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EXCHANGE

The Community College Survey of Men: An Initial Validation of the Instrument's Non-Cognitive Outcomes Construct

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The purpose of this manuscript is to discuss the utility of the Community College Survey of Men (CCSM[®]), an instrument designed to examine predictors of student success for men in community colleges. The authors highlight initial validation results from a recent pilot of the CCSM[®], with a focus on the non-cognitive outcomes construct employed in the instrument. A factor analysis enabled the identification of multiple non-cognitive outcomes and item elimination. Reliability analyses indicated that the instrument has strong internal consistency for men as a whole, and for cross-racial/ethnic comparisons. Given this, the authors suggest that this instrument be used to inform programming and service-delivery designed to enhance the success of men of color in the community college.

CHALLENGES FACING MEN OF COLOR IN COMMUNITY COLLEGES

Across the nation, community college professionals have become increasingly concerned about the success of men of color. This concern stems, in part, from student outcome data illustrating that men of color do not experience success that is on par with their female counterparts and men from more privileged backgrounds (e.g., White, International, etc.) (Wood, 2012a). For example, data from the Digest of Education Statistics (2010) indicate that fewer than 20% of men of color graduate from the community college in three years. Further, in 2009, only 26.5% of men of

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color who entered the community college with the intent to transfer will do so within a six-year time frame (U.S. Department of Education, 2009). These statistics are alarming given that community colleges serve as the primary pathway to the baccalaureate for these students (Bush & Bush, 2005, 2010).

In response to the aforementioned outcome disparities, community colleges have increasingly relied on retention programs, conferences, and workshops aimed at enhancing outcomes for men of color. Wood (2011) called for these interventions to be data-driven, with predetermined benchmarks and mechanisms to evaluate their success. However, given the paucity of empirical research and research instruments designed specifically to assess the experiences of this population, the extent to which such interventions are data-driven is questionable. As such, the goal of this manuscript is to discuss the utility of one tool designed to examine predictors of student success for men in community colleges, the Community College Survey of Men (CCSM[©]). The authors highlight initial validation results from a recent pilot of the CCSM[©], with a focus on the non-cognitive outcomes construct employed in the instrument.

ABOUT THE CCSM[©]

The CCSM[©] is a tool for establishing student outcome benchmarks, monitoring student performance, and identifying issues in need of enhanced attention. The CCSM is the only instrument designed specifically for measuring factors that influence success for minority male community college students. Its scales focus directly on environmental variables (described as *extrinsic mediators*), non-cognitive outcomes, and measures of involvement (described as *academic immersion*). The instrument's development was guided by published research on college men (e.g., Dancy & Brown, 2012; Harper & Harris, III, 2010; Harris, III, 2010; Palmer & Strayhorn, 2008) and men of color in the community college (Mason, 1998; Saenz et al., 2010; Strayhorn, 2012a; Wood, 2012b). This research suggests that extrinsic mediators (e.g., familial responsibilities, employment, transportation) impact academic immersion (e.g., faculty interactions, active learning) through extrinsic outcomes.

Extrinsic outcomes are the byproducts of extrinsic mediators and include factors relating to students' attentiveness to academic endeavors (e.g., time spent studying, focus on school) and non-cognitive outcomes, which are the focus of this manuscript. In the CCSM[©], the non-cognitive outcomes construct captures students' perceptions of their educational experiences and their corresponding affective responses (e.g., feelings, emotions). The five factors below are measured within the non-cognitive outcomes construct of the CCSM[©]:

- *Sense of belonging*—students' feeling of mattering or connectedness to the campus and its affiliates.
- *Degree utility*—students' perception of the anticipated usefulness of their college experience.
- *Self-efficacy*—students' confidence and perceived ability to complete academic coursework successfully.
- *Intrinsic interest*—students' authentic personal interests and enjoyment in learning academic subject matter.
- *Racial/gender climate*—students' perceptions of faculty, staff, and students' beliefs and attitudes about men of color.

A litany of prior research has shown the nuanced effects of these factors on student success outcomes for men of color (e.g., Cole & Espinoza, 2009; Palmer & Wood, 2012; Saenz & Ponjuan, 2009; Strayhorn, 2012b). Examining these extrinsic outcomes is a hallmark of the CCSM[®], situating the instrument as a tool for understanding and addressing the distinctive needs of minority men in community colleges.

METHODS

Data used in this validation of the CCSM[®] were derived from a pilot study conducted at a large metropolitan community college in the western United States that serves a racially and economically diverse community. A total of 595 male students participated in the pilot. The racial/ethnic composition of the sample was: White ($n = 155$), Black ($n = 54$), Latino ($n = 211$), Asian ($n = 101$), and Other ($n = 74$). The instrument was distributed online via population sampling to all certificate, degree, and transfer-seeking men. While the instrument features 30 question blocks with sub-questions in each block, this manuscript focuses on 19 non-cognitive outcome question items (reflecting students' perceptions on a one to six scale of agreement). Data were analyzed using factor and reliability analyses. Factor analysis is a multivariate analytic technique to identify factors (e.g., groupings of variables) that account for item variation and co-variation. In this case, an exploratory principal components analysis was conducted to ascertain the dimensionality of these non-cognitive outcomes in the CCSM[®]. The factor was extracted using a maximum likelihood technique and rotated using a Varimax procedure to facilitate the interpretability of underlying constructs (Green & Salkind, 2009). After identification of underlying constructs and items associated with each construct, assessment of internal consistency was explored using coefficient alpha. Coefficient alphas provide insight into the consistency of scores among items within a single latent construct.

FINDINGS

The initial rotation of the instrument's non-cognitive outcomes construct revealed evidence of underlying factors. The absolute and relative magnitudes of the eigenvalues were assessed by a one-criterion (eigenvalues larger than one) and scree-tests, respectively. Five total components had eigenvalues greater than one. All of these components were in the sharp descent path of the plot. Using a maximum likelihood extraction method with Varimax rotation, the authors examined factor loadings to determine item-factor congruency. The proportion of item variance explained within each of the five factors were as follows: Factor 1, 13.74%; Factor 2, 13.14%; Factor 3, 13.03%; Factor 4, 11.74%; and Factor 5, 10.77%. These factors accounted for 62.42% of the variable variance.

Table 1 presents the factor loadings, which were termed *sense of belonging*, *intrinsic interest*, *self-efficacy*, *campus racial/gender climate*, and *degree utility*. Sense of belonging, intrinsic interest, and self-efficacy were composed for four items each; while campus racial/gender climate and degree utility had three items. One item loaded on multiple factors, "the time I spend in school is worthwhile." The loadings for this item were the highest on intrinsic interest (.388) and degree utility (.311), but did not reach the threshold of .400 and above for initial inclusion in a factor (see Table 1).

TABLE 1
Correlations between the Non-Cognitive Items and the Non-Cognitive Factors

Items	Factors				
	<i>Sense of Belonging</i>	<i>Intrinsic Interest</i>	<i>Self-Efficacy</i>	<i>Racial/Gender Climate</i>	<i>Degree Utility</i>
I enjoy learning	.002	.778	.230	-.118	.077
What I learn in class is interesting	.114	.718	.097	-.071	.114
I want to learn as much as I can	-.005	.801	.159	-.075	.140
I get totally absorbed in my coursework	.251	.579	.138	.067	.123
I have the ability to do an excellent job in my coursework	.084	.220	.609	-.076	.201
I can understand difficult concepts	.074	.100	.855	.025	.008
I can master the material in my courses	.023	.206	.795	.005	.033
I am confident in my academic abilities	.123	.130	.698	.043	.172
My professors hold negative stereotypes about minority males	.018	-.118	-.018	.886	.032
My classmates have negative stereotypes about minority males	.019	-.003	.077	.848	-.042
Office staff and administrators at my campus hold negative stereotypes about minority males	.026	-.067	-.055	.819	-.086
The time I spend in school is worthwhile	.279	.388	.218	-.061	.311
College will provide me with financial security	.218	.112	.076	.035	.728
College will increase my job opportunities	.103	.137	.237	-.052	.746
Attending college will create a better life for me and my family	.211	.205	.039	-.097	.799
I feel a connection with other students at this campus	.711	.062	.049	.025	.172
I feel a connection with office staff and administrators at this campus	.834	.054	.008	.030	.126
I feel a connection with instructors at this campus	.786	.090	.104	.011	.059
I feel a connection to this campus	.712	.153	.127	.007	.201

Each latent construct was subjected to a reliability analysis to determine the consistency of the items within the construct (see Table 2). As assessed by Cronbach's alpha, the reliability for each scale illustrated strong internal consistency: sense of belonging ($\alpha = .87$), intrinsic interest ($\alpha = .85$), self-efficacy ($\alpha = .84$), campus racial/gender climate ($\alpha = .90$), and degree utility ($\alpha = .83$). Given, that the instrument is designed as an assessment tool for understanding the status of each respective male sub-group, coefficient reliability was examined across male

TABLE 2
Coefficient Reliability for Non-Cognitive Constructs by Male Racial/Ethnic Group

Items	Factors				
	<i>Sense of Belonging</i>	<i>Intrinsic Interest</i>	<i>Self-Efficacy</i>	<i>Racial/Gender Climate</i>	<i>Degree Utility</i>
All Men	.87	.85	.84	.90	.83
White	.89	.78	.80	.88	.82
Black	.79	.83	.81	.89	.81
Latino	.88	.84	.77	.90	.81
Asian	.86	.90	.92	.89	.84
All Other	.87	.86	.86	.93	.86

racial/ethnic groups. Based upon these analyses, the instrument illustrated strong internal consistency across each construct for each group; thus, the instrument is reliable for cross-racial/ethnic group comparisons.

IMPLICATIONS FOR COMMUNITY COLLEGE PRACTICE AND RESEARCH

The factor analysis enabled the identification of multiple non-cognitive outcomes and item elimination. Reliability analyses indicated that the instrument has strong internal consistency for men as a whole, and for cross-racial/ethnic comparisons. Given this, the authors suggest that this instrument be used to inform programming and service-delivery designed to enhance the success of men of color in the community college. Ideally, prior to engaging in programming, community colleges would disseminate the CCSM[©] as part of a needs assessment, examine the results of the instrument, and use the findings to target challenge areas.

Ideally, the CCSM[©] would be disseminated on an annual or biennial basis. This would allow for data from prior years to be used for benchmarking and monitoring outcomes for each male racial/ethnic group, particularly within the extrinsic outcomes constructs. Notwithstanding this approach, colleges with similar characteristics or student populations could also participate in a consortium that would allow for cross-institutional benchmarking. Thus, factors within the instrument's non-cognitive outcomes construct also have utility for outcomes assessment.

Future research should build upon the single campus sample employed in this study and use confirmatory factor analyses to further validate the instrument. Additionally, while this study explored the non-cognitive outcomes construct employed in the CCSM[©], future research should examine the validity and reliability of the instrument's other constructs.

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