Measuring the Psychosocial Characteristics of Teacher Candidates Through the Academic Self-Identity: Self-Observation Yearly (ASI SOY) Inventory

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Abstract
This study contends that multiple psychosocial factors mediate students’ pursuit of the teaching profession, including beliefs, ethnic identity, acculturation, efficacy, and motivation. Despite the myriad literature addressing teacher characteristics, less is known about how these factors influence the academic or personal development of teacher candidates preparing to teach in diverse classrooms. The authors examined the psychometric properties of the Academic Self-Identity: Self-Observation Yearly (ASI SOY), specifically developed to measure teacher candidates’ psychosocial characteristics.

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A total of 670 ASI SOY inventories were collected from teacher candidates attending a Hispanic-serving institution. It was found that the ASI SOY is reliable and valid for measuring four out of five proposed constructs. ASI SOY may be useful in identifying the academic, personal, and professional development characteristics of teacher candidates.

**Keywords**

teacher candidate efficacy, teacher candidate epistemological beliefs, teacher candidate identity, teacher candidate acculturation level, teacher development and preparation, teacher preparedness for diverse classroom

Institutional accountability requires the setting of measurable goals to increase the diversity of the teacher pool and the preparation of all teachers for increasingly diverse (García & Cuéllar, 2006) classrooms. Furthermore, the goal of teacher educators should be to assure that the teacher preparation program impacts the success and education of all children vis-à-vis their protégés. Yet the current teacher workforce does not reflect our nation’s diverse student population (Branch, 2001). Therefore, a reevaluation of teacher preparation programs must be considered to augment the pool of ethnic minority teacher candidates (Flores, Clark, Claeys, & Villarreal, 2007). The recruitment, retention, and success of Latino college students ultimately determine the potential number of Latino teachers to serve the students in our schools (Flores et al., 2007). Teacher preparation programs must take a developmental approach beyond traditional coursework and assume a holistic perspective in considering what teacher candidates bring into the profession and what may impact their success (Flores et al., 2007).

Clark and Flores (2001) have argued that psychosocial traits may mediate teacher candidates’ personal, academic, and professional development, which likely affect their approaches to teaching within diverse settings. However, the identification of these factors is only the first step. Systemic institutional change requires a concerted effort involving the identification of teacher candidates’ psychosocial factors along with the provision of support structures for enhancing teacher development (Flores et al., 2007).

The purpose of this study is to examine the psychometric soundness of the Academic Self-Identity: Self-Observation Yearly (ASI SOY). ASI SOY, as an acronym, is a play on words; its very meaning in Spanish indicates—“this is who I am.” Two objectives frame this work: (a) to develop an inventory to examine psychosocial factors as identified through the literature, which may facilitate higher education academic success and accentuate development
specifically for Latino teacher candidates and (b) to employ this instrument with all teacher candidates as a means of identifying their predispositions toward diversity. Through formative and summative assessment of teacher candidate psychosocial variables, we are able to follow developmental changes. Our goal is to identify teacher candidates’ beliefs that both facilitate and inhibit the process of developing multidimensional perspectives toward becoming skilled professionals.

**Theoretical Framework**

Relevant literature draws from various disciplines to provide an overview of constructs measured by the ASI SOY. Identified psychosocial factors were explored from a multidimensional perspective to define the “interpersonal interactions and relations which influence the individual’s development and/or behavior” (Carson, Butcher, & Coleman, 1988, pp. G-14). Prior knowledge and self-schemas (Pajares, 1996) have been shown to influence student motivation. Moreover, self-regulatory beliefs and skills have been shown to shape student performance and outcomes (Zimmerman, 2004). Yet these interpersonal variables are often left unaddressed as skills or personal strengths. As such, these targeted psychosocial factors are the point of focus for this study.

**Motives for Teaching**

According to the work of Sinclair, Dowson, and McInerney (2006), teacher candidates enter the teaching profession with a variety of motives that result from characteristics such as age, gender, minority status, academic achievement, and prior career. Similarly, Flores (2001) noted that personal experiences such as culture, language, and schooling often impact teacher candidates’ motives for pursuing bilingual education teacher preparation. Drawing from motivation research, Sinclair et al. (2006) proposed that motives may be an indicator of engagement and, as such, a predictor of teacher commitment to persistence in teacher preparation and in the profession. They surmised that developmental entry “motive” considerations were ever changing, suggesting the imperative need to identify entry (baseline) motives for teaching as practical elements to monitor teacher engagement and retention.

**Ethnic Identity**

Ethnic identity, a complex and multidimensional construct, is generally defined as an individual’s ideas and attitudes pertaining to ethnic group membership (Bernal, Knight, Ocampo, Garza, & Cota, 1993; Phinney, 2005). Latino
undergraduates with a strong ethnic identity and a bicultural perspective are more likely to have a healthy sense of self (Phinney, 1991, 2005), and likely to view their ethnic group as having vitality (Ethier & Deaux, 1990; Gao, Schmidt, & Gudykunst, 1994). Plausibly, ethnic identity is a psychological aspect linked to the personal development of Latino teachers.

In the case of bilingual education teacher candidates, Clark and Flores (2001) noted the significant association between their ethnic identity and self-conceptualization. Similarly, Galindo (1996) has observed the important role that culture plays in the formation of bilingual education teacher identity and competence. Yet Flores and Clark (2004) conceded that ethnic identity may not be distinct for teachers trained outside of the United States. Their identity stance may affect their quest to become bilingual education teachers because their “lived” experiences differ in comparison with that of their ethnic minority counterparts. Nevertheless, Flores and Clark (2004) suggested that if ethnic identity is part of child development, it is important that teachers recognize their stance toward it. For teachers, ethnic identity cannot simply be ignored, because their cultural experiences define how they will engage students (Galindo, 1996). Conceivably, Latino students’ school success is contingent on how teachers, as school officials, view and respond to cultural differences (Peña, 1997). As such, it is important to investigate ethnic identification as a construct for all teacher candidates (Clark & Flores, 2001; Flores & Clark, 2004).

**Acculturation**

There is evidence that the level of acculturation may likewise affect the academic achievement levels of Mexican American students (López, Ehly, & García-Vázquez, 2002). Acculturation is a multidimensional process by which minorities become bicultural (Berry, Phinney, Sam, & Vedder, 2006). The acculturation process is broadly defined as a phenomenon, where changes in the original cultural patterns of one or both groups occur because of continuous contact between them (Berry et al., 2006; Cuéllar, Arnold, & González, 1995). The multidimensional process of acculturation, simplified in this article, includes the adoption of the society’s dominant cultural practices and often the extinction of the shared native language and the cognitive, affective, and behavioral cultural traits of one’s group (Berry et al., 2006). Maintaining value and pride in one’s ethnic identity is a reflection of acculturation level.

As a result of their experiences in majority White schools, U.S. Latino students have continually dealt with resolving tensions (i.e., acculturative stress) experienced in a dominant school culture (Retish & Kavanaugh, 1992;
Trueba, 1993). Moreover, the resolution of stress is left to Latino students and not considered a schooling issue (Sánchez, 1999).

Although all college students typically confront college stressors, acculturative stress is specific to ethnic minorities (Berry et al., 2006; Phinney & Haas, 2003). Flores (1992) reported that Latino college students who maintained a bicultural perspective had a greater probability of attaining a college degree. The ability to function in both cultures appears to reduce acculturative stress as well as facilitate academic success and educational attainment.

Similarly, teacher candidates, as college students, are grappling with acculturative stress and the lack of sociocultural support systems; they are likely to seek ethnic affiliation. Flores, Clark, Guerra, and Sánchez (2008) discerned significant differences between Mexican-descent bilingual education teacher candidates’ acculturation levels. They surmised that their findings should have broad implications, especially in terms of the needs of ethnic minority teachers as they explore their own level of acculturation, views of the acculturation process, and the intersection of their roles as cultural mediators in bilingual education classrooms.

**Self-Efficacy**

Self-efficacy reflects an individual’s beliefs concerning her/his ability and confidence in reference to a specific task within a particular context (Bandura, 1993). Individuals possessing a positive sense of self-efficacy are more likely to demonstrate competence, persistence, and perseverance (Pajares, 1997), which can result in academic success (Zimmerman, Bandura, & Martinez-Pons, 1992). Bandura (1993) posited that “the task of creating environments conducive to learning rests heavily on the talents and self-efficacy of teachers” (p. 140). Teachers’ self-efficacy is linked to problem solving, strategy usage, self-regulation, and goal setting (Zimmerman, 2000).

Ashton and Webb (1986) characterized teacher self-efficacy as general teaching efficacy and personal teaching efficacy. Flores and Clark (2004) determined that some teachers may feel confident in their ability to teach (general teaching efficacy), yet still believe that factors beyond their control will mediate their teaching (personal teaching efficacy). Teachers with strong teacher efficacy are more likely to be creative and innovative in their approaches to teaching (Tschannen-Moran & Hoy, 2001), and they tend to demonstrate instructional effectiveness (Swarz, 2005). Because teaching efficacy has been linked to student success within an urban context, specifically in reading and mathematics (Goddard, Hoy, & Hoy, 2000), it is essential that teaching efficacy be examined throughout a teacher candidates’ program of
study. Lin, Gorrell, and Taylor (2002) noted that cultural values are likely to affect teacher candidates’ efficacy beliefs. Thus, while teachers may have a positive teaching efficacy about teaching in a particular content area, they may not have similar efficacy beliefs about teaching that content to diverse learners.

Flores, Desjean-Perrotta, and Steinmetz (2004) found that bilingual teacher interns were more likely to report and demonstrate a greater sense of general teaching efficacy than their counterparts in early childhood, reading, or special education. Flores et al. (2004) surmised that because bilingual education teachers are specifically prepared to work with diverse populations, they are more likely to feel that they are in control of their students’ academic success. They recommended that all teachers should be specifically prepared to teach diverse students.

**Epistemological Beliefs**

Epistemological beliefs are implicit theories about the nature of knowledge. In examining undergraduates’ epistemological beliefs, Schommer (1990) identified four factors: (a) innate ability, (b) simple knowledge, (c) quick learning, and (d) certain knowledge. Schommer and Walker (1997) suggested that epistemological beliefs are similar across domains. In more recent research, Schommer-Aikins, Duell, and Barker (2003) indicated that epistemological beliefs may be similar when academic background is taken into account; this appears to imply evidence of content domain specificity. Interestingly, Paulsen and Wells (1998) also verified differences based on college students’ field of study.

Schommer-Aikins (2004) observed that epistemology was influenced by prior experiences. As such, home and educational backgrounds appear to modulate a students’ classroom orientation. Schommer and Walker (1997) asserted that the exploration of undergraduates’ epistemological beliefs and learning is an important consideration in assuring their retention and success as college students.

Noteworthy, several studies (Schommer, 1993; Schommer-Aikins et al., 2003) have included teacher candidates in validating Schommer’s (1990) epistemological beliefs framework. Flores (2001) has revealed that teacher candidates’ naiveté is reflected in their beliefs concerning how students acquire knowledge and their perspectives toward knowledge. Brownlee, Purdie, and Boulton-Lewis (2001), using Schommer’s (1990) framework, defined teacher candidates’ epistemological beliefs as the “individual’s views on what knowledge is, how it can be gained, its degree of certainty, and the limits and criteria
for determining knowledge” (p. 286). Also employing Schommer’s (1990) work, Flores (2001) found support through factor analysis for these subscales in an instrument designed to measure teacher beliefs: (a) certainty, (b) control, (c) structure, and (d) interaction. Unique to Flores’s study is the interaction of knowledge acquisition dimension, characterized as the teacher’s beliefs regarding the interactive processes of language, culture, and thought.

In sum, the literature provides a supportive rationale to explore and measure the proposed constructs: motives for teaching, ethnic identity, acculturation, efficacy, and epistemological beliefs. However, further exploration is merited to determine the role of these constructs as potential contributors in the development of successful teacher candidates. While motives, efficacy, and epistemological beliefs are common across all candidates, ethnic identity and acculturation may be more salient in ethnic-minority teacher candidates as compared with their majority counterparts. Nevertheless, because all individuals are members of multiple cultural groups and communities, all teacher candidates are constantly in the process of being acculturated into the community/culture of teaching. Rather than examining the aforementioned psychosocial constructs using different measures, a multidimensional inventory was developed for all teacher candidates. The purpose of this study is to ascertain the psychometric properties of the ASI SOY. The following research questions were investigated:

*Research Question 1*: What is the overall Cronbach’s alpha reliability of the ASI SOY?

*Research Question 2*: What constructs are measured by the ASI SOY?

*Research Question 3*: What is the content validity of the ASI SOY?

*Research Question 4*: What is the test-retest reliability of the ASI SOY?

**Method**

**Instrumentation**

*Development*. The development of ASI SOY items was based on a four-step process. First, on a review of the literature and an examination of existing instruments, four of the researchers, with expertise in the literature, each developed 15 to 20 pilot Likert-type items to measure the proposed constructs, resulting in approximately 70 items; after reviewing proposed items, additional items were added, resulting in 90 items.

Second, the researchers independently reviewed and analyzed this initial pool of 90 Likert-type items to determine evidence of initial face validity.
Then, the researchers collectively agreed to use 41 items. The researchers also designed 18 items to collect information on the demographic and educational backgrounds of the respondents.

Third, item order was determined by first presenting items that appeared to be less threatening (e.g., demographic information, educational experiences, motives for teaching). Then, items that dealt with latent identity and beliefs were followed with a prompt requesting the teacher candidates to project their future teacher ideology.

Lastly, researchers conducted a pilot study with undergraduate teacher candidates \( (n = 39) \). Teacher candidates were asked to rate the instrument in terms of clarity and ease of completion. Overall, there was 90% agreement among the pilot study group that the items were clear and easily understood. These procedures resulted in the decision to keep 59 items.

**Description.** ASI SOY is organized into five parts with a total of 59 items. Part A consists of 8 fill-in-the blank items and designed to collect demographic data, including: ethnicity, birthplace, schooling history, gender, and age of respondent. Part B consists of 10 “Yes/No” completion items and is designed to measure typical educational experiences at the elementary and secondary levels that reflect “interpersonal interactions and relations which influence the individual’s development and/or behavior” (Carson et al., 1988, pp. G-14). Part C has six items with five Likert-type items and one open-ended prompt to probe respondents’ psychosocial motives for pursuing the teaching profession on a 7-point scale (with only endpoints and midpoints defined, e.g., 1 = *Not at all like me*, 4 = *Somewhat like me*, 7 = *More like me*). To reduce the likelihood of socially accepted responses, there was a purposeful decision to avoid the inclusion of the prototypical response, “I love/like working with children.” Psychosocial factors in Part C include issues pertaining to: family, community, work schedules, and personal perceptions of teachers. Sample items include

- Family members have been teachers.
- I want to give back to my community.

To allow for other psychosocial variables, the sixth item allows participants to respond to an open ended-question: *I want to be a teacher because . . .*  

Part D consists of a 25-item inventory (24 close-ended and 1 open-ended) measuring constructs of ethnic identification and acculturation, efficacy, and epistemological beliefs. Likert-type items have a 7-point scale (e.g., 1 = *Not at all like me*, 4 = *Somewhat like me*, 7 = *More like me*). Examples of ethnic identity and acculturation items include
• It is important for me to learn/speak the language of my culture.
• It is important for me to maintain cultural traditions and beliefs.

In ASI SOY Part D, the rationale behind the efficacy items was to identify individual strengths, perceptions of self, and level of learning independence. Items were designed to identify problem-solving patterns, confidence in problem solving, and levels of problem-solving efficacy. Betz (2000) suggested that self-efficacy is better assessed in terms of discrete tasks rather than as complex sets of behaviors. Thus, efficacy items included

• When my friends have problems, they come to me.
• When learning something new, I become anxious.

Also examined in this section are the teacher candidates’ beliefs about their learning process.

• If I try hard, I can learn.
• I believe that words can have more than one meaning.
• I learn better from my friends than my teachers.

Part E of the ASI SOY has 10 items on a 7-point scale requiring teacher candidates to “Tell us about how you think about your role as a future teacher.” In this section, teacher candidates are expected to reflect on teacher role and identity within the constructs of teacher efficacy and teacher epistemological beliefs. Items include

• As a future teacher, my role is to make sure students learn specific facts.
• As a future teacher, I will be able to teach all students.
• As a future teacher, my role is to assure that my students have ethnic pride.

Content validity. To gain preliminary evidence of the content validity of the ASI SOY, the researchers undertook several steps. The researchers: (a) obtained expert ratings of the items, (b) computed item means and standard deviations on the expert ratings, and (c) obtained a content validity index (CVI) in the area of relevance for each of the items. Typically, researchers seek input (ratings) from a panel of experts early in the instrument development process to avoid spending resources disseminating an untested instrument to respondents (Rubio, Berg-Weger, Tebb, Lee, & Rauch, 2003). However, in
this case, the researchers decided to reverse this process in order to complete an exploratory factor analysis with the ASI SOY to determine early on if factor loadings were logical in light of the instrument’s underlying theoretical construct. Procedures for the exploratory analysis are described later in the methodology section and findings are discussed in detail in the Phase I section.

To gain content validity evidence of the ASI SOY, researchers identified higher education faculty and doctoral students considered to have expertise in the fields of bicultural bilingual education and/or educational psychology. All higher education faculty members \((n = 6)\) were identified based on their research and educational background in bicultural bilingual education and/or educational psychology. All doctoral students \((n = 6)\) were conducting research in the area of bicultural bilingual education and were pursuing a doctorate in culture, literacy, and language. Approximately 83\% \((n = 10)\) of the experts described themselves as Latino, while only 2 (17\%) described themselves as White. A total of 75\% \((n = 9)\) of the experts identified themselves as female and 25\% \((n = 3)\) self-identified as male.

Experts were sent a letter explaining the review task and were asked to rate each item in terms of relevancy, clarity, and representativeness on a 5-point \((5 = \text{Very}, 4 = \text{Much}, 3 = \text{Somewhat}, 2 = \text{Little}, 1 = \text{Not at all})\) Likert-type scale. Results based on expert ratings resulted in the content validity analysis of items. Item 6 (Why I am considering the teaching profession) was eliminated because numerous raters had failed to rate it in one or more of the areas (Relevancy, Clarity, and Representativeness). In terms of relevance, 37 items were rated with a mean > 4.0. The following three items could be considered for elimination/revision because of the fact that their means were less than 4.0: Item 7 \((M = 3.67, SD = 0.88; \text{I believe that words can have more than one meaning})\); Item 9 \((M = 3.67, SD = 1.07; \text{I like movies that don’t have an ending.})\); and Item 15 \((M = 3.92, SD = 0.90; \text{I don’t have a favorite subject.})\). In terms of clarity, 39 items were rated high with mean >4.0. Only Item 9 could be considered for revision/elimination \((M = 3.75, SD = 0.96)\). In the area of representativeness, 36 items had high ratings with means > .0. Four items could be deleted/revised due to the fact that their means were <4.0: Item 9 \((\text{I like movies that don’t have an ending}; M = 3.6667, SD = 0.98473)\), Item 7 \((\text{I believe that words can have more than one meaning}; M = 3.7500, SD = 0.86603)\), Item 3 \((\text{A teacher’s work schedule will meet my family’s needs}; M = 3.9167, SD = 0.99620)\), and Item 11 \((\text{For me, a course in study skills would probably be valuable}; M = 3.9167, SD = 0.99620)\).

**Content Validity Index for Relevance.** Expert ratings further included the analysis of relevance. An item-level CVI (I-CVI) was obtained for each item
(excluding Items 6 and 14). Additionally, a scale-level average CVI (S-CVI/Ave) was obtained for the average I-CVI for the scale. The procedure for calculating content validity indices is based on that suggested by Polit, Beck, and Owen (2007), who claimed that their procedure adjusts for chance agreement. Moreover, Polit et al. (2007) noted that item-level CVIs could be translated into values of a modified kappa statistic. This procedure has the added benefit of providing a scale for determining the level of acceptability for a CVI.

We obtained I-CVIs ranging from .42 to 1.00, with standard deviations ranging from 0.289 to 1.073, and an S-CVI/Ave of .82 (SD = .151). Polit et al. (2007) have recommended an I-CVIs of .78 or higher and an S-CVI/Ave of .90 or higher to demonstrate evidence of “excellent” content validity. We surmise that for relevance, there is evidence of “moderate” content validity for the individual items and an overall “strong” scale content validity.

**ASI SOY Sampling and Administration Process**

For the current study, the research team selected three undergraduate courses, with multiple sections, within the teacher preparation program of a Hispanic serving university in a major urban area in the southwestern part of the United States. The education courses are a cross-representation of certification programs taken by teacher candidates from freshmen through senior year. Two methods of administering the ASI-SOY instrument were selected: paper and online. Limitations of both survey options were considered along with respondent subjectivity in filling out the instrument (e.g., false positive or false negative impressions of self and family members). Several researchers have concluded that in-person versus online surveys yield results that are fundamentally interchangeable (Cronk & West, 2002; Krantz & Dalal, 2000). Moreover, Meyerson and Tryon (2003) suggested that online data collection is “(1) reliable, (2) valid, (3) reasonably representative, (4) cost effective, and (5) efficient” (p. 612). Although internal validity of Web-based research has been examined extensively, most researchers have not demonstrated that their findings generalize over various diversity dimensions. For our present study, data analysis occurred in three phases and will be described in subsequent sections.

**Phase 1: Initial Reliability and Content Validity**

To determine overall reliability and content validity, data were collected on paper (n = 170) and online (n = 500) from candidates, yielding a total of 670 inventories. Descriptive data were missing from one participant, thus the
total descriptive sample consisted of \( n = 669 \), which included 395 Latinos, 205 Whites, and 69 other (African American, \( n = 21 \); Asian American, \( n = 19 \); Native American, \( n = 1 \); Arab American, \( n = 5 \); and others who did not self-identify ethnic group, \( n = 23 \)). The sample was 84% (\( n = 565 \)) female, and 15% (\( n = 104 \)) male. Of the females, Latinas formed the largest group of respondents (91.1%, \( n = 395 \)). Of the males, Whites formed the largest group of respondents (25.9%, \( n = 53 \)). The two open-ended items, Item 6 (Why I am considering the teaching profession . . .) and Item 14 (I am skilled at . . .), were not considered for these initial analyses.

**Phase 1 Data Analyses and Results**

*Item analysis.* Descriptive statistics of the 39 closed-response items were computed. Frequencies revealed a distribution of responses; item variance was evident. Mean and standard deviations confirmed the variation across item responses. Bartlett’s test of sphericity revealed a high significant correlation among the ASI SOY items (\( \chi^2 = 8503.48(820) \), \( p < .001 \)).

*Reliability analysis.* As recommended by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education (1999), we employed Cronbach’s alpha reliability analysis to determine the internal consistency of the various administrations across the participating classes. Analysis revealed high Cronbach’s alpha reliability coefficients for each administration; paper \( \alpha = .84 \) (\( n = 160 \)), online \( \alpha = .82 \) (\( n = 494 \)), and overall \( \alpha = .82 \) (\( n = 654 \)). An examination of each item’s contribution to the scale reliability shows consistency ranging from .807 to .833. No item appeared to show a lack of fit. Reliability results indicate that the ASI SOY instrument may be administered in either paper or electronic format.

Gregory (2000) stated that it is a misconception that coefficient alpha is an index of unidimensionality (the degree to which a test or scale measures a single factor). Although coefficient alpha is an index of the interrelatedness of the individual items, it is not synonymous with the unidimensionality of what the test or scale measures. “In fact,” argued Gregory, “it is possible for a scale to measure two or more distinct factors and yet still possess a very strong coefficient alpha” (p. 85). Thus, we ran an exploratory factor analysis.

*Exploratory factor analysis.* ASI SOY’s factorial (content) validity was determined through exploratory factor analysis (Bryant, 2000). To validate the identified constructs and to achieve parsimony, a principal components factor analysis with Varimax rotation was run with all items, with the exception of open-ended items (Items 6 and 14) and low-correlated closed-response items.
Multivariate normality was examined using Bartlett’s test of sphericity and the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy. The KMO is a measure of whether the distribution of values is adequate for conducting factor analysis. Bartlett’s test of sphericity is a measure of multivariate normality of one’s set of distributions and determines whether the items are uncorrelated. A high value indicates that the data are adequate for factor analysis. If one fails to reject the null hypothesis with this test, then there is no reason to do the components analysis because the variables are already uncorrelated (Stevens, 2002).

Results support the appropriateness of the factor analysis as indicated by the significance of Bartlett’s test of sphericity, the meritorious KMO = 0.837 (Dziuban & Shirkey, 1974), and the relationship between original variables (Dziuban & Shirkey, 1974). ASI SOY was created with one latent trait or theoretical construct in mind: the characteristics of effective and culturally efficacious teachers—possessing cultural competence and positive teaching efficacy (Flores et al., 2007). However, it is possible that there are subdimensions, hence the importance of investigating this through factor analysis. Furthermore, it is not enough to have factors that statistically cluster together; items must make common sense together, which is called simple structure (Crocker & Algina, 1986).

Stevens (2002) and Bryant and Yarnold (1995) support Kaiser’s “rule of thumb” for retaining only those factors with eigenvalues greater than one; this process also accounts for the greatest percentage of variability. Using the Kaiser rule, nine factors had eigenvalues greater that one and thus were judged as viable. By rotating the factors, the factor loadings are maximized on the appropriate factors (Stevens, 2002).

These nine factors (see Table 1) accounted for 57.4% of the variance; respective accounted variance: (a) Ethnicity and Acculturation (12.20%), (b) Cultural Teaching Beliefs (9.686%), (c) Personal Efficacy (7.633%), (d) Personal Epistemology (5.365%), (e) Language Preference (5.238%), (f) Teacher Epistemology (5.032%), (g) Personal Epistemology: Certainty (3.824%), and Personal Epistemology: Source (3.402%). As shown in Table 1, the majority of the loadings ranged from moderate (.446) to high (.877). When we examined the scree plot, it revealed that approximately four to five factors were extractable. Table 1 also provides item–total correlations, communality estimates ($h^2$), and item means and standard deviations.

To discern the internal consistency of the nine derived factors, Cronbach’s alpha reliability coefficients were computed. Negatively loaded items (Items 10 and 23) were reverse coded for the purpose of this reliability analysis. Table 1 illustrates that for the majority of the factors, with the exception of
Table 1. Item-Total Correlation, Factor Matrix, Comunalities, and Item Means and Standard Deviations

<table>
<thead>
<tr>
<th>Item</th>
<th>Item–Total Correlation</th>
<th>Factor Loading</th>
<th>$h^2$</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>28. It is important for me to maintain cultural traditions and beliefs</td>
<td>.564</td>
<td>.877</td>
<td>.801</td>
<td>5.39 (1.72)</td>
</tr>
<tr>
<td>29. It is important for me to show pride in my ethnic group</td>
<td>.614</td>
<td>.868</td>
<td>.800</td>
<td>5.33 (1.79)</td>
</tr>
<tr>
<td>27. It is important for me to know my cultural history</td>
<td>.567</td>
<td>.851</td>
<td>.774</td>
<td>5.55 (1.67)</td>
</tr>
<tr>
<td>26. It is important for me to learn/speak my heritage language</td>
<td>.538</td>
<td>.770</td>
<td>.660</td>
<td>5.18 (1.97)</td>
</tr>
<tr>
<td>25. It is important for me to identify ethnically</td>
<td>.386</td>
<td>.701</td>
<td>.517</td>
<td>4.08 (2.03)</td>
</tr>
<tr>
<td>31. Being bilingual allows me to succeed in the United States</td>
<td>.514</td>
<td>.620</td>
<td>.610</td>
<td>4.18 (2.51)</td>
</tr>
</tbody>
</table>

Ethnicity and Acculturation:
Cronbach’s $\alpha = .570$

Cultural Teaching Beliefs:
Cronbach’s $\alpha = .779$

35. As a future teacher, my role is to make sure students learn how to look for solutions | .410 | .709 | .603 | 6.19 (1.11) |
34. As a future teacher, I will be able to teach all students | .447 | .688 | .531 | 5.79 (1.44) |
39. As a future teacher, it is important for me to know the cultural background of my students | .482 | .652 | .554 | 6.31 (1.15) |
38. As a future teacher, my role is to assure that my students have ethnic pride | .556 | .631 | .577 | 5.62 (1.55) |
37. As a future teacher, I believe that students’ negative home experiences can be overcome by good teaching | .369 | .629 | .514 | 5.43 (1.40) |
Table 1. (continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Item–Total Correlation</th>
<th>Factor Loading</th>
<th>( h^2 )</th>
<th>( M ) (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>33. As a future teacher, my role is to recognize that children are naturally smart</td>
<td>.391</td>
<td>.624</td>
<td>.518</td>
<td>5.06 (1.71)</td>
</tr>
<tr>
<td>36. As a future teacher, it is important for me to speak the language of my students</td>
<td>.486</td>
<td>.510</td>
<td>.462</td>
<td>5.69 (1.56)</td>
</tr>
<tr>
<td>41. As a future teacher, I believe that children develop their intelligence over time</td>
<td>.207</td>
<td>.293</td>
<td>.298</td>
<td>5.52 (1.43)</td>
</tr>
</tbody>
</table>

Personal Efficacy: Problem Solving: Cronbach’s \( \alpha = .727 \)

<table>
<thead>
<tr>
<th>Item</th>
<th>Item–Total Correlation</th>
<th>Factor Loading</th>
<th>( h^2 )</th>
<th>( M ) (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. I am good at resolving conflicts</td>
<td>.252</td>
<td>.819</td>
<td>.703</td>
<td>5.59 (1.14)</td>
</tr>
<tr>
<td>12. When my friends have problems, they come to me</td>
<td>.313</td>
<td>.738</td>
<td>.625</td>
<td>5.63 (1.20)</td>
</tr>
<tr>
<td>16. I manage my problems well</td>
<td>.285</td>
<td>.675</td>
<td>.562</td>
<td>5.41 (1.23)</td>
</tr>
<tr>
<td>17. I like challenges</td>
<td>.270</td>
<td>.602</td>
<td>.491</td>
<td>5.56 (1.24)</td>
</tr>
<tr>
<td>30. I enjoy the language, values, customs, and traditions of the United States</td>
<td>.296</td>
<td>.446</td>
<td>.442</td>
<td>5.81 (1.36)</td>
</tr>
</tbody>
</table>

Personal Epistemology: Ability/Effort: Cronbach’s \( \alpha = .580 \)

<table>
<thead>
<tr>
<th>Item</th>
<th>Item–Total Correlation</th>
<th>Factor Loading</th>
<th>( h^2 )</th>
<th>( M ) (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>19. When learning something new, I become anxious</td>
<td>.211</td>
<td>.712</td>
<td>.547</td>
<td>4.12 (1.75)</td>
</tr>
<tr>
<td>11. For me, a course in study skills would probably be valuable</td>
<td>.300</td>
<td>.627</td>
<td>.542</td>
<td>4.19 (1.69)</td>
</tr>
<tr>
<td>21. Even when I study hard, learning is difficult for me</td>
<td>.174</td>
<td>.612</td>
<td>.573</td>
<td>2.90 (1.65)</td>
</tr>
<tr>
<td>20. If I try hard, I can learn</td>
<td>.316</td>
<td>.494</td>
<td>.474</td>
<td>5.68 (1.50)</td>
</tr>
</tbody>
</table>

Language Preference: Cronbach’s \( \alpha = .812 \)

<table>
<thead>
<tr>
<th>Item</th>
<th>Item–Total Correlation</th>
<th>Factor Loading</th>
<th>( h^2 )</th>
<th>( M ) (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>23. My thinking is done mostly in English.</td>
<td>.195</td>
<td>.830</td>
<td>.757</td>
<td>1.88 (1.50)</td>
</tr>
<tr>
<td>24. My thinking is done mostly in Spanish</td>
<td>.354</td>
<td>.792</td>
<td>.776</td>
<td>2.11 (1.70)</td>
</tr>
</tbody>
</table>

Motives for Teaching Profession: Cronbach’s \( \alpha = .570 \)

<table>
<thead>
<tr>
<th>Item</th>
<th>Item–Total Correlation</th>
<th>Factor Loading</th>
<th>( h^2 )</th>
<th>( M ) (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Family members have been teachers</td>
<td>.222</td>
<td>.654</td>
<td>.552</td>
<td>2.80 (2.26)</td>
</tr>
</tbody>
</table>
Table 1. (continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Item–Total Correlation</th>
<th>Factor Loading</th>
<th>$h^2$</th>
<th>$M$ (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. A teacher’s work schedule will meet my family needs</td>
<td>.178</td>
<td>.628</td>
<td>.479</td>
<td>4.61 (2.04)</td>
</tr>
<tr>
<td>4. I had a good teacher; therefore I want to make a difference in students’ lives</td>
<td>.197</td>
<td>.545</td>
<td>.513</td>
<td>5.59 (1.71)</td>
</tr>
<tr>
<td>5. My family values my decision to become a teacher</td>
<td>.303</td>
<td>.522</td>
<td>.422</td>
<td>5.47 (1.86)</td>
</tr>
<tr>
<td>2. I want to give back to my community</td>
<td>.478</td>
<td>.474</td>
<td>.570</td>
<td>5.83 (1.46)</td>
</tr>
</tbody>
</table>

Teacher Epistemology:
Certainty and Speed:
Cronbach’s $\alpha = .553$

<table>
<thead>
<tr>
<th>Item</th>
<th>Item–Total Correlation</th>
<th>Factor Loading</th>
<th>$h^2$</th>
<th>$M$ (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40. As a future teacher, my role is to make sure that students understand that there is always one right answer</td>
<td>.179</td>
<td>.740</td>
<td>.601</td>
<td>2.56 (1.78)</td>
</tr>
<tr>
<td>32. As a future teacher, my role is to make sure students learn specific facts</td>
<td>.370</td>
<td>.629</td>
<td>.606</td>
<td>4.59 (1.60)</td>
</tr>
<tr>
<td>22. I believe successful students learn things quickly</td>
<td>.105</td>
<td>.609</td>
<td>.483</td>
<td>3.16 (1.59)</td>
</tr>
</tbody>
</table>

Personal Epistemology:
Certainty: Cronbach’s $\alpha = .481$

<table>
<thead>
<tr>
<th>Item</th>
<th>Item–Total Correlation</th>
<th>Factor Loading</th>
<th>$h^2$</th>
<th>$M$ (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. When I study, I look for specific facts</td>
<td>.296</td>
<td>.724</td>
<td>.640</td>
<td>5.43 (1.30)</td>
</tr>
<tr>
<td>7. I believe that words can have more than one meaning</td>
<td>.336</td>
<td>.341</td>
<td>.473</td>
<td>6.27 (1.00)</td>
</tr>
</tbody>
</table>

Personal Epistemology: Source: Cronbach’s $\alpha = .10$

<table>
<thead>
<tr>
<th>Item</th>
<th>Item–Total Correlation</th>
<th>Factor Loading</th>
<th>$h^2$</th>
<th>$M$ (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. I learn better from my friends than from my teachers</td>
<td>.183</td>
<td>.706</td>
<td>.630</td>
<td>4.00 (1.35)</td>
</tr>
<tr>
<td>10. I believe that you learn best from experts $^R$</td>
<td>-.210</td>
<td>.552</td>
<td>.570</td>
<td>4.22 (1.58)</td>
</tr>
</tbody>
</table>

Note: Superscript “R” denotes that the item was reverse coded.

Personal Epistemology: Source, Cronbach’s alpha reliability coefficients ranged from moderate (.481) to high (.812). Factor reliability was also examined using
recommended guidelines (Stevens, 2002). George and Mallery (2005) proposed that factors with item loadings >.500 be regarded as reliable. Furthermore, factors with high item loadings are considered to have face validity (George & Mallery, 2005).

**Phase 2: Secondary Reliability and Factor Analyses**

During this second phase (which is based on the Phase 1 findings), our goal was to demonstrate the psychometric properties of the ASI SOY as a potential diagnostic measure. We conducted additional reliability and factor analyses. For reliability evidence, we analyzed completed inventories ($n = 669$). Items 6 and 14 were excluded, and we reverse coded negatively oriented items (Items 8, 10, 11, 19, 21, 22, 32, and 40). Our primary intent was to identify those attributes that may facilitate higher education academic success and accentuate development specifically for Latino teacher candidates. Our secondary intent was to validate this instrument for reflective/diagnostic use with all teacher candidates as a measure to ascertain predispositions toward diversity.

**Phase 2: Secondary Reliability and Factor Analyses Results**

**Reliability.** The following statistical analyses were completed with the 39 closed-response items: means, standard deviations, item-to-total correlations, and overall Cronbach’s alpha reliability coefficient. The ASI SOY Total Cronbach’s alpha reliability coefficient was computed as .745. Item-to-total correlations are another way to provide evidence for internal consistency reliability (American Educational Research Association et al., 1999). The higher the item-to-total correlation, the more the item measures the theoretical construct underlying the ASI SOY: the characteristics of effective and culturally efficacious teachers.

The maximum score possible for the ASI SOY closed items is 273. The ASI SOY (total score) standard error of measurement is calculated as 9.741. To create a confidence interval around a respondent’s observed score, one uses the estimated value of $X \pm 1\sigma_E$, with $X$ representing the score and $\sigma_E$ representing the standard error of measurement. Therefore, if a respondent obtained 200 for the ASI SOY total score, one can be 68% confident that this respondent’s true score lies between 190.259 and 209.741.

It is noteworthy that Item 39 (As a future teacher, it is important for me to know the cultural background of my students) has the highest mean (6.31, $SD = 1.15$). Item 24 (My thinking is done mostly in Spanish.) has the lowest mean (2.11, $SD = 1.70$). (Note that neither of these items is reverse coded.) This appears to indicate that respondents had the highest agreement
with the need to know the cultural background of their students, but the lowest agreement with the statement that most of their thinking is done in Spanish.

A second exploratory factor analysis was completed to provide validity evidence and to establish the presence of underlying dimensions of the ASI SOY that are to be used as scales in subsequent research questions. Results indicate that the KMO Measure of Sampling Adequacy is .837, which is meritorious, according to the work of Dziuban and Shirkey (1974); furthermore, the Bartlett’s test is significant ($p < .001$). These results support the need to conduct factor analysis; only factors with eigenvalues greater than one were selected for extraction (Stevens, 2002).

A total of 10 factors had eigenvalues >1 and accounted for approximately 58% of the total variance. Using a varimax rotation, we determined that a five-factor solution was most viable and provided a simple structure. These five factors account for approximately 42% of the total variance: (a) Ethnicity and Acculturation (which accounts for approximately 13% of the variability); (b) Culturally Responsive Teacher (which accounts for approximately 9% of the variability); (c) Personal Efficacy (which accounts for approximately 8% of the variability); (d) Personal Epistemology (which accounts for approximately 6% of the variability); and (e) Motivation for Teaching Profession (which accounts for 5% of the variability). Table 2 details the factors, item–total correlations, factor loadings, and communality estimates ($h^2$), and item means and standard deviations.

Cronbach’s alpha reliability coefficients of these five factors ranged from .339 to .803 (see Table 2). Factor loadings and reliability coefficients are substantive enough to be used as scales in subsequent analyses. Findings were similar to those obtained during the first phase of the study; however they provide a clearer interpretation of the underlying constructs measured.

**Phase 3: Test–Retest Reliability**

The purpose of Phase 3 was to provide reliability evidence supporting the use of the ASI SOY as a reflective/diagnostic instrument. A total of 434 completed inventories were obtained from 217 teacher candidates who participated in the test/retest process. During the first week of the semester, the ASI SOY was administered; the retest was administered 2 weeks later. Of the 217 teacher candidates, 80 were enrolled in an early childhood course in which they completed the paper versions of the inventory. The remaining 137 teacher candidates completed the electronic version of the inventory. Of the
Table 2. Item-Total Correlation, Factor Matrix, Communalities, and Item Means and Standard Deviations

<table>
<thead>
<tr>
<th>Item</th>
<th>Item–Total Correlation</th>
<th>Factor Loading</th>
<th>$h^2$</th>
<th>$M$ (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnicity and Acculturation: Cronbach’s $\alpha = .803$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. It is important for me to maintain cultural traditions and beliefs</td>
<td>.604</td>
<td>.852</td>
<td>.772</td>
<td>5.39 (1.72)</td>
</tr>
<tr>
<td>29. It is important for me to show pride in my ethnic group</td>
<td>.621</td>
<td>.848</td>
<td>.766</td>
<td>5.33 (1.79)</td>
</tr>
<tr>
<td>27. It is important for me to know my cultural history</td>
<td>.592</td>
<td>.829</td>
<td>.717</td>
<td>5.55 (1.67)</td>
</tr>
<tr>
<td>26. It is important for me to learn/speak my heritage language</td>
<td>.557</td>
<td>.785</td>
<td>.642</td>
<td>5.18 (1.97)</td>
</tr>
<tr>
<td>31. Being bilingual allows me to succeed in the United States</td>
<td>.530</td>
<td>.710</td>
<td>.586</td>
<td>4.18 (2.51)</td>
</tr>
<tr>
<td>25. It is important for me to identify ethnically</td>
<td>.447</td>
<td>.682</td>
<td>.474</td>
<td>4.08 (2.03)</td>
</tr>
<tr>
<td>24. My thinking is done mostly in Spanish</td>
<td>.302</td>
<td>.548</td>
<td>.586</td>
<td>2.11 (1.70)</td>
</tr>
<tr>
<td>23. My thinking is done mostly in English</td>
<td>-.112</td>
<td>-.464</td>
<td>.446</td>
<td>6.12 (1.51)</td>
</tr>
<tr>
<td>Cultural Responsive Teaching Beliefs: Cronbach’s $\alpha = .656$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. As a future teacher, my role is to recognize that children are naturally smart</td>
<td>.362</td>
<td>.652</td>
<td>.465</td>
<td>5.04 (1.73)</td>
</tr>
<tr>
<td>34. As a future teacher, I will be able to teach all students</td>
<td>.472</td>
<td>.650</td>
<td>.484</td>
<td>5.79 (1.44)</td>
</tr>
<tr>
<td>35. As a future teacher, my role is to make sure students learn how to look for solutions</td>
<td>.457</td>
<td>.640</td>
<td>.527</td>
<td>6.19 (1.11)</td>
</tr>
<tr>
<td>39. As a future teacher, it is important for me to know the cultural background of my students</td>
<td>.571</td>
<td>.602</td>
<td>.527</td>
<td>6.31 (1.15)</td>
</tr>
</tbody>
</table>

(continued)
Table 2. (continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Item–Total Correlation</th>
<th>Factor Loading</th>
<th>$h^2$</th>
<th>$M$ (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>38. As a future teacher, my role is to assure that my students have ethnic pride</td>
<td>.598</td>
<td>.600</td>
<td>.543</td>
<td>5.61 (1.54)</td>
</tr>
<tr>
<td>37. As a future teacher, I believe that students’ negative home experiences can be overcome by good teaching</td>
<td>.388</td>
<td>.561</td>
<td>.380</td>
<td>5.43 (1.40)</td>
</tr>
<tr>
<td>36. As a future teacher, it is important for me to speak the language of my students</td>
<td>.528</td>
<td>.519</td>
<td>.423</td>
<td>5.69 (1.56)</td>
</tr>
<tr>
<td>32. As a future teacher, my role is to make sure students learn specific facts.</td>
<td>−.111</td>
<td>−.495</td>
<td>.420</td>
<td>3.40 (1.61)</td>
</tr>
<tr>
<td>41. As a future teacher, I believe that children develop their intelligence over time.</td>
<td>.244</td>
<td>.247</td>
<td>.135</td>
<td>5.52 (1.43)</td>
</tr>
</tbody>
</table>

Personal Efficacy:

Cronbach’s $\alpha = .707$

13. I am good at resolving conflicts | .373 | .756 | .596 | 5.59 (1.15) |
16. I manage my problems well | .449 | .678 | .511 | 5.41 (1.23) |
12. When my friends have problems, they come to me | .416 | .673 | .500 | 5.64 (1.21) |
17. I like challenges | .386 | .625 | .471 | 5.56 (1.24) |
7. I believe that words can have more than one meaning | .410 | .441 | .287 | 6.27 (1.01) |
30. I enjoy the language, values, customs, and traditions of the United States | .413 | .418 | .337 | 5.81 (1.36) |
20. If I try hard, I can learn | .322 | .272 | .223 | 5.68 (1.50) |

Personal Epistemology:

Cronbach’s $\alpha = .339$

21. Even when I study hard, learning is difficult for me$^R$ | .127 | .650 | .503 | 5.10 (1.66) |
22. I believe successful students learn things quickly$^R$ | .150 | .614 | .410 | 4.85 (1.58) |
11. For me, a course in study skills would probably be valuable$^R$ | −.051 | .529 | .356 | 3.79 (1.69) |
total 217 teacher candidates, 139 (approximately 64\%) were Latino, 57 were White (approximately 26\%), and 21 (approximately 10\%) were “Other.” The majority (69\%, \(n = 131\)) were Latina females, with an average age of 26.42 years (\(SD = 6.89\)). White females made up 23\% \( (n = 43\) of the sample, with an average age of 27.5 years (\(SD = 8.22\)). The largest male group (54\%, \(n = 14\)) consisted of White students with an average age of 36.7 years (\(SD = 14.10\)); this was followed by Latino males, 31\% \((n = 8\)) with an average age of 30.85 years (\(SD = 9.82\)).

### Table 2. (continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Item–Total Correlation</th>
<th>Factor Loading</th>
<th>(h^2)</th>
<th>(M (SD))</th>
</tr>
</thead>
<tbody>
<tr>
<td>19. When learning something new, I become anxious&lt;sup&gt;R&lt;/sup&gt;</td>
<td>-.014</td>
<td>.525</td>
<td>.354</td>
<td>3.88 (1.75)</td>
</tr>
<tr>
<td>10. I believe that you learn best from experts&lt;sup&gt;R&lt;/sup&gt;</td>
<td>.023</td>
<td>.413</td>
<td>.219</td>
<td>4.22 (1.58)</td>
</tr>
<tr>
<td>40. As a future teacher, my role is to make sure that students understand that there is always one right answer&lt;sup&gt;R&lt;/sup&gt;</td>
<td>.054</td>
<td>.408</td>
<td>.316</td>
<td>5.44 (1.78)</td>
</tr>
<tr>
<td>18. I learn better from my friends than from my teachers</td>
<td>.191</td>
<td>-.358</td>
<td>.214</td>
<td>4.00 (1.35)</td>
</tr>
<tr>
<td>8. When I study, I look for specific facts&lt;sup&gt;R&lt;/sup&gt;</td>
<td>-.160</td>
<td>.289</td>
<td>.218</td>
<td>2.57 (1.30)</td>
</tr>
<tr>
<td>15. I don’t have a favorite subject</td>
<td>.176</td>
<td>-.285</td>
<td>.169</td>
<td>3.24 (1.85)</td>
</tr>
<tr>
<td>9. I like movies that don’t have an ending</td>
<td>.193</td>
<td>-.265</td>
<td>.123</td>
<td>2.60 (1.72)</td>
</tr>
</tbody>
</table>

**Motivation for Teaching Profession:** Cronbach’s \(\alpha = .570\)

<table>
<thead>
<tr>
<th>Item</th>
<th>Item–Total Correlation</th>
<th>Factor Loading</th>
<th>(h^2)</th>
<th>(M (SD))</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. I had a good teacher; therefore I want to make a difference in students’ lives</td>
<td>.286</td>
<td>.545</td>
<td>.333</td>
<td>5.59 (1.71)</td>
</tr>
<tr>
<td>5. My family values my decision to become a teacher</td>
<td>.392</td>
<td>.499</td>
<td>.329</td>
<td>5.47 (1.86)</td>
</tr>
<tr>
<td>1. Family members have been teachers</td>
<td>.264</td>
<td>.439</td>
<td>.272</td>
<td>2.80 (2.26)</td>
</tr>
<tr>
<td>3. A teacher’s work schedule will meet my family needs</td>
<td>.219</td>
<td>.414</td>
<td>.223</td>
<td>4.61 (2.04)</td>
</tr>
<tr>
<td>2. I want to give back to my community</td>
<td>.502</td>
<td>.336</td>
<td>.348</td>
<td>5.83 (1.46)</td>
</tr>
</tbody>
</table>

Note: Superscript “R” denotes that the item was reverse coded.
Phase 3 Data Analysis and Results

Test–retest reliability analysis. Cronbach’s alpha reliability indexes were used to determine internal consistency for each of the administration conditions. Results revealed internal consistency for the test ($\alpha = .83$) and the retest ($\alpha = .84$). To assess test–retest reliability, a Pearson correlational analysis was conducted and revealed consistency ($r = .995, p < .001$) between the two administrations. These findings add further evidence of the ASI SOY’s reliability.

Discussion

The development of a psychometrically sound measure to identify meditating psychosocial variables is important to the preparation of teacher candidates. In this preliminary analysis, we surmise that there is evidence of the ASI SOY’s reliability and validity as a descriptive tool that may offer insight for teacher preparation. Cronbach’s alpha analysis confirmed the internal consistency for each administration. The examination of each item’s contribution to the scale reliability shows consistency ranging from .807 to .833. Items appeared to fit and were judged as viable. A significant high test–retest correlation (.995) was found.

Factor analysis provides evidence that the instrument provides a sound descriptive assessment of the following psychosocial factors: (a) Ethnicity and Acculturation, (b) Culturally Responsive Teaching Beliefs, (c) Personal Epistemology, (d) Personal Efficacy, and (e) Motivation for Teaching Profession. One identifiable limitation to this study was introduced with the given sample; this instrument may be more reflective of Latina females and to a lesser degree informative about White females and males, and Latino males. Adding or discarding items may improve the outcome of the factor analysis. Thus, additional sampling will be required.

Teacher candidates enter higher education with prior family, community, and academic experiences; these conceptualizations may impact them as learners. As indicated by the literature review, teacher candidates’ psychosocial factors may have an influence on approach to academic study. Assessing the multiple dimensions of a teacher candidate allows for understanding the person and her/his potential as a teacher. The ASI SOY multidimensional perspective may provide the opportunity to begin addressing otherwise unrecognized teacher candidate expectations. Additionally, ASI SOY may be a valuable educational tool for the identification of teacher candidates’ psychosocial characteristics. Information about expectations may suggest patterns, such as levels of investment and willingness to persist, which can then be
incorporated within proactive teacher preparation programs, both for recruitment and retention purposes. Findings may offer instructional preparation suggestions and teaching insights.

In sum, the ASI SOY is a sound instrument with established theoretical underpinnings. Therefore, it has the potential to offer a mechanism to identify psychosocial factors that may mediate or mitigate the academic, personal, and professional success of teacher candidates, specifically Latina females. The psychometric properties of the ASI SOY have been explored within this article. Content validity evidence was established. Factor analysis assisted in identifying and validating some of the proposed constructs. Nevertheless, given the low to moderate internal consistency of some of the factors, items will need to be revisited and revised. Future studies could examine whether item revision or the addition of items would improve the ability of the ASI SOY to accurately measure the constructs. A follow-up goodness of fit, Rasch analysis, or multitrait analysis could assist in the further analysis of construct validity.

Teacher preparation programs are accountable to the public they serve, which extends to the communities in which their graduates will teach. There is still much we do not know about prospective teacher candidates, specifically what will make them successful as students and as professionals. Recognizing the complexity of individuals, we cannot simply explore one dimension devoid of other constructs. Perhaps through the diagnostic employment of an instrument such as ASI SOY, teacher preparation programs can identify entry candidates’ areas of need. Then, as teacher candidates complete their programs, a summative post measure could be used to determine the impact of the teacher preparation program on teacher candidates’ development. Another possibility is that the use of a diagnostic instrument may identify individuals who are not well-suited for the teaching profession. Further exploration of the ASI SOY may assist in creating a multidimensional instrument that may strengthen the capacity of teacher preparation programs.

Declaration of Conflicting Interests
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References


Bios

**Belinda Bustos Flores** is a professor at The University of Texas at San Antonio. Her research interests and publications focus on teacher personal development including self-concept, ethnic identity, efficacy, beliefs, teacher recruitment/retention, and high stakes testing. Publications also focus on teacher sociocultural knowledge of family cultural literacy. She is the principal investigator of the Academy for Teacher Excellence.

**Ellen Riojas Clark** is a professor at The University of Texas at San Antonio. Her research interests and publications focus on the constructs of self-concept, ethnic identity, gifted language minority students, and efficacy. She has developed and presented many summer institutes that focused on Latino literature and culture, multicultural education collaborative approaches, curriculum development, cooperative learning and restructuring schools for language minority students. She is the Research Coordinator for the Academy for Teacher Excellence.

**Norma S. Guerra** has her doctoral degree in educational psychology with a specialty in school psychology. As an academician, her current research areas include working with teacher candidates and the use of the problem-solving LIBRE model as an assessment and intervention. The results of this clinical work lead to the development of the concept of engagement styles. She is actively involved in theory building.

**Cindy M. Casebeer** is an assistant professor in the Department of Educational Psychology at The University of Texas-Pan American. She graduated in 2006 from the University of Alabama with a PhD in educational research. Her current research interests include: teacher education and professional development, measurement, and program evaluation.

**Serafin Victor Sánchez** is an adjunct lecturer at The University of Texas at San Antonio and an educational consultant. He received his PhD in school psychology from Texas A&M University. His research interests include bilingual clinical and psycho-educational assessment.

**Hayley J. Mayall** is an assistant professor of instructional technology at Northern Illinois University. She has a PhD in educational psychology specializing in cognition and instruction from the University of Connecticut. Her research focuses on the use of technology and the impact of self-efficacy and learner characteristics in diverse instructional environments including preservice teacher education, in-service teacher professional development and corporate training.