Women. For Latina/Hispanic women, two factors emerged, accounting for a cumulative 69.91% of variance. Factor 1, Awareness of Structural Oppression (eigenvalue = 6.32), explained 52.63% of variance. Factor 2, Personal Values and Responsibility (eigenvalue = 2.08), explained 17.28% of variance. Component correlation for $r_{12} = 0.47$.

Table 8

Latina/Hispanic Women Modified SIAS Item Stems, Factor Loadings (n=115)

Item Stem	Pattern (Structure)	
	Factor 1	Factor 2
mSIAS17. I believe state and federal policies affect individuals' access to social services.	.92 (.90)	-.04 (.39)
mSIAS18. I believe societal forces (e.g. public policies, resource allocation, human rights) affect individuals' educational performance.	.91 (.88)	-.070 (.36)
mSIAS16. I believe state and federal policies affect individuals' access to quality education and resources.	.94 (.91)	-.07 (.38)
mSIAS15. I believe social forces (e.g. public policies, resource allocation, human rights) affect individuals' health and well-being.	.85 (.84)	-.02 (.39)
mSIAS4. I plan to volunteer for causes that support my values.	.42 (.63)	.46 (.65)
mSIAS3. I plan to call or email policy maker to voice my opinion on social issues that are important to me.	-.07 (.37)	.93 (.90)
mSIAS8. I plan to meet with policy makers (e.g. administrators, legislators) to advocate for social issues that I personally believe in.	-.04 (.36)	.85 (.83)
mSIAS2. I plan to contact policy makers to voice my opinion on issues that affect me.	-.07 (.39)	.99 (.96)
mSIAS1. I plan to participate in demonstrations or rallies about social issues that are important to me.	.22 (.40)	.63 (.74)
mSIAS5. I plan to make financial contributions to causes that support my values.	.49 (.64)	.64 (.55)
mSIAS7. I plan to use phone calls, emails, and/or social media (e.g. Facebook, Twitter) to influence other people regarding issues that are important to me.	.46 (.56)	.23 (.44)
mSIAS19. I am responsible to confront peers who display signs of discrimination.	.56 (.56)	-.02 (.25)

*Note: Factor loadings over .40 appear in bold. Crossloading is > .32 on two or more factors.

Latino/Hispanic Men. Three factors emerged accounting for a cumulative 77.18% of variance. Factor 1, Awareness of Structural Oppression (eigenvalue = 5.072), explained 42.27% of variance. Factor 2, Personal Responsibility (eigenvalue = 3.17) explained 26.41% of variance. Factor 3, Personal

Values (eigenvalue = 1.02), explained 8.50% of variance. Component correlations for $r_{12} = .01$, $r_{13} = -0.38$, and $r_{23} = -0.50$.

Table 9

Latino/Hispanic Men Modified SIAS Item Stems, Factor Loadings (n=72)

Item Stem	Pattern (Structure)		
	Factor 1	Factor 2	Factor 3
mSIAS17. I believe state and federal policies affect individuals' access to social services.	.99 (.99)	-.00 (.00)	-.00 (-.38)
mSIAS18. I believe societal forces (e.g. public policies, resource allocation, human rights) affect individuals' educational performance.	.93 (.93)	.06 (.07)	.01 (-.38)
mSIAS16. I believe state and federal policies affect individuals' access to quality education and resources.	.95 (.95)	.01 (.02)	-.00 (-.37)
mSIAS15. I believe social forces (e.g. public policies, resource allocation, human rights) affect individuals' health and well-being.	.85 (.85)	.02 (.02)	-.01 (-.34)
mSIAS4. I plan to volunteer for causes that support my values.	.01 (.43)	-.16 (.28)	-.86 (-.82)
mSIAS3. I plan to call or email policy maker to voice my opinion on social issues that are important to me.	.02 (.00)	.93 (.90)	.05 (-.42)
mSIAS8. I plan to meet with policy makers (e.g. administrators, legislators) to advocate for social issues that I personally believe in.	.02 (.04)	.79 (.81)	-.04 (-.45)
mSIAS2. I plan to contact policy makers to voice my opinion on issues that affect me.	.02 (.02)	.86 (.86)	.01 (-.43)
mSIAS1. I plan to participate in demonstrations or rallies about social issues that are important to me.	.13 (.28)	.40 (.60)	-.39 (-.64)
mSIAS5. I plan to make financial contributions to causes that support my values.	-.16 (.02)	.23 (.47)	-.47 (-.52)
mSIAS7. I plan to use phone calls, emails, and/or social media (e.g. Facebook, Twitter) to influence other people regarding issues that are important to me.	-.01 (.21)	.24 (.25)	-.58 (-.70)
mSIAS19. I am responsible to confront peers who display signs of discrimination.	.40(.61)	-.04 (.25)	-.56 (-.70)

*Note: Factor loadings over .40 appear in bold. Crossloading is > .32 on two or more factors.

Asian American Women. For Asian American women, two factors emerged accounting for a cumulative 67.86% of variance. Factor 1, Awareness of Structural Oppression (eigenvalue = 6.40), explained 53.31% of variance. Factor 2, Personal Values and Responsibility (eigenvalue = 1.75), explained 14.54% of variance. Component correlation for $r_{12} = 0.51$.

Table 10

Asian American Women Modified SIAS Item Stems, Factor Loadings (n=185)

Item Stem	Pattern (Structure)	
	Factor 1	Factor 2
mSIAS17. I believe state and federal policies affect individuals' access to social services.	.92 (.88)	-.08 (.40)
mSIAS18. I believe societal forces (e.g. public policies, resource allocation, human rights) affect individuals' educational performance.	.99 (.89)	-.20 (.30)
mSIAS16. I believe state and federal policies affect individuals' access to quality education and resources.	.86 (.85)	-.02 (.41)
mSIAS15. I believe social forces (e.g. public policies, resource allocation, human rights) affect individuals' health and well-being.	.82 (.80)	-.04 (.38)
mSIAS4. I plan to volunteer for causes that support my values.	.61 (.68)	.13 (.45)
mSIAS3. I plan to call or email policy maker to voice my opinion on social issues that are important to me.	-.02 (.43)	.89 (.88)
mSIAS8. I plan to meet with policy makers (e.g. administrators, legislators) to advocate for social issues that I personally believe in.	.03 (.43)	.79 (.81)
mSIAS2. I plan to contact policy makers to voice my opinion on issues that affect me.	.01 (.47)	.90 (.91)
mSIAS1. I plan to participate in demonstrations or rallies about social issues that are important to me.	.45 (.66)	.41 (.64)
mSIAS5. I plan to make financial contributions to causes that support my values.	.66 (.71)	.10 (.43)
mSIAS7. I plan to use phone calls, emails, and/or social media (e.g. Facebook, Twitter) to influence other people regarding issues that are important to me.	.44 (.58)	.27 (.49)
mSIAS19. I am responsible to confront peers who display signs of discrimination.	.49 (.60)	.22 (.47)

*Note: Factor loadings over .40 appear in bold. Crossloading is > .32 on two or more factors.

Asian American Men. For Asian American men, two factors emerged accounting for a cumulative 69.74% of variance. Factor 1, Awareness of Structural Oppression (eigenvalue = 6.40) explained 54.01% of variance. Factor 2, Personal Values and Responsibility (eigenvalue = 1.88) explained 15.65% of variance. Component correlation for $r_{12} = 0.54$.

Table 11

Asian American Men Modified SIAS Item Stems, Factor Loadings (n=101)

Item Stem	Pattern (Structure)	
	Factor 1	Factor 2
mSIAS17. I believe state and federal policies affect individuals' access to social services.	.93 (.87)	-.12 (.38)
mSIAS18. I believe societal forces (e.g. public policies, resource allocation, human rights) affect individuals' educational performance.	.94 (.91)	-.06 (.45)
mSIAS16. I believe state and federal policies affect individuals' access to quality education and resources.	.90 (.88)	-.05 (.44)
mSIAS15. I believe social forces (e.g. public policies, resource allocation, human rights) affect individuals' health and well-being.	.82 (.84)	.04 (.48)
mSIAS4. I plan to volunteer for causes that support my values.	.67 (.71)	.08 (.44)
mSIAS3. I plan to call or email policy maker to voice my opinion on social issues that are important to me.	-.06 (.42)	.89 (.86)
mSIAS8. I plan to meet with policy makers (e.g. administrators, legislators) to advocate for social issues that I personally believe in.	.01 (.42)	.77 (.77)
mSIAS2. I plan to contact policy makers to voice my opinion on issues that affect me.	-.12 (.41)	.97 (.91)
mSIAS1. I plan to participate in demonstrations or rallies about social issues that are important to me.	.19 (.55)	.67 (.77)
mSIAS5. I plan to make financial contributions to causes that support my values.	.43 (.59)	.29 (.53)
mSIAS7. I plan to use phone calls, emails, and/or social media (e.g. Facebook, Twitter) to influence other people regarding issues that are important to me.	.21 (.55)	.63 (.74)
mSIAS19. I am responsible to confront peers who display signs of discrimination.	.48 (.61)	.23 (.49)

*Note: Factor loadings over .40 appear in bold. Crossloading is > .32 on two or more factors.

Limitations

One limitation of the present study is the reliance on an all-PWI research sample of students who voluntarily participated in a week-long program dedicated to their development as socially responsible leaders. This sample of students is therefore not representative of students who attend other institutional types, or who have not demonstrated an active willingness to engage in leadership training opportunities. It is also important to note that at PWIs, the percentage of minority students on campus has been found to correlate positively with gains in cultural knowledge (Antonio, 2001). The present study did not take into account the structural or compositional diversity of the campuses represented in the study, nor did it account for campus racial climate. Further research may find the inclusion of this kind of contextual knowledge to be useful.

Additionally, there are several factors and experiences that have been linked to increases in social justice awareness and advocacy such as participation in diversity workshops (Antonio, 2001; Kezar & Moriarty, 2000), interacting with students of another race (Antonio, 2001; Broido, 2000), developing interracial friendships (Antonio, 2001) and receiving education about diversity and privilege by parents growing up. The present study does not take into account any of these experiences

Lastly, factor loading patterns do not necessarily equate to social justice behaviors. In this case, they are used as a proxy to aid in visualizing social justice capacity as a construct.

Discussion

Scale Items and Factor Loadings. Within the 21-item SIAS (Nilsson, et al., 2011), a four-factor structure emerged. The modified SIAS included twelve items re-worded to apply to postsecondary contexts. Within the mSIAS, two primary factors Awareness of Structural Oppression (ASO) and Personal Values and Responsibility (PVR) emerged for most student groups in the sample.

Awareness of Structural Oppression. ASO includes items that reflect the belief that policies, laws, and social structures grant or prevent access to important resources for individuals, and can shape life outcomes for individuals. mSIAS Items 17, 18, 16, and 15 formed this Factor for all eight groups. This grouping of items matches the cluster pattern of the Social Issues Awareness factor in the SIAS (Nilsson, et al., 2011). Curiously, mSIAS Items 4, 5 and 7 (clustered with Political and Social Advocacy in the original SIAS) and mSIAS 19 (clustered with Confronting Discrimination in the original SIAS) also grouped with the Awareness of Structural Oppression items in various configurations for across the eight subgroups. These discrepancies in factor loading patterns indicate that there may not be a clear distinction in students' minds between social awareness and social action.

Personal Values and Responsibility. PVR links students' personal values with a sense of duty to act. mSIAS Items 2, 8, and 3 formed this Factor for all eight groups, and each related to plans for contacting policy makers to voice an opinion for an issue that the respondent believes in personally. These items are all included in Nilsson et al. (2011)'s Political and Social Advocacy factor. mSIAS1 "I plan to participate in demonstrations or rallies about social issues that are important to me" also clustered to this factor for five of the eight groups.

Other Items. Two questions did not consistently cluster to either the Awareness of Structural Oppression (ASO) nor the Personal Values and Responsibility factors. The first is Item 4, "I plan to volunteer for causes that support my values." For four of the eight subgroups, this appeared as a split factor. This may suggest that the PVR factor is not capturing the link between personal values and action as strongly as is desired. Item 19 "I am responsible to confront peers who display signs of discrimination," also appeared as a split factor in four of the eight groups. This may be due less in part to respondents not feeling a duty to act in accordance with their values, and more with mixed feelings about assertiveness or conflict avoidance, which are

instrument.

Differences by Race and Gender. The present study offers a critical examination of the relationships between students' race and gender and their conceptualizations of social justice advocacy, as operationalized through a modified version of the Social Issues Advocacy Scale (Nilsson et al., 2011). For Latino males, items reflecting personal values seemed to form a separate factor than for items reflecting personal responsibility to act. This finding suggests that Latino males in the sample possess slightly different value orientations than the other participants, and that, for them, values and action may not necessarily be linked.

Another particularly noteworthy finding in this study is the inverse relationship between social justice awareness and social justice advocacy for the White males. Factor loadings indicate that White males may feel less inclined to engage in social justice advocacy issues as their awareness of social issues increases. This finding adds an important layer of nuance to the social justice ally development literature. For social justice allies, awareness of social issues and processes of meaning-making around their own identity served as important precursors to social justice action (Broido, 2000; Reason, Millar, & Scales, 2005). Several factors in the college context contribute to cultural awareness and knowledge for White students including participation in diversity workshops (Antonio, 2001; Kezar & Moriarty, 2000), interacting students of another race (Antonio, 2001; Broido, 2000), and developing interracial friendships (Antonio, 2001). Moreover, precollege influences, such as the intentional education about diversity and privilege by parents, were crucial to the development of White students' orientations toward social justice (Broido, 2000; Munin & Speight, 2010; Reason et al., 2005). Perhaps for White women, possessing an oppressed identity influences their thinking around social justice differently than White men.

Implications for Leadership Education and Research

In light of today's complex social, political and environmental issues, the need for leaders who exhibit an orientation toward positive social transformation is crucial. There currently exist over 2,000 curricular and co-curricular formal leadership development opportunities for students (International Leadership Association, n.d.) many of which are built upon theoretical foundations of social change (Owen, 2012). This proliferation of formal leadership programs demonstrates the value that leadership educators and student affairs practitioners have placed on socially responsible leadership development (Wagner, 2011), but it is important to recognize that students are not monolithic. They are coming to campuses from different places and have had a lifetime of experiences that inform their worldviews—many such experiences are tied to their membership in certain race and gender social groups.

This study lends support for critical quantitative research designs that examine social phenomena using a specific-group approach (Carter & Hurtado, 2007). Stage (2007b) further explains,

“When populations differ, separate analyses are needed. Differences in peoples' experiences require closer focus on racial or ethnic groups. Furthermore, we must push to examine within racial groups . . . exploring difference and resisting the temptation to make blanket comparisons across groups. Even within groups, socioeconomic status for African American and white students and country of origin and immigrant status for Latino and Asian American students have uncovered significant differences” (p. 99).

Prior research has shown that students of color tend to possess a stronger awareness of their racial identity than White students (Komives et al., 2005), are more likely to increase in their cultural knowledge during college relative to their White peers (Antonio, 2001), and are often driven to engage in leadership opportunities or behaviors in an effort to address issues that affect their communities (Harper & Quaye, 2007; Renn & Ozaki, 2010). This study was designed to

tease race and gender subgroupings out of the larger “students of color” label, offering more in-depth understanding of within-group heterogeneity. The emergence of a third factor for Latino/Hispanic males, for example, highlights an intriguing distinction from both Latina/Hispanic women as well as other males of color in the group.

With regard to the mSIAS items themselves, it is important to note the degree to which the wording of the statements centered exclusively on issues that participants felt affected them or were important to them personally. Using items that are worded in this way do not measure (a) the nature of issues that students care about; (b) the extent to which students are aware of and motivated to act on issues that they not personally experienced; and (c) the degree to which students are aware of and prepared to address specific forms of discrimination (e.g. racism, sexism, ableism, transphobia, etc.).

In all, the findings from this study disconfirmed an invariant latent factor structure for a survey items designed to measure social justice awareness and behavior across race and gender subgroups. Moreover, the specific items used in this scale may not be the most useful for measuring specific components of social justice capacity. In order to prepare the next generation of social change agents, leadership education scholars and practitioners must continue “question the models, measures, and analytic practices” that they take for granted, in order to ensure the validity, accuracy, and meaningfulness of the instruments used for research and assessment.

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