A Validation Study of the Multicultural Counseling Inventory for School Counselors

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Abstract

This article summarizes the exploratory factor analysis and confirmatory factor analysis results from a sample of (*N* = 322) school counselors' multicultural competence in three Midwestern states. Findings indicate the factor analytic structure of the original Multicultural Counseling Inventory (MCI) can be revised to a parsimonious 15-item, three-factor model for school counselors. Implications suggest that research with the refined 15-item MCI in other areas and more diverse populations is warranted.

Keywords: confirmatory factor analysis, school counselors, multicultural competence, exploratory factor analysis, multicultural instrument

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Assessing multicultural competence in counseling has been a topic of discussion for nearly 60 years (Wrenn, 1962) and is vital to the continued growth of the field. Multicultural competence is an essential component of the counseling relationship and is integral for providing high quality mental health services. According to the American School Counselor Association (ASCA, 2016), school counselors are charged with providing culturally responsive services that promote inclusive and empowering learning environments that meet the needs of all students. In congruence with ASCA, the Council for Accreditation of Counseling and Related Educational Programs (CACREP, 2016) provides standards for counselor training programs, indicating that school counselors should receive multicultural training during their graduate degree courses, as cultural competence is necessary for ethical counseling practice (ASCA, 2016).

In congruence with school counseling training standards (CACREP, 2016) and ethical guidelines (ASCA, 2016), school counselors must understand the impact of their own identity in the counseling process, and the ways in which cultural competence can contribute to, or interfere with, school counselors' ability to successfully meet students' needs. While school counselors often spend the majority of daily activities with students in ways that differ from clinical counselors, researchers indicate there is a lack of instruments which are conceptualized and created specifically to measure school counselors' multicultural competence (DeCino et al., 2018; Robles-Pina, 2002). This current gap leaves a dearth of school counselor-specific multicultural competence assessment tools and provides limited understanding of school counselors' cultural

competence. To address this shortcoming, researchers have modified existing multicultural instruments to investigate school counselors' multicultural competence (DeCino et al., 2018; Dodson, 2013; Robles-Piña, 2002). While these prior efforts shed some useful light for researchers and school counselors, an examination of these modified instruments is warranted.

Multicultural Counseling Competency

During the mid-1990s, a bevy of multicultural counseling instruments were created to help counseling professionals measure multicultural competence. Anchored by Sue et al.'s (1992) tripartite model of *skills* (i.e., experience in counseling diverse populations), *awareness* of self and other cultures, and *knowledge* (i.e., understanding theory and cultural implications pertaining to diversity), the Multicultural Counseling Inventory (MCI; Sodowsky et al., 1994) was developed and utilized to understand how these constructs impacted the counseling process. Since its inception, the MCI has been validated and normed with psychology students and counselors (Sodowsky et al., 1994), White counseling students (Ottavi et al., 1994), social work students and practitioners (Green et al., 2005), and graduate counseling students (Campbell et al., 2018). Due to the MCI's popularity, researchers continue to use the MCI to examine different theoretical constructs related to multicultural competence (Gillem et al., 2016), and explore multicultural competence with different populations (Johnson & Jackson William, 2015). According to a recent meta-analysis, the MCI has been used to measure multicultural counseling competence in over 250 studies with a significant focus on psychologists, counselors, and trainees (Shannonhouse et al., 2020).

Despite the MCI's widespread use in the counseling and related fields, where the factor structure of the MCI appears to be stable (Shannonhouse et al., 2020), there is no research on the factor structure of the MCI and its validity specifically with school counselors. This lack of evidence with school counselors may suggest that school counselors uniquely encounter and practice multicultural competence with students. Thus, an evaluation of the MCI's psychometric properties may provide useful considerations for researchers and school counselors. Therefore, the purpose of this study is to provide evidence for the validation and use of the MCI for researching school counselors' multicultural competence. To accomplish this goal, we randomly assigned individuals from a large sample of school counselors to a factor structure (a) exploration phase and a (b) confirmation phase to examine the extent that the original MCI structure remained a reliable and valid measure of multicultural competence for a different, yet professionally relevant, population of counselors.

Method

Participants

Participants in the current study were 322 school counselors practicing in the Midwestern United States, including North Dakota, South Dakota, and Nebraska. When asked about gender identity, 267 participants identified as female (82.9%), and 55 participants identified as male (17.1%). Most of the participants identified as White (*n* = 303; 94.1%), with the remainder identifying as American Indian (*n* = 10; 3.1%), African American (*n* = 6; 1.9%), Latinx (*n* = 4; 1.2%), Asian (*n* = 2; 0.6%), and Native Hawaiian (*n* = 1; 0.3%) categories. Participants in the current study rarely identified with more

than one racial category, most of which identifying as White and female, which aligns with other studies on MCC using the MCI (Shannonhouse et al., 2020).

Professionally, most of the school counselors in the study worked in a rural environment (*n* = 137; 42.9%), with fewer working in an urban cluster (i.e., suburban city; *n* = 99; 31.0%) or urban location (*n* = 83; 26.0%). Three school counselors did not provide a work location. The experience of participants varied with years in the career ranging from 1 to 42, with an average of 12.91 (*SD* = 9.6 years). The work locations deviated from the reported training environments, with most receiving training in an urban cluster (*n* = 143; 44.4%), and fewer receiving training in urban (*n* = 105; 32.6%) or rural environments (*n* = 76; 23.6%). The internship location followed similar trends with most interning in an urban cluster (*n* = 129; 40.6%). Slightly more than half of the school counselors reported currently belonging to ASCA (*n* = 179; 55.9%), and most graduated from a CACREP-accredited counseling program (*n* = 244; 77.2%).

Data Collection

As part of a larger study focusing on school counselors in the Midwestern United States, we invited 1,540 school counselors from North Dakota, South Dakota, and Nebraska to participate in our study. Names and contact information were obtained from a state-maintained database and corroborated from district- and school-level websites. A recruitment package containing (a) a description of the study, (b) an institutional review board (IRB) approval letter, and (c) a link to the online questionnaire hosted on PscyhData's website was emailed to each potential participant. Potential participants were contacted again to remind them of the opportunity to participate in the study.

Participants needed approximately 20 minutes to complete the questionnaire, which included the MCI.

Multicultural Counseling Inventory

The MCI is a 40-item instrument developed to measure counselors' beliefs in their competencies to address multicultural issues in counseling across multicultural counseling skills (MCS), multicultural counseling relationships (MCR), multicultural counseling knowledge (MCK), and multicultural awareness (MA) (Sodowsky et al., 1994). Across all sub-domains, participants were asked to rate their responses to the items on a 4-point Likert-type scale with options ranging from 1 (*very inaccurate*) to 4 (*very accurate*). Prior use of the MCI in a sample comprised of counselors from a variety of fields confirmed that the items of the MCI demonstrate acceptable internal consistency, with a Cronbach's α = .90 (Constantine et al., 2002). Per the conditions of use, we are unable to disclose items from the MCI; however, we will refer to item numbers as ordered on the MCI in the following discussion of the sub-domains.

Multicultural Counseling Skills. The MCS sub-domain of the MCI accounts for 11 of the 40 items. Items in this sub-domain are characterized by general counseling skills such as communicating with clients verbally and nonverbally, using varied assessment techniques, and being effective at exploring multiple types of crises with clients. The MCS, comprised of items 18, 20, 21, 24, 26, 35, 36, 37, 38, 39, and 40 of the MCI, has demonstrated acceptable internal consistency with estimates within +/- 0.01 of α = 0.82 (Constantine et al., 2002; Sodowsky et al., 1994). Results from the current sample of school counselors corroborate prior findings with a Cronbach's α = 0.81.

Multicultural Counseling Relationships. The MCR sub-domain of the MCI accounts for 8 of the 40 items. Items in this sub-domain are characterized by awareness of one's race in broader socio-cultural and political contexts, self-reflection, and generally developing rapport with clients. The MCR, comprised of items 1, 2, 3, 4, 5, 10, 15, and 19 of the MCI, has demonstrated weaker, but still acceptable internal consistency with estimates ranging from α = .73 to .78 (Constantine et al., 2002; Sodowsky et al., 1994). Results from the current sample of school counselors diverge from prior findings, suggesting the items in the sub-domain do not demonstrate acceptable internal reliability, with overall weak inter-item correlations and an unacceptable Cronbach's α = 0.59.

Multicultural Counseling Knowledge. The MCK sub-domain of the MCI accounts for 11 of the 40 items. Items in this sub-domain are characterized by the extent of investment in learning about counseling individuals from racial minority groups, acculturation of minority groups into dominant cultures, and general knowledge of counseling practices. The MCK, comprised of items 6, 7, 8, 9, 11, 12, 13,14, 16, 17, and 23 of the MCI, has demonstrated acceptable internal consistency with estimates ranging from α = .73 to .82 (Constantine et al., 2002; Sodowsky et al., 1994). Results from the current sample of school counselors align with prior findings, with a Cronbach's α = 0.78.

Multicultural Awareness. The MA sub-domain of the MCI accounts for 10 of the 40 items. Items in this sub-domain are characterized by awareness of issues that face diverse clients, advocating for racial and cultural minorities, and maintaining professional relationships with individuals from diverse cultural and racial backgrounds.

The MA, comprised of items 22, 25, 27, 28, 29, 30, 31, 32, 33, and 34 of the MCI, has demonstrated acceptable internal consistency with estimates within +/- 0.01 of α = 0.81 (Constantine et al., 2002; Sodowsky et al., 1994). Results from the current sample of school counselors support prior findings, with Cronbach's α = 0.82.

Data Analysis

Before the data were analyzed, responses were reviewed for completeness, accuracy, and potential violations of assumptions. Given the focus on the factor structure of the MCI for this sample of school counselors, we examined psychometric properties at the item-level (i.e., descriptive, factorability) and factor-level (i.e., Cronbach's α). We also examined patterns of missingness in the dataset and applied a simulation-tested protocol for imputing missing data to reduce the loss of power due to the list-wise deletion, which is the default in exploratory and confirmatory factor analytic techniques, while maintaining accuracy in the final factor solutions (Chen et al., 2012). Ultimately, seven participants were removed for having missingness that could not be imputed reliably, leaving a final sample size of 315 for the following analyses conducted in *R* (R Core Team, 2019, *v*3.6.2).

In order to examine the factor structure of the MCI on a large sample of school counselors (*N* = 315) from the Midwestern United States, we employed a randomly assigned, split sample procedure. This procedure encompassed two main strands in which a subset of the sample was randomly assigned to a training strand (*n* = 100) and the remainder were assigned to a prediction strand (*n* = 215). Prior to random assignment into these strands, the data from all participants were used to (a) check for multicollinearity and singularity via the determinant of the correlation matrix for the 40

items of the MCI (R_{MCI}) to ensure that the variability in some items were not fully explained by variability in responses to other items, (b) check the R_{MCI} against an identity matrix to ensure the inter-item relationships are greater than 0, and (c) check the factorability of the items using the Keiser-Meyer-Olkin (KMO) test of sampling adequacy, retaining items for the training-strand with great adequacy (KMO > .8; Dziuban & Shirkey, 1974). Given the sample size and the number of items in the MCI, these pre-checks were conducted with a 7.9:1 participant-to-item ratio. The remaining items were critically examined for themes, to determine if there was similarity to the original MCI instrument.

After completing the preliminary checks, data from participants were randomly assigned into the training strand where an exploratory factor analysis (EFA) was conducted using a maximum likelihood estimation and direct oblimin rotation, which assumed the emerging factors would be correlated. To determine the adequacy of the emerging factor structure, we considered results from (a) the Kaiser Criteria (eigenvalues > 1; [K1]; Kaiser, 1960), (b) the point of inflection on the scree plot (Cattell, 1966), (c) Velicer's MAP test (Velicer, 1976), (d) the very simple structure criteria (VSS; Revelle & Rocklin, 1979), and (e) the parallel analysis (Horn, 1965), as considering only one or few of these tests will typically lead to inaccurate conclusions about the number of latent factors underlying the items (Courtney & Gordon, 2013; Henson & Roberts, 2006). The EFA was conducted using the *Psych* (Revelle, 2019, *v*1.9.12) package in *R.* Items that loaded on latent variables with a $\lambda < .4$ were dropped. It is typical to use a cutoff of $\lambda = .3$; however, this tends to result in greater model-misfit in the subsequent CFA phase, as these items share little variance with the latent variable.

The resulting factor structure was applied to the data from the participants assigned to the prediction strand using a confirmatory factor analysis (CFA). The latent variables in the CFA were identified using effects coding (Little, 2013) and estimates were calculated with a maximum likelihood estimator. Model fit and item-level statistics were examined with both model-data agreement and parsimony in mind. Acceptable criteria for model fit were set at RMSEA ≤ .06, CFI ≥ .90, and SRMR < .08 (Hu & Bentler, 1999; Schermelleh-Engel et al., 2003). The item loadings on the specified factor were examined for good fit, with item loadings (λ) weaker than 0.5 removed. Additionally, to ensure parsimony in the remaining factor structure, we refrained from allowing item residuals to covary unless the rationale was clear based on the content of the items and they were used to identify the same latent variable. The CFA was conducted using the *lavaan* (Rosseel, 2012, *v*0.6-5) package in *R.*

Results

Descriptive Statistics and Missing Data

Statistical results are available in tables located in the Appendix. Descriptive statistics for the original 40 items of the MCI are summarized in Table A1, organized within the original 4-factor structure proposed by Sodowsky and colleagues (1994). Results from the initial screening suggested that participants, on average, responded with higher ratings to each of the prompts, with item averages for three of the four sub-domains ranging from 2.0 to approximately 3.5 and frequently observed negative skew. The MCR sub-domain exhibited inconsistent trends from the rest of the MCI, with relatively low means and positive skew, even after applying the reverse coding procedure to the designated negatively worded items. Overall, the descriptive statistics

were calculated with adequate coverage from participants, supported by the low percent of missing observations per item ranging from 0.6% to 5% missingness.

While there were relatively few missing observations per item, the patterns of missingness by person created a situation in which the list-wise deletion defaults in the exploratory and confirmatory factor analyses would have reduced the overall sample size to 250, resulting in a substantial loss of statistical power. More specifically, missing responses to the MCI ranged from 0.0% to 70.0% per person, with an average missingness of 1.9%, which corresponds to participants missing responses to one item from the 40, on average. Based on these patterns of missingness, seven participants appeared to stop responding to the questionnaire, shortly after beginning. These individuals were removed, resulting in a remaining sample of 315 participants with missingness estimates ranging from 0.0% to 15.0% with an average of 0.9%. A Monte Carlo simulation was conducted to determine the extent of missingness that could be imputed using modern techniques in a dataset with a similar variance-covariance structure as the MCI with the school counselor sample, similar to the simulation by Chen and colleagues (2012). Results of the simulation suggested that a sample with an initial size of 300 participants could experience up to 20% missingness overall and still retain consistent psychometric properties, model fit statistics, and internal consistency estimates with 10 multiple imputations, based upon 10 training iterations per imputation. The *mice* (van Buuren & Groothuis-Oudshoorn, 2011) package in *R* was used to impute the minor missingness in responses to the MCI to regain statistical power for the pre-EFA checks and factor analyses. The imputations were checked for consistency and stability by comparing the variability between means, variance-covariance, and

correlation matrices for each imputation. Results suggested very little variability for the unstandardized matrices (means, variance-covariance), and near perfect stability for the standardized matrices (i.e., correlation). The stability from ten imputations indicated little need to continue with additional imputations.

Pre-EFA Screening and Item Removal

The data from the remaining 315 participants were used in the pre-EFA screening process. Results from the determinant of the correlation matrix (det = $6.2e^{-06}$) suggested that items in the MCI varied enough that multicollinearity or a singularity would not arise during the EFA; however, the Bartlett correlation test indicated there was enough shared variance in the items that they could share underlying latent factor structures, significantly deviating from an identity matrix (χ^2 (780) = 3596.26, $p < .001$). Results from the KMO test, as summarized in Table A1, suggests some items in the original MCI did not display adequate sampling variability and association in the sample of school counselors, with KMO estimates falling below a *good* (*meritorious* via Kaiser & Rice, 1974) threshold of 0.8. As such, items 1, 2, 3, 4, 5, 10, 14, 15, 19, and 29 were removed from the item pool retained for the EFA. While each of the original factors contained an item or two that failed to meet the KMO threshold, all the items in the original MCR factor failed to meet the threshold. In combination with the unacceptable Cronbach's α, the results from the KMO test suggest that the items in the MCR subscale do not work for the sample of school counselors used in the current study.

Exploring the Underlying Factor Structure

Thirty of the original 40 items of the MCI were retained for the EFA to be conducted with a randomly selected subset (n = 100) of the original sample of school

counselors. One of the many reasons that EFAs fail to provide accurate factor solutions is that it is ultimately an *exploratory* process that examines the shared variance of the items entered into its algorithm, without regard to how the content in the items fit together (Costello & Osborne, 2005). As such, well defined themes within the items can be scattered across multiple factors due to potentially shared variance across multiple latent variables, ultimately creating uninterpretable factor solutions.

For this process, we removed the original sub-domain labels assigned to groupings of items and considered the content of the prompts. Regarding the MCI, the 30 remaining items demonstrated two separate overarching themes to the items, with the first focusing on general counseling skills (i.e., not specific to cultural competencies) and the second focusing on the counseling of cultural and racial minorities. These designations are reported in Table A1. Including items from both overarching themes into a single EFA analysis resulted in inconclusive solutions and incomprehensible underlying factor structures, with the general counseling items wanting to cross-load across multiple factors, as they shared considerable variance with the cultural-focused items. This situation embodied the situation described previously. To fix this issue we conducted two EFA analyses, one with the items designated as general counseling skills and one with the items designated as specific to counseling cultural and racial minorities.

The first EFA focusing on the general counseling items resulted in a single latent variable with the K1 criteria, scree plot, MAP, VSS, and parallel analyses all corroborating the single factor solution. Additionally, the single-solution model for the first EFA demonstrated excellent fit to the data with a $\chi^2 = 85.7$ ($p = .23$), RMSEA = 0.03

(95% CI[0.00; 0.07]), and a TLI (comparable to the comparative fit index [CFI]) of 0.963. For those items retained, the single factor solution explained between 17.5% and 56.1% of the variance in the items.

The second EFA focusing on multicultural-specific items resulted in two latent variables with K1 criteria, scree plot, and MAP supporting the two-factor solution. The VSS and the parallel analysis recommended between 1 and 3 underlying factors; however, the single factor solution excluded many items (i.e., $\lambda < .4$) and the three-factor solution had a factor dedicated to a single item. The two-factor solution for the multicultural items was the most interpretable; however, due to some items tending to cross-load with weak λs, did not fit the data too well with a $\chi^2 = 123.0$ ($p < .01$), RMSEA = 0.06 (95% CI[0.03; 0.09]), and a TLI of 0.872. Results from this EFA suggested a moderate to large correlation between the two emerging factors with an $r = .44$. For those items retained, the two-factor solution explained between 23.5% and 75.3% of the variance in the items. The factor loadings and structure loadings (correlations of items with the underlying latent factor) are presented in Table A2.

Overall, the items that did not load on an underlying latent variable also demonstrated relatively weak communality estimates (h^2), which describe the proportion of variance in that item explained by variability in the factors that emerged. For some items, the proportion of explained variance was very low (e.g., mci_30 with $h^2 = .041$). The items in Table A2 with factor loadings less than .4 are not displayed and were not retained for the next phase. Ultimately, three factors were retained from the EFA analyses: one of these represented general counseling skills, the second represented

engagement with cultural minorities, and the third represented collaboration with and advocacy for cultural minorities.

Confirming the Underlying Factor Structure

The factors that emerged from the EFA phase were examined simultaneously in a single CFA model using the responses from the remaining 215 participants not included in the EFA phase. The first latent variable was identified by the items encompassing the general counseling competencies described in items 7, 21, 22, 24, 26, 35, 36, 37, 38, 39, and 40. The second latent variable was identified by the items encompassing engagement with and learning about racial and cultural minorities in social contexts described in items 6, 9, 11, 12, 13, 17, and 23. The third latent variable was identified by the items encompassing collaboration and advocacy for racial and cultural minorities described in items 25, 28, 31, and 33. The initial CFA model resulted in less than acceptable model fit with a $\chi^2 = 383.9$ ($p < .001$), RMSEA = 0.07 (95% CI[0.06; 0.08]), and a CFI of 0.827. The sequential process of removing items with $\lambda < .5$ ultimately resulted in removing items 7, 21, 22, and 26 from the first latent variable, removing items 6 and 9 from the second latent variable, and removing none of the items from the third latent variable. These removals were anticipated given they demonstrated the weakest communalities and loadings during the EFA training phase and their EFA λs bordered the cutoff using during the CFA phase.

Results from the final CFA model demonstrated acceptable fit with the data, with a $\chi^2 = 157.6$ ($p < .001$), RMSEA = 0.06 (95% CI[0.05; 0.08]), and a CFI of 0.91. The final CFA resulted in three latent variables representing (a) general counseling skills, not specific to issues of multiculturalism (i.e., race, gender, etc.), (b) engagement with and

learning about racial and cultural minorities in social contexts, and (c) collaboration and advocacy for racial and cultural minority groups. Results of the final CFA model are summarized in Table A3. The latent variables demonstrated relatively high averages with intercepts ranging from 2.79 to 3.47 on a 4-point scale. The three latent variables were strongly correlated with the $r_{12} = 0.54$ (r_{12} is the correlation r between latent variables 1 and 2, as previously ordered), $r_{13} = 0.42$, and $r_{23} = 0.74$.

Discussion

The primary purpose of this study was to examine the structural reliability and validity of the MCI for school counselors. Results from the EFA and CFA provide important contextual and procedural details for using the MCI with samples of school counselors. The descriptive and pre-EFA screening results indicated three of the four subscales (MA, MCK, MCS) were consistent with other studies utilizing the MCI. Interestingly, the items on the MCR subscale failed to produce psychometric properties consistent with prior research. This finding raises a few points for consideration. The items in the MCR subscale failed to meet the 0.80 threshold for *good* KMO estimates demonstrating relatively weak correlations with other items. This indicates school counselors may conceptualize their counseling interactions with students differently than other populations of mental health providers. School counselors are often engaged in a multitude of responsibilities that can be unpredictable and varied on a daily basis. Unlike other mental health counselors in clinical settings where one-hour appointments are typically the norm, school counselors are often engaged in brief, solution focused counseling interactions with students. This finding indicates that if researchers are

considering the MCI to assess school counselors' multicultural competence, the MCR subscale may produce inaccurate results and other measures should be considered.

The overall refined three-factor, 15-item model of the MCI for school counselors also raises several interesting points for discussion. After confirming the underlying factor structure, three latent variables were retained and labeled based on their common characteristics. We labeled the first new latent variable *general counseling skills* and included items 35, 36, 37, 38, 39, and 40 from the original MCI. These items represent a more parsimonious construct of counseling skills than the original MCI and make sense for practicing school counselors. For example, item 36, covers counseling skills of reflecting, clarifying, and probing, which are useful when working with all students; however, item 18, examines how much time is spent on their "caseloads" and may not be conceptualized by school counselors as the item was intended. School counselors, especially in rural settings such as those represented in this study, are often the only mental health provider in K-12 school systems. Thus, school counselors in these settings may oscillate between counseling a first grader grappling with grief and loss, while minutes later engaging with a high school senior on scholarship and college applications. Such roles and responsibilities of school counselors in more rural areas may require a unique set of counseling skills that look differently than other counseling professionals.

We labeled the second latent variable *engagement and learning* as items 11, 12, 13, 17, and 23 of the original MCI detail engagement with and learning about racial and cultural minorities in social contexts. This construct bears some resemblance to the original MCK subscale of the MCI. For example, item 17 asks respondents to

acknowledge their understanding of underrepresented groups' sociopolitical histories. Based on our results, this item indicates school counselors are knowledgeable of minority students' historical contexts and how this may impact their multicultural competence. The second latent factor also suggests that knowledge, as a construct in the revised three-factor model, aligns with Sue et al.'s (1992) original tripartite model and remains an essential construct of multicultural competence.

Finally, we labeled the third latent variable *collaboration and advocacy*, which was comprised of items 25, 28, 31, and 33 from the original MCI. This latent variable suggests school counselors' must be able to connect with others to ensure they are providing culturally responsive services that promote success for diverse groups of students. For instance, item 31, which asks respondents to consider their advocacy and efforts to eliminate institutional barriers for minority clients. In this study, and in line with professional standards (ASCA, 2015), school counselors indicated they felt responsible for advocating for students, especially for those with marginalized identities and cultures. Additionally, for school systems to operate smoothly, school counselors must collaborate with others (i.e., administration, teachers, coaches, guardians/caregivers) to coordinate services that support students holistically.

Implications and Areas for Future Research

School Counselors

These results provide new evidence that the MCI can be revised to assess multicultural competence for school counselors. This revised model reduces the required time to take the original MCI, potentially increasing the likelihood of more school counselors completing the assessment in full. Because school counselors are

often managing multifaceted responsibilities, a shorter 15-item version of the MCI may be a more time sensitive instrument. The revised MCI factor structure also aligns with the ASCA National Model (2019) and ethical standards (ASCA, 2016), indicating that school counselors continuously engage with and learn about culturally diverse students, while providing culturally responsive counseling that emphasizes advocacy and collaboration. Finally, this refined MCI may contribute additional insight on how school counselors are experiencing and reporting their multicultural competence in an ever increasingly diverse world (Swan et al., 2015).

MCI

While the CFA results confirm that the 15-item three-factor structure of the MCI is suitable for multicultural competence research with school counselors in the Midwest, further analysis of the MCI with additional samples is needed. School counselors working in more diverse areas (i.e., urban and coastal areas) would help demonstrate whether a three-factor, 15-item MCI is an appropriate tool for assessing school counselors' multicultural competence. Further, the MCI utilizes four possible response-options, ranging from 1 (*very inaccurate*) to 4 (*very accurate*), and the addition of a broader scale would add greater variability and thus strengthen the measurement accuracy of the MCI. Given the descriptive statistics in Table A1, mean scores were biased positive with little variance, thus, results from the current MCI with this population should be tempered.

Future research is also needed to explore school counselors' perceptions of their multicultural competence pertaining specifically to the counseling relationship with students. In traditional clinical counseling settings, the counseling relationship is more

defined among client and counselor. In school settings, the counseling relationship may exist more broadly and ambiguously. For example, school counselors may also be coaches, mentors, leaders of after school groups, support team members, etcetera. Thus, school counselor and student interactions occur in many different forms, rather than just within the context of a counseling relationship and more research is needed in this area (Swan et al., 2015).

Limitations

While the current study indicates a reduced factor structure for the MCI with a large sample of Midwestern school counselors demonstrating interesting psychometric properties, limitations are noted. First, a substantial portion of the respondents were White and female school counselors. Future research should explore how the 15-item MCI generates results with male, transgender, non-binary, and more culturally diverse school counselors. Second, multicultural competence instruments can generate socially desirable responses. While the MCI in its refined three-factor model captures school counselors' self-report multicultural competence more accurately, researchers should consider using a social desirability measure (see Reynolds, 1982) to assess for more favorable responses. Furthermore, to truly elucidate the multicultural competence of school counselors, researchers must turn their attention to students' perceptions of school counselors and school counseling services.

Conclusion

As schools continue to diversify, so too must the practices of school counselors. School counselors must develop and expand their multicultural competence to provide culturally responsive services that meet the needs of all students. The findings from this

study indicate that a refined 15-item, three-factor MCI model demonstrates promise for being a useful instrument to adequately measure school counselors' self-report multicultural counseling competence along general counseling skills, engagement and learning, and collaboration and advocacy.

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Appendix

Table A1

Descriptive Statistics for the Items Organized in Original 4-Factor Structure

Sub-Domain	Item	Missing	Min	Max	*M*	*SD*	Skew	KMO	Type
Skills	mci_18	3.11%	1	4	3.34	0.81	-1.05	0.82	General
	mci_20	1.86%	1	4	3.30	0.63	-0.79	0.88	Multicultural
	mci_21	1.86%	1	4	3.23	0.76	-0.76	0.91	General
	mci_24	1.55%	1	4	3.58	0.54	-0.90	0.88	General
	mci_26	1.86%	1	4	3.44	0.62	-0.69	0.91	General
	mci_35	1.86%	1	4	3.46	0.63	-1.05	0.86	General
	mci_36	1.24%	1	4	3.55	0.55	-0.80	0.90	General
	mci_37	1.24%	2	4	3.55	0.53	-0.53	0.86	General
	mci_38	1.55%	1	4	3.34	0.72	-0.80	0.88	General
	mci_39	4.97%	2	4	3.29	0.51	0.31	0.87	General
	mci_40	5.59%	2	4	3.49	0.54	-0.34	0.90	General
Relationships	mci_01	0.31%	1	4	1.56	0.80	1.10	0.64	Multicultural
	mci_02	0.31%	1	4	1.32	0.59	1.76	0.69	Multicultural
	mci_03	0.31%	1	4	3.22	0.90	-1.04	0.70	Multicultural
	mci_04	0.93%	1	4	1.57	0.77	1.16	0.62	Multicultural
	mci_05	0.62%	1	4	1.55	0.74	1.26	0.73	General
	mci_10	2.17%	1	4	2.13	0.80	0.01	0.73	Multicultural
	mci_15	2.17%	1	4	1.65	0.78	0.92	0.77	General
	mci_19	1.55%	1	4	1.19	0.55	3.39	0.51	Multicultural
Knowledge	mci_06	0.62%	1	4	3.49	0.69	-1.50	0.81	Multicultural
	mci_07	0.93%	1	4	3.15	0.66	-0.83	0.89	General
	mci_08	1.86%	1	4	3.32	0.67	-0.80	0.84	Multicultural
	mci_09	2.17%	1	4	3.49	0.65	-1.37	0.85	Multicultural
	mci_11	1.24%	1	4	3.04	0.74	-0.69	0.84	Multicultural
	mci_12	0.93%	1	4	3.10	0.58	-0.40	0.91	Multicultural
	mci_13	1.24%	1	4	3.42	0.62	-0.73	0.88	Multicultural
	mci_14	2.17%	1	4	2.64	0.88	-0.34	0.70	Multicultural
	mci_16	1.24%	1	4	3.33	0.75	-1.06	0.86	General
	mci_17	2.48%	1	4	3.00	0.70	-0.62	0.88	Multicultural
	mci_23	3.11%	1	4	3.15	0.71	-0.65	0.89	Multicultural
Awareness	mci_22	1.86%	1	4	3.29	0.68	-0.80	0.92	General
	mci_25	2.48%	1	4	3.26	0.63	-0.43	0.89	Multicultural
	mci_27	2.80%	1	4	2.84	0.93	-0.47	0.86	Multicultural
	mci_28	1.55%	1	4	2.57	1.00	-0.12	0.90	Multicultural
	mci_29	4.04%	1	4	1.91	0.96	0.75	0.79	Multicultural
	mci_30	1.86%	1	4	3.65	0.61	-1.92	0.84	Multicultural
	mci_31	2.17%	1	4	2.58	1.08	-0.15	0.86	Multicultural
	mci_32	1.24%	1	4	2.47	1.00	-0.07	0.88	General
	mci_33	1.86%	1	4	2.59	1.05	-0.06	0.88	Multicultural
	mci_34	1.55%	1	4	2.64	0.92	-0.20	0.89	Multicultural

Table 2

Factor Structure From the EFA

			Factor 1		Factor 2	
Analysis	**Item**	h^2	**λ**	***r***	**λ**	***r***
General	mci_07	0.252	0.502	0.502		
	mci_16	0.113				
	mci_18	0.145				
	mci_21	0.175	0.418	0.418		
	mci_22	0.350	0.591	0.591		
	mci_24	0.159				
	mci_26	0.255	0.505	0.505		
	mci_32	0.121				
	mci_35	0.294	0.543	0.543		
	mci_36	0.561	0.749	0.749		
	mci_37	0.512	0.715	0.715		
	mci_38	0.313	0.560	0.560		
	mci_39	0.454	0.674	0.674		
	mci_40	0.315	0.561	0.561		
Specific	mci_06	0.235	0.541	0.426		
	mci_08	0.066				
	mci_09	0.331	0.565	0.575		
	mci_11	0.243	0.460	0.490		
	mci_12	0.359	0.631	0.595		
	mci_13	0.483	0.689	0.695		
	mci_17	0.279	0.453	0.514		
	mci_20	0.200				
	mci_23	0.494	0.517	0.650		
	mci_25	0.425			0.543	0.629
	mci_27	0.259				
	mci_28	0.753			0.882	0.867
	mci_30	0.041				
	mci_31	0.355			0.523	0.583
	mci_33	0.577			0.773	0.759
	mci_34	0.344				

Table 3

Factor Loadings From the Final CFA Model

Parameter			*B*	*SE*	*p-value*	β
General Counseling Skills	by	mci_35	1.111	0.108	< .001	0.598
		mci_36	1.070	0.096	< .001	0.647
		mci_37	0.930	0.091	< .001	0.615
		mci_38	1.213	0.119	< .001	0.580
		mci_39	0.766	0.090	< .001	0.533
		mci_40	0.910	0.093	< .001	0.589
Engagement and Learning	by	mci_11	1.077	0.106	< .001	0.570
		mci_12	1.047	0.086	< .001	0.690
		mci_13	0.943	0.094	< .001	0.583
		mci_17	0.871	0.101	< .001	0.517
		mci_23	1.063	0.097	< .001	0.618
Collaboration and Advocacy	by	mci_25	0.706	0.065	< .001	0.650
		mci_28	1.215	0.087	< .001	0.735
		mci_31	0.961	0.098	< .001	0.541
		mci_33	1.118	0.092	< .001	0.636

Biographical Statements

Daniel DeCino, PhD, LSC-Colorado, LPC, & NCC is an assistant professor at the University of South Dakota in Vermillion, SD. He is a former school counselor at a K-8 magnet school and 6-12 charter school. His primary teaching responsibilities are practicum for school counselors and core counseling classes for students in clinical and school counseling programs. His research interests include multicultural counseling competence, school counselors and school counselor training, social justice, critical race theory, and critical consciousness.

Molly Strear is an assistant professor in the Department of Counseling at San Francisco State University. She received her doctoral degree from the University of Northern Colorado in counselor education and supervision with a doctoral minor in applied statistics and research methods. As a former school counselor and K-12 educator, Molly specializes in clinical skill development and school counseling. Molly's research interests include LGBTQIQA affirmative school counseling, social justice, school climate, researcher-practitioner partnerships, hope, and resilience.

Julie Chronister is a professor in the Department of Counseling at San Francisco State University. She is a faculty member in the clinical mental health counseling program and a committed teacher, scholar, and advocate. Dr. Chronister is committed to improving the lives of the most marginalized and stigmatized communities through her research, teaching and community partnerships. Dr. Chronister received her PhD from the University of Wisconsin – Madison in 2004 and has been writing and conducting research in the areas of social support, coping, caregiving, serious mental illness and disability for over a decade. Dr. Chronister is completing a NIMH-funded

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Hsin-Ya Liao is an associate professor at Washington State University. Her research focuses on vocational interests, help-seeking, and intergroup relations. Her recent projects include the development of indigenous interest assessments, examination of interest structure and assessment across cultures, the role of culture and stigma on the likelihood of seeking psychological help, and the role of intergroup rejection sensitivity on one's psychological well-being.

Chih-Chin Chou is an associate professor and RMHC director at the University of Central Florida. Dr. Chou comes from the University of Arizona where she has been a tenured associate professor and rehabilitation counseling program coordinator in the Department of Disability and Psycho-Educational Studies. Dr. Chou's research interests include psychiatric rehabilitation, research methodology, social support, vocational outcomes for people with disabilities, rehabilitation education, international rehabilitation, and positive psychology. She has published over 25 articles in peer-reviewed journals and eight book chapters. Dr. Chou has received numerous grants including three current training grants totaling almost $2.5 million.

Steven Chesnut, PhD, is an assistant professor and co-director of the School of Education Research Center at the University of South Dakota in Vermillion, SD. His teaching responsibilities include the courses that comprise a statistics sequence, ranging from foundational to multivariate and longitudinal analytic techniques. His research interests include teacher development, childhood achievement, and the adaptation of emergent statistical techniques to problems of practice.