

Chapter Three

TAGG Development and Structure

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Chapter Three

TAGG Development and Structure

The purpose of this chapter is to give information about the development of the TAGG and structure of the three versions (i.e., Professional, Family, and Student) of the *Transition Assessment and Goal Generator* (TAGG). This chapter will be organized in the following way:

- Development of the items for use on the three versions of the TAGG
- Investigation of the structure of the TAGG-P
- Investigation of the structure of the TAGG-F
- Investigation of the structure of the TAGG-S
- Brief descriptions of the constructs underlying the TAGG items
- Reliability investigations for the three versions of the TAGG

Development of the Items for Use on the Three Versions of the TAGG

To develop the TAGG, several experienced educational researchers examined the research literature in an iterative process to develop constructs defining student behaviors associated with success in employment and postsecondary education after high school. The following describes

the process used to develop constructs and exemplar behaviors.

The Research Team. A seven-member research team was strategically assembled to develop a new transition assessment based on current secondary transition research. The team collaboratively used a consensus decision-making process to identify research studies, review the studies, and build constructs and associated lists of behaviors from which the assessment would be written.

The research team consisted of (a) a professor of special education knowledgeable about transition education; (b) an assistant professor of educational psychology specializing in statistical analysis and assessment development who was a former high school educator; (c) an associate professor of psychology specializing in statistical analysis and assessment development; (d) a post-doctoral educational psychology researcher who was a former educator; (e) an advanced special education doctoral student knowledgeable about transition and who recently worked as a secondary special education teacher; (f) an advanced special education doctoral student knowledgeable about transition and who previously worked as a vocational educator of students with special needs; and (g) a

psychology undergraduate student who worked full-time at the research center where this project was completed and who provided input from a parent perspective.

Identification of Research Studies. We employed a five-step process to find studies that identified non-academic behaviors of students with disabilities associated with post-school employment and education.

First, we obtained copies of the studies identified by Juan (2008). Second, we acquired the correlational studies used by Test, Mazzotti, Mustian, Fowler, Kortering, and Kohler (2009) that identified behavioral predictors of post-school success. Third, we sought additional studies by conducting an online search using “EBSCOhost” with keywords and phrases including “post-school success,” “follow-up studies,” “transition,” and “students with disabilities.” Fourth, we used the references of the obtained manuscripts to find additional studies. Fifth, we examined the table of contents of special education and transition journals from the past three years to identify studies not yet included or missed in on-line database searches or previous studies. These five steps yielded 83 initial studies that appeared to identify non-academic behaviors associated with success for students with disabilities. The seven-member research team read and applied the inclusion and exclusion criteria described below to determine the studies to be used to develop the new assessment.

Inclusion and Exclusion Criteria. The purpose of the literature analysis was to develop a comprehensive list of student non-academic behaviors associated with postsecondary success that would enable us to build conceptual constructs. Thus, this is not a comprehensive literature review that identified every study that identified the

same behavior time after time. Three criteria were applied to determine if a quantitative or qualitative research study was included or excluded. First, the manuscript had to clearly identify at least one student behavior associated with post high school employment or education. The behaviors identified in a study needed to be specific enough to be easily converted into annual transition goals. For example, the Sands, Spencer, Gliner, and Swaim (1999) study, which only identified in-school student success indicators, was excluded because the in-school behaviors were not associated with post high school employment or further education success.

Second, a study had to include individuals identified by its authors as having mild to moderate disabilities. We excluded studies that only used individuals with severe or profound intellectual disabilities (mental retardation). Third, studies that only identified academic indicators of post-school success, such as grades, passing state mandated tests, and inclusion in general education setting, were excluded because Benz, Lindstrom, and Yovanoff (2000) found that academic skills alone are insufficient for successful post-school outcomes. Thus, studies such as the one completed by Heal and Rusch (1994) that identified academic skills, GPA, and the receipt of a diploma as predictors of post-school success were excluded. After applying these inclusion and exclusion criteria, 35 studies were retained for the construct analysis.

Building Constructs and Associated Lists of Behaviors and Experiences. The research team used a consensus decision-making process to build the constructs where ideas were discussed and debated until everyone agreed. Original development of an early version of the TAGG was done

by Juan (2008), with major revisions described here. To complete these major revisions, the research team implemented a seven-step process over four months to define constructs and build the list of post-school student success behaviors. First, the research team read the studies and individually applied the inclusion and exclusion criteria. Second, the research team discussed each study and jointly applied the inclusion and exclusion criteria to decide if a study was to be examined in more depth. Third, each group member reread approximately half of the included studies, then met and determined by consensus initial constructs and lists of all articles associated with each construct. This process ensured that across the team, at least three team members had read and examined each study, and the other team members were familiar with the study when a specific study was discussed.

Fourth, all research team members jointly composed the “Disability Awareness” construct definition as an example of how to build future constructs. The research team also composed a list of associated behaviors from the literature designed to operationalize the construct. Prior to the initial construct-building meeting, each research team member reread the disability awareness studies. During a consensus discussion, the team agreed that 10 studies had identified disability awareness as an indicator of post-school success. Using these studies, the team gleaned language from the studies to build the Disability Awareness construct, and then constructed a list of specific student behaviors associated with disability awareness.

Fifth, the team divided into two sub-groups to create definitions for each remaining construct. To do this, the entire research team identified weekly a set of studies for

the two sub-groups to read. Each sub-group read and studied the identified set of articles and then met independently of the other group to develop a draft behavior construct and a list of associated student behaviors according to the process described in step four.

Sixth, the two sub-groups reconvened weekly and each presented the construct definitions and lists of behaviors developed that week to the entire team. The constructs and behavior lists were adjusted based upon comments and suggestions from the entire research team until consensus constructs and behavior lists were developed. Once a few studies identified the same behavior, our focus shifted to identifying additional behaviors. Thus, we are confident the analysis produced a comprehensive list of student behaviors associated with post-school success, but not every study associated with a specific behavior was listed or used.

Seventh, the first author went back through each of the constructs, matched the citations to the studies to make certain they conformed to the inclusion criteria, and made additions or deletions as needed. One of the other authors then independently verified the changes. The two disagreements were discussed and resolved. Refer to Chapter 1 for construct definitions.

Item Development of the TAGG. We took the constructs and behavior lists delineated by McConnell, Martin, Juan, Hennessey, Terry, Kazimi, Pannells, and Willis (2013) through an iterative process to develop the items, rating scales, and instructions for the Professional, Student, and Family TAGG versions. Across numerous drafts, the items were written, revised, and then re-written. Rating scales and administration instructions were developed, and then revised. The research team, comprised of experienced

transition educators, assessment development experts, and parents of students with disabilities reviewed the draft assessments, checked items for understanding, and matched each item to the research that supported its inclusion into the assessment to ensure that the intent expressed in the wording remained true to the research that supported the item's inclusion into the assessment.

Professional TAGG. The Professional TAGG (TAGG-P) version was developed first and it went through 17 iterations. The first version contained 83 items and after refinement, the 17th draft had 75 items. The 75 items were organized according to construct in a logical sequence by the intent of the behavior or experience, with construct definitions preceding the items assessing that construct. Sixty-six of the 75 items had a 5-point Likert-type scale and the instructions asked the professional to rate students' behaviors over the last year, where a score of one meant the student rarely performed the action, and five meant the student often performed the behavior. The remaining nine items required a yes or no answer.

Family TAGG. Across 10 drafts, the Family TAGG (TAGG-F) version was developed using the same items initially included in the TAGG-P, and it was revised in 10 drafts as the TAGG-P was improved. Each item began with the stem "My child (followed by a verb) . . ." The TAGG-F used a 5-point Likert-type scale for 66 items, and required a yes or no response for nine items. The instructions asked parents to think about their child's behavior over the past year and rate how well each statement reflected what their children had done. Each number of the 1 to 5 rating system was also explained in the overall instructions. The final 75-item assessment had a 5.4 grade Flesch-Kincaid reading level. Unlike the TAGG-P, the

TAGG-F did not include construct names or definitions.

Student TAGG. Concurrent with the development of the TAGG-F, the Student TAGG (TAGG-S) was developed using the same items included in the TAGG-P, and was revised in lock-step fashion with the TAGG-F. The wording of the TAGG-S was revised to be student friendly, written in first person, and revised to keep the reading level below the 5th grade, and the final 75-item 10th draft had a 4.2 grade Flesch-Kincaid reading level. A 3-point scale was used to evaluate 66 items, and instructions requested students to mark a box to indicate if they rarely, sometimes, or often did the behavior or experience noted in each item during the past year. Nine items required a yes or no answer.

Structure of the TAGG-P

This section presents an examination of the structure of the Professional version of the *Transition Assessment and Goal Generator* (TAGG-P). Two studies were completed to examine the extent the structure of the TAGG-P matched the theoretical structure guiding the assessment design. This section will be organized in the following way. We will first present a description of the professional transition educators who participated in the first study, followed by iterative procedures used to analyze the structure of the TAGG-P and the results of the structural analysis. We will then present the same information (i.e., participants, data analysis methods employed, and results) for the second study completed.

Before presenting the results of the structural analysis completed, it is important that we identify the inclusion criteria of the transition professionals who participated in this study. Transition professionals who

participated in this study were those school or district level staff members involved in students' transition education, and included (a) special education teachers, (b) transition coordinators or specialists, (c) rehabilitation counselors, or (d) school counselors. It was expected that participants knew the students about which they were responding for at least two months so they could answer the TAGG-P questions.

Study 1: Structure of TAGG-P

Professional Participants. Twenty-seven special education teachers and 12 transition specialists participated in the initial factor analysis of the TAGG development. They were, on average, 47 years old, and had an average of about 16 years of teaching experience. About 85% of the professionals were certified in special education. They reported they knew the students about which they responded for an average of 2.5 years. Of the professionals who participated, 37 were female. About half of the participants lived in the school districts in which they taught. About 75% of the professionals were Caucasian, about 12% were African-American, about 5% were Hispanic, and about 5% reported more than one ethnicity. Table 1 contains detailed demographics for the professionals who participated in TAGG development.

Investigation of the structure of the TAGG-P. As the first step in evaluating the factorial structure of the TAGG, we began by submitting the TAGG-P (initial 75-item version) to an Exploratory Factor Analysis (EFA). The initial EFA on the TAGG-P was conducted using Maximum Likelihood (ML) estimation and allowing the factors to correlate with the Promax rotation using the PROC FACTOR program in SAS. We investigated factor solutions ranging from one to 10 factors and then compared the

values of the Akaike Information Criterion (AIC; Akaike, 1974) and Schwartz's Bayesian Information Criterion (BIC; Schwartz, 1978) for each of the 10 solutions. The appropriate number of factors using this method is determined by noting when both the AIC and the BIC appear to stop changing dramatically as the number of factors increases, similar to examining a scree-plot when using a principal components analysis. As a secondary criterion, factors that show less than three salient loadings beyond where the AIC and BIC begin to flatten also indicate an over-fitting of the number of dimensions and all dimensions beyond that point should be discarded.

For the TAGG-P, the EFA-ML analysis suggested eight factors were necessary to fit the data, thus two constructs were dropped from the original 75-item TAGG-P (Actions Related to Strengths and Limitations, and Utilization of Resources). Subsequent examination of the factor reference structure matrix suggested another 20 items did not substantially load on any of the eight factors, thus were candidates to be removed from the final scale. Moreover, of the remaining 55 items that did load on at least one factor, most items appeared to load substantially on only one of the eight factors, suggesting a possible simple structure solution.

To further refine the TAGG-P scale, we then submitted the reduced 55-item scale to a new EFA using CFA techniques. We then examined the overall fit of the CFA models using four indices of fit: the RMSEA index, for which Steiger and Lind (1980) suggest values below .08 indicate a good fit and values at or near .05 indicate excellent fit; Bentler's CFI index (Bentler, 1990), based on the value of the non-centrality parameter, for which values greater than or equal to .90 indicate good fit; the Tucker and Lewis

Index (TLI; Tucker and Lewis, 1973), which compares the fit of the model to an independence (or no factor) model, and for which values greater than or equal to .90 indicate good fit; and the Root Mean Square Residual (RMSR), an absolute measure of misfit, and for which values near or less than .05 are considered acceptable. Examining the combination of these four fit indices was important because they assess different aspects of model fit. If all four indices suggest acceptable fit, we could be confident that the model adequately reproduces the empirical data.

Initially, we imposed a factor model with a simple structure on all factor loadings (each variable was allowed to freely load on only one factor, and loaded zero on all others) and we also allowed all factors to freely correlate. Although this reduced 55-item scale fit substantially better than the original 75-item scale, the model fit was still poor by the standards of model-fitting using CFA analysis. Examination of the Asymptotically Standardized Residuals (ASR's), obtained after fitting the model, indicated the existence of doublet factors (Mulaik, 2009; Landis, Edwards, & Cortina, 2011). Doublet factors occur when a pair of items, usually loading on the same factor, share residual or specific variance that cannot be accounted for by the common factor models. In essence, doublet factors typically arise when two items are understood by the participants to represent the same concept and cannot be empirically identified apart from one another, and hence are answered in a highly correlated manner.

To fix the problem of too many doublet factors, two solutions are usually proposed (Landis et al., 2011). The first solution is to fit a model with correlated residuals, which increases the fit of the factor model but also adds complexity to that model. The second

solution is to eliminate one of the offending items from the doublet pair, keeping the simple structure of the model and reducing the length of the scale. Because reducing the length of the scale has its own virtues (such as simplifying the task for respondents) and dropping items would allow us keep our imposed simple factor structure, we decided to use the latter strategy and delete items from doublet pairs sequentially until no more doublet pairs could be found that substantially impacted the fit of the model atop the data. As a general rule, we chose to eliminate the item written to assess the conceptually easier behavior as the other item in the doublet pair encompassed that behavior. As a result, an additional 21 items were deleted from the scale, resulting in a 34-item TAGG-P that subsequently fit to the data from an eight-factor model. Because of the loss of items, we revised construct names to better reflect the content of the remaining items: Knowledge of Strengths and Limitations became Strengths and Limitations, Proactive Involvement became Interacting with Others, Self-Advocacy became Student Involvement in the IEP, and Supports became Support Community.

The fit of the eight-factor simple structure model to the reduced 34-item scale was excellent ($\chi^2 = 1043.62$, $df = 499$; RMSEA = .058, CFI = .92, TLI = .91, and RMSR = .0597). As Table 2 shows, each item loaded on only one factor and the R^2 's for each item were strong for the most part, indicating the eight-factor simple structure solution explained the item variability quite well. Table 3 gives the correlation matrix between each of the eight factors of the TAGG-P. As expected, each factor is moderately to highly correlated, suggesting a student's standing on one of the eight factors is highly related to his or her standing on the other factors.

Study 2: Replication of TAGG-P Structure

Professional Participants. In addition to the participants used to complete Study 1, an additional group of professional transition educators responded to the reduced 34-item TAGG-P the next academic year. These professional high school special educators had an average age of 46 years ($SD = 8.7$) and 31 (91.2%) were females. The majority reported being Caucasian (85.3%), 11.8% reported being African American, and 2.9% reported they were Hispanic. Of the 34 education professionals, 27 were special education teachers (79.4%) and seven worked as transition specialists (20.6%), with some participants holding various other positions related to special education. Participants had an average of 12.9 years of experience teaching students with disabilities ($SD = 9.2$). Participants for both studies were included in the analysis for Study 2. Demographic information is located in Table 1.

Replication of the TAGG-P Factor Structure. To investigate the extent the factor structure identified for the three versions of the TAGG (i.e., TAGG-P, TAGG-F, and TAGG-S) could be replicated in a new sample, a multi-group CFA was employed. Specifically, we were interested in the extent the factor structure of the three TAGG versions found in Study 1 would be invariant across samples. In all three versions, we first investigated the configural (factor pattern) invariance of the model across the two samples, followed by factorial (factor loading) invariance (Vandenberg & Lance, 2000).

Initial examination of the TAGG-P configural invariance across the two samples resulted in non-convergence because the covariance matrix for the Study 2 sample

was non-positive definite. A number of reasons exist for a matrix to exhibit a non-positive definite status (Wothke, 1993). Examining the descriptive statistics for Study 2 data, we identified two items having very low means and little variability. Both items 25 and 26 assessed the Employment construct. Because the content of item 26, whether or not the student was employed in a paid position, has been found to be a predictor of student employment and education after graduation we kept item 26 and chose to eliminate item 25, referencing an unpaid job, from the analysis for two reasons. First, in comparison to the year 1 sample, considerably more students in the second study were below the working age of 16, and this age difference may have skewed these results. Second, educators may not have known if their students have had an unpaid job.

When the factor pattern of the two samples (minus item 25) were then constrained to be equivalent, we found the structure of the TAGG-P in Study 1 to be an acceptable fit for the data collected from the second sample ($\chi^2 = 2863.49$, $df = 1021$, $RMSEA = .072$, $CFI = .88$, $TLI = .88$, $RMSR = .065$), suggesting the underlying factor pattern of the data remains approximately the same for the two samples. Table 4 gives factor loadings and R^2 values for each item, and Table 5 shows the correlation matrix for the factors.

We then analyzed the equivalence of the TAGG-P across the two samples with a more restrictive model where all factor loadings (factorial invariance) were constrained to be equal. Results of this analysis suggested slightly poorer, yet still marginally acceptable model fit ($\chi^2 = 3094.2785$, $df = 1054$, $RMSEA = .075$, $CFI = .87$, $TLI = .87$, $RMSR = .100$). Although these fit statistics do not reach the levels

suggested by Hu and Bentler (1999) representing good fit, recent Monte Carlo studies have suggested the recommendations proposed by Hu and Bentler are too high (Fan & Sivo, 2005; Yuan, 2005) and a more holistic and global look at model-data fit be employed (Kline, 2010; Schumaker & Lomax, 1996). Given the highly constrained simple-structure model being tested and the adequacy of the fit statistics when looking at a variety of different indicators of model-data fit, it appears a single model fits adequately in both samples.

Structure of the TAGG-F

This section presents an examination of the structure of the Family version of the *Transition Assessment and Goal Generator* (TAGG-F). As with the investigation of the structure of the TAGG-P, two studies were completed to examine the extent to which the structure of the TAGG-F matched the theoretical structure around which the assessment was designed. This section will be organized in the following way. We will first present a description of the family members who participated in the first study, followed by iterative procedures used to analyze the structure of the TAGG-F and the results of the structural analysis. We will then present the same information (i.e., participants, data analysis methods employed, and results) for the second study completed.

Before presenting the results of the structural analysis completed, it is important that we identify the inclusion criteria of the family members participating in this study. The primary caregiver will be considered to be the “family member” and should be the person who completes the TAGG-F about the student under question. This may be a parent, grandparent, or guardian. In practice, this is not always possible as students come

from a variety of home-life situations; as a result, any family member with knowledge of the student was eligible to provide information on the TAGG-F. This participant must be able to read the TAGG-F and comprehend the material with minimal assistance, or would be able to comprehend the material if the TAGG-F items and responses were read aloud, as determined by the student’s IEP case manager.

Study 1: Structure of TAGG-F

Family Participants. Approximately 80% (n = 215) of the 271 family members who participated in this study were mothers or stepmothers, 11% were fathers or stepfathers (n = 30), 3.7% were grandparents (n = 12), and the remaining family participants were legal guardians who did not identify a role. The average age of the family participants was 44.6 years (*SD* = 8.6) and most (97.8%) of the family members indicated that the students lived with them. Most family members (94.5%) reported English as the primary language spoken at home. Most family members identified themselves as Caucasian (68%), 10% as African American, 6% as Hispanic, and 3% as Native American. About 14% of the family members did not earn a high school diploma, 45% of the family members had a high school diploma, and almost 38% had greater than a high school education. Approximately 9% of family members indicated that someone helped them complete the forms. Please refer to Table 6 for more specific demographic information.

Investigation of the Structure of the TAGG-F. Although we could have followed the exact same steps in developing a factor model for the TAGG-F as we did with the Professional version, we decided to first examine the fit of the final factor model for the Professional version to the Family

version. This analysis approach has at least two positive aspects. First, if the factor model developed for the TAGG-P fits the data approximately as well for the TAGG-F, it would provide evidence for convergent validity of the factor constructs, as the model was empirically built using TAGG-P responses only; that is, it would provide for a partial validation of the factor model since the sources of information are partially independent, even though the participants being assessed are the same. So, if that model fit the TAGG-F responses, it would provide one source of independent verification of its validity. Second, if the TAGG-F factor model held, it would allow us to simplify the assessment process considerably, having the identical number of items for each source of data.

The fit of the eight-factor simple structure model to the reduced 34-item family scale was also excellent ($\chi^2 = 862.74$, $df = 499$, $RMSEA = .0570$, $CFI = .91$, $TLI = .90$, and $RMSR = .058$). Comparing these results to those obtained from the factor model fit to the TAGG-P indicates an extremely similar fit in terms of overall model fit to the data, with all four fit indices showing similar values. Table 7 contains the factor loadings and R^2 values for the 34 items of the reduced Family version of the TAGG. Visual inspection of the factor loadings and R^2 values show very similar results to that obtained for the TAGG-P. Table 8 reports the factor correlations for the TAGG-F, and again shows a similar pattern of correlations as that of the TAGG-P, with all eight factors being moderately to highly correlated.

Study 2: Replication of TAGG-F Structure

Family Participants. As with transition professionals, an additional group of family members was recruited and participated in

the investigation of the structure of the TAGG-F by responding to the reduced 34-item TAGG-F. Approximately 78% ($n = 179$) of the 229 family members who participated in this study were mothers or stepmothers, 11% were fathers or stepfathers ($n = 26$), and 5.7% were grandparents ($n = 13$). Participating family members had an average age of 43.1 years ($SD = 11.3$) and most (98%) reported that the student lived in their home. The majority of family members reported being Caucasian (75.1%), 8.3% reported being African American, 5.2% reported being Hispanic, and 10.9% reported being American Indian. Approximately 65% of family participants were married and all but 10% reported having completed at least a high school education. Data from participants recruited for both studies were used in this analysis. Participant demographic information is located in Table 6.

Replication of the TAGG-F Factor Structure. A similar strategy was employed to determine the replicability of the TAGG-F factor structure found in study 1 using a second sample. Results of the configural invariance test for data collected from family members in the two samples produced an acceptable fit ($\chi^2 = 1995.76$, $df = 1087$, $RMSEA = .0579$, $CFI = .89$, $TLI = .89$, $RMSR = .0679$) with no modifications to the model, suggesting the underlying factor pattern structure of the data remains the same across different samples. See Table 9 for factor loadings and R^2 values for the TAGG-F. Table 10 shows the correlation matrix for the factors.

We then examined the factorial invariance of the TAGG-F across the two samples. Results suggest the fit was less than optimal ($\chi^2 = 2681.6678$, $df = 1121$, $RMSEA = .075$, $CFI = .82$, $TLI = .82$, $RMSR = .151$). Given the differences in the sample of students as

well as the family members' abilities to observe student behaviors for some of the items, the failure to replicate factorial invariance, while disappointing, is not surprising. The finding that the TAGG-F data retains the same basic factor pattern structure across the two samples is still remarkable and gives strong evidence of the construct validity of the assessment.

Structure of the TAGG-S

This section presents an examination of the structure of the Student version of the *Transition Assessment and Goal Generator* (TAGG-S). As with the two previous versions of the TAGG (i.e., Professional and Family), two studies were completed to examine the extent to which the structure of the TAGG-S matched the theoretical structure around which the assessment was designed. This section will be organized in the following way. We will first present a description of the students who participated in the first study, followed by iterative procedures used to analyze the structure of the TAGG-S and the results of the structural analysis. We will then present the same information (i.e., participants, data analysis methods employed, and results) for the second study completed.

Before presenting the results of the structural analysis completed, it is important that we identify the inclusion criteria of the students who participated in this study. Students with disabilities must (a) be of public school transition age, (b) have an active IEP, (c) be able to read the TAGG-S and comprehend the material with minimal assistance, or will be able to comprehend the material if the TAGG-S items and responses are read aloud, as determined by the schools' IEP case manager, and (d) have the ability to give consent or assent to participate.

Study 1: Structure of TAGG-S

Student Participants. Student participants ($n = 349$) received special education services at 33 high schools. The average age of students was 17.1 years ($SD = 1.4$) and 53.6% were males. Students from grades 9 through 12 completed the assessment, with 12% being in the 9th grade, 26% in the 10th, 27% in the 11th, and 35% in the 12th grade. Students from 11 disability categories completed the assessment, with 61% having a learning disability, 12% intellectual disability, 10% other health impairment, and 5% having emotional disturbance, with the other 12% having disabilities such as autism, hearing, visual, speech, or a traumatic brain injury. Educators indicated 70% of the students had mild to moderate disabilities, with 25% not indicating a disability level. Six students (1.7%) were enrolled in or received support for English as a second language, and 58 students (16.7%) had secondary disabilities. A slight majority of students were eligible to receive free or reduced lunch (56%). More detailed demographic information is located in Table 11.

Investigation of the Structure of the TAGG-S. For the same reasons given above when analyzing the TAGG-F, we decided to first examine the fit of the final factor model of the TAGG-P to the TAGG-S. The fit of the eight-factor simple structure model to the reduced 34-item student scale was also excellent, but with two caveats. First, Factor 1 (Strengths and Limitations) and Factor 8 (Support Community) correlated perfectly in the student sample, so following standard factor analytic tradition (McDonald, 1985), we collapsed those two factors into a common factor. Second, when examining the Asymptotic Standardized Residuals, one additional doublet factor showed up in the student sample that did not

show up in the data collected from either of the other samples. Rather than delete one item from the item pair, thus making the number of items across forms different, we fit a single correlated residual to the student model. The resulting fit of the seven-factor simple structure model to the 34-item student version was also excellent ($\chi^2 = 819.00$, $df = 505$, $RMSEA = .0466$, $CFI = .89$, $TLI = .88$, and $RMSR = .064$). Comparing these results to those obtained from the factor model fit to both the TAGG-P and TAGG-F indicates similar overall model fit to the data, although three of the four fit indices showed slightly smaller values. Table 12 contains the factor loadings and R^2 values for the 34 items of the reduced TAGG-S. Visual inspection of the factor loadings and R^2 values show a similar pattern of results to that obtained for the Professional and Family Versions of the TAGG, although the results suggest less salience to the factor loadings and more measurement error in each item. Table 13 also reports the factor correlations for the TAGG-S, and again shows a similar pattern of correlations as the other versions, although the correlations between factors appear to be somewhat smaller than in either the TAGG-P or TAGG-F.

Study 2: Replication of TAGG-S Structure

Student Participants. A second sample of students with disabilities was recruited to respond to the 34-item TAGG-S developed as a result of the analysis completed in Study 1. The average age of the 342 student participants was 16.4 years ($SD = 3.1$), and 56.3% were males. Nine students (2.6%) received support for English as a second language, and 55.7% were eligible for free or reduced lunch. Students from 9th through 12th grades completed the assessment, with 21% being in 9th grade, 16.3% being in 10th

grade, 25.7% being in 11th grade, and 35.6% being in 12th grade. Students from 11 disability categories completed the assessment, with 56.6% of students having learning disabilities, 13.1% having an intellectual disability, 15.2% having health impairments, and 6.7% having an emotional disturbance. Data from participants recruited for both studies was used in this analysis. Refer to Table 11 for additional demographic information.

Replication of the TAGG-S Factor Structure. As with results of the multi-group CFA for the TAGG-P, the covariance matrix for data collected from the TAGG-S in Study 2 was non-positive definite. An examination of descriptive statistics again revealed very little variance in the data on Item 26 (i.e., “I had a job where I earned money.”). This item was removed from further analyses. Multi-group CFA analysis of the configural invariance of the TAGG-S produced an acceptable fit ($\chi^2 = 1879.42$, $df = 1028$, $RMSEA = .0490$, $CFI = .87$, $TLI = .86$, $RMSR = .0762$), again suggesting the factor pattern remains similar across the two samples. When the factorial invariance of the model was examined, results were also slightly lower, but marginally acceptable ($\chi^2 = 2028.0125$, $df = 1061$, $RMSEA = .051$, $CFI = .85$, $TLI = .85$, $RMSR = .040$). Although these results suggest both configural and factorial invariance produced acceptable model-data fit, we believe the configural invariance in the structure of these assessments across the two samples is the most important component when validating the instrument across multiple samples and multiple sources of information.

The need for the removal of item 26 in the student sample is interesting, because this item worked well for data collected from both the TAGG-P and TAGG-F. However, it

appears students in our study had different interpretations of a paid job than do adults. See Table 14 for the factor loadings and R² values for the TAGG-S and Table 15 shows the correlation matrix for the factors.

Brief Descriptions of the Constructs Underlying the TAGG Items

Based on the results of the structural analyses reported above, we are confident the three versions of the TAGG assess the same constructs. A brief description of each of the constructs is given below. More information about these constructs can be found in Chapter 1 of this technical manual.

Strengths and Limitations. Individuals who have knowledge of their own strengths and limitations are able to demonstrate this knowledge (Higgins, Raskind, Goldberg, & Herman, 2002; Lachapelle, Wehmeyer, Haelewyck, Courbois, Keith, & Schalock, 2005; Madaus, 2006; Raskind, Goldberg, Higgins, & Herman, 2002; Sarver, 2000; Wehmeyer & Palmer, 2003), as well as communicate it to others (Gerber, Ginsberg, & Reiff, 1992; Higgins et al., 2002; Madaus, 2006; Raskind et al., 2002; Sarver, 2000; Skinner, 2004). They also show the ability to identify situations where they will be successful (Gerber et al., 1992).

Disability Awareness. Students who are aware of their disability can explain its details and request appropriate accommodations (Aune, 1991; Gerber et al., 1992; Gerber, Price, Mulligan, & Shessel, 2004; Higgins et al., 2002; Raskind, Goldberg, Higgins, & Herman, 1999). They may seek out more information about their disability (Thoma & Getzel, 2005) to better understand it.

Persistence. Successful individuals with disabilities often show persistence in the

time spent studying compared to non-disabled peers (Skinner, 2004). They are able to change their goals appropriately (Fabian, 2007; Fabian, Lent, & Willis, 1998; Gerber et al., 1992; Goldberg, Higgins, Raskind, & Herman, 2003; Greenbaum, Graham, & Scales, 1995; Skinner, 2004) and are flexible when choosing strategies to complete those goals (Goldberg et al., 2003).

Interacting with Others. Individuals showing the ability to interact with others exhibit successful personal interactions with family, friends, classmates, educators, and other adults (Doren & Benz, 1998; Goldberg et al., 2003; Halpern, Yovanoff, Doren, & Benz, 1995; Liebert, Lutsky, & Gottlieb, 1990), particularly in school or a community organization.

Goal Setting and Attainment. Individuals with disabilities who exhibit positive post-school employment and education outcomes are able to set goals for themselves. This includes breaking goals down into manageable parts (Thoma & Getzel, 2005), developing and implementing plans to meet goals (Gerber et al., 1992; Goldberg et al., 2003), and changing plans that are not enabling them the opportunity to meet those goals (Goldberg et al., 2003).

Employment. The Employment construct consists of the extent to which individuals sought or maintained employment while in school (Dunn & Shumaker, 1997; Fourqorean, Meisgeier, Swank, & Williams, 1991; McDonnall, 2010), as well as their abilities to find a job matching their skills and interests (Fourqorean et al., 1991).

Student Involvement in IEP. Students who advocate for themselves demonstrate the ability to ask teachers for necessary and appropriate accommodations (Aune, 1991;

Gerber et al., 1992; Gerber et al., 2004; Goldberg et al., 2003; Skinner, 2004) and tend to participate during their IEP meetings (Aune, 1991; Halpern et al., 1995).

Support Community. When students with disabilities have a support network, they are able to identify appropriate individuals to provide support (Gerber et al., 1992; Goldberg et al., 2003; Liebert et al., 1990; Madaus, 2006; Skinner, 2004; Thoma & Getzel, 2005; Whitney-Thomas & Moloney, 2001), as well as the situations where support is required and the person from whom the support must come (Benz et al., 2000; Gerber et al., 1992; Goldberg et al., 2003; Greenbaum et al., 1995; McNulty, 2003). Please note that this construct was merged with *Strengths and Limitations* for the TAGG-S.

Investigation of Reliability of the Three Versions of the TAGG

Study 1

Internal Consistency. We assessed the internal consistency of the overall scale score and each subscale score for each version of the TAGG and the 34 items across eight factors of the Professional and Family versions and the seven factors of the Student version using Cronbach's coefficient alpha. Table 16 contains these results. The results showed the overall scales for each version of the TAGG are highly reliable, ranging from $\alpha = .89$ to $\alpha = .95$. Likewise, the reliability estimates of the eight subscale scores for both the TAGG-P and TAGG-F were good, ranging from $\alpha = .60$ to $\alpha = .93$. The exception, however, was with the Interacting with Others scale for the family sample where the alpha was lower ($\alpha = .52$). Examination of the reliability estimates for the student sample subscale scores suggested lower reliabilities in

general, ranging from $\alpha = .44$ to $\alpha = .82$, yet the overall alpha level is at a respectful .89 level.

Test-retest Reliability. A test-retest measure of stability of total TAGG scores across the three versions across an average of 13.7 weeks between the first and second administrations yielded statistically significant ($p < .01$) and large correlations of .80, .70, and .70 for 102 professional, 92 family, and 102 student TAGG scores, respectively [$r = .10$ (small), $r = .30$ (medium), and $r = .50$ (large)]. The test-retest participants came from three states: Arkansas, Colorado, and New Mexico. All professionals were females with an average age of 48 years ($SD = 8.8$). Average age of family members was 45 years ($SD = 8.1$), 71% were mothers or stepmothers, 68.9% were married, 89.3% used English as the primary language at home, and the highest level of education for 47.6% of them was high school diploma or GED. For students, 52.4% were males and 47.6% females with an average age of 17.5 years ($SD = 1.6$). About half of the students were in the 12th grade, 60% received free or reduced lunches, and 77.7% had mild to moderate disability, with 62% having specific learning disabilities.

Agreement Across TAGG versions. The total scores across the three TAGG versions showed statistically significant ($p < .01$) medium correlations. Calculating Pearson product-moment correlation coefficients for Professional-Family ($n = 269$), Professional-Student ($n = 339$), and Family-Student TAGG ($n = 268$) versions yielded the values of .38, .37, and .31, respectively.

Study 2

Internal Consistency. We assessed the internal consistency of the overall scale

score and each subscale score for each version of the TAGG using data collected in Study 2 and the 34-items across eight factors of the Professional and Family versions and the seven factors of the Student version using Cronbach's coefficient alpha (Table 17). The results show that the overall scales for each version of the TAGG are highly reliable, ranging from $\alpha = .86$ to $\alpha = .93$. Likewise, the reliability estimates of the eight subscale scores for both the TAGG-P and TAGG-F are also acceptable, ranging

from $\alpha = .62$ to $\alpha = .94$, with two exceptions. The first was with the Interacting with Others scale for the family sample ($\alpha = .51$), and the second was for the Employment scale ($\alpha = .52$). These results were substantially similar to those from Study 1, with reliability estimates for the student subscale scores lower than those from the professional or family samples, ranging from $\alpha = .39$ to $\alpha = .82$. However, the overall alpha level of the TAGG-S is $.86$.

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Table 1

Demographic Information for Professional Participants

	Study 1	Study 2
Sample size	39	34
Average Age	47 (10.2)	46 (8.7)
Average Years Teaching Experience	16 (10.9)	13 (9.2)
% Female	94.9	91.2
Racial/Ethnic Categories		
% Caucasian	76.9	85.3
% African American	12.8	11.8
% Hispanic	5.0	2.9
% American Indian	2.6	8.8

Note. Standard deviations are given in parentheses.

Table 2

Factor Loadings and R² for TAGG-P for Study 1

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	R ²
1	.75								.54
2	.72								.52
3	.83								.69
4	.77								.59
5		.92							.52
6		.85							.72
7		.67							.47
8		.60							.36
9			.76						.58
10			.90						.81
11			.90						.81
12			.92						.84
13			.78						.61
14				.79					.63
15				.64					.41
16				.82					.66
17					.72				.53
18					.86				.74
19					.94				.88
20					.87				.75
21					.82				.67
22					.41				.17
23						.79			.62
24						.94			.88
25						.45			.21
26						.42			.18
27							.65		.43
28							.89		.79
29							.90		.80
30							.64		.41
31								.76	.57
32								.65	.42
33								.75	.56
34								.35	.12

Note. Factor 1 = Strengths and Limitations; Factor 2 = Disability Awareness; Factor 3 = Persistence; Factor 4 = Interacting with Others; Factor 5 = Goal Setting and Attainment; Factor 6 = Employment; Factor 7 = Student Involvement in the IEP; Factor 8 = Support Community.

Table 3

Factor Correlations for TAGG-P for Study 1

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
Factor 1	-							
Factor 2	.79	-						
Factor 3	.68	.71	-					
Factor 4	.58	.71	.72	-				
Factor 5	.48	.51	.51	.43	-			
Factor 6	.46	.55	.35	.37	.40	-		
Factor 7	.87	.71	.55	.54	.49	.43	-	
Factor 8	.47	.57	.72	.68	.56	.24	.45	-

Note. Factor 1 = Strengths and Limitations; Factor 2 = Disability Awareness; Factor 3 = Persistence; Factor 4 = Interacting with Others; Factor 5 = Goal Setting and Attainment; Factor 6 = Employment; Factor 7 = Student Involvement in the IEP; Factor 8 = Support Community.

Table 4

Factor Loadings and R² for TAGG-P for Study 2

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	R ²
1	.72								.52
2	.75								.56
3	.79								.63
4	.76								.57
5		.69							.48
6		.84							.71
7		.65							.42
8		.59							.35
9			.80						.64
10			.91						.82
11			.90						.81
12			.90						.82
13			.81						.65
14				.80					.64
15				.59					.35
16				.77					.60
17					.75				.57
18					.88				.78
19					.93				.87
20					.88				.78
21					.86				.74
22					.33				.11
23						.78			.60
24						.99			.98
25						---			---
26						.38			.14
27							.70		.49
28							.90		.81
29							.90		.81
30							.63		.39
31								.74	.54
32								.60	.36
33								.72	.52
34								.32	.11

Note. Factor 1 = Strengths and Limitations; Factor 2 = Disability Awareness; Factor 3 = Persistence; Factor 4 = Interacting with Others; Factor 5 = Goal Setting and Attainment; Factor 6 = Employment; Factor 7 = Student Involvement in the IEP; Factor 8 = Support Community.

Table 5

Factor Correlations for TAGG-P for Study 2

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
Factor 1	---							
Factor 2	.85	---						
Factor 3	.51	.55	---					
Factor 4	.48	.48	.68	---				
Factor 5	.64	.66	.74	.56	---			
Factor 6	.50	.46	.41	.46	.51	---		
Factor 7	.45	.46	.41	.29	.56	.42	---	
Factor 8	.56	.65	.78	.72	.72	.53	.43	---

Note. Factor 1 = Strengths and Limitations; Factor 2 = Disability Awareness; Factor 3 = Persistence; Factor 4 = Interacting with Others; Factor 5 = Goal Setting and Attainment; Factor 6 = Employment; Factor 7 = Student Involvement in the IEP; Factor 8 = Support Community.

Table 6

Demographic Information for Family Participants

	Study 1	Study 2
Sample Size	271	229
Average Age	45 (8.6)	43 (11.3)
Family Respondent		
% Mother/stepmother	80.0	78.0
% Father/stepfather	11.0	11.0
% Grandparent	3.7	5.7
% Legal guardian	2.6	0.9
% Lived with student	97.8	97.8
Family Education		
% No H.S. diploma	14.0	9.2
% H.S. education only	45.0	37.1
% Greater than H.S. education	38.0	51.5
% Had help with forms	0.9	6.6
Racial/Ethnic Categories		
% Caucasian	68.0	75.1
% African American	10.0	8.3
% Hispanic	6.0	5.2
% American Indian	3.0	10.9

Note. Standard deviations are given in parentheses.

Table 7

Factor Loadings and R² for TAGG-F for Study 1

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	R ²
1	.82								.68
2	.65								.43
3	.86								.74
4	.60								.36
5		.91							.84
6		.86							.73
7		.62							.39
8		.53							.28
9			.70						.49
10			.87						.76
11			.87						.75
12			.82						.67
13			.82						.68
14				.66					.43
15				.43					.19
16				.58					.34
17					.77				.59
18					.81				.65
19					.84				.70
20					.80				.64
21					.85				.73
22					.28				.08
23						.82			.67
24						.85			.72
25						.17			.03
26						.25			.06
27							.76		.57
28							.87		.76
29							.85		.73
30							.56		.32
31								48	.23
32								46	.22
33								61	.38
34								53	.28

Note. Factor 1 = Strengths and Limitations; Factor 2 = Disability Awareness; Factor 3 = Persistence; Factor 4 = Interacting with Others; Factor 5 = Goal Setting and Attainment; Factor 6 = Employment; Factor 7 = Student Involvement in the IEP; Factor 8 = Support Community.

Table 8

Factor Correlations for TAGG-F for Study 1

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
Factor 1	-							
Factor 2	.50	-						
Factor 3	.58	.90	-					
Factor 4	.43	.84	.84	-				
Factor 5	.33	.58	.58	.48	-			
Factor 6	.61	.72	.72	.57	.59	-		
Factor 7	.62	.68	.69	.58	.51	.58	-	
Factor 8	.38	.68	.84	.81	.47	.60	.50	-

Note. Factor 1 = Strengths and Limitations; Factor 2 = Disability Awareness; Factor 3 = Persistence; Factor 4 = Interacting with Others; Factor 5 = Goal Setting and Attainment; Factor 6 = Employment; Factor 7 = Student Involvement in the IEP; Factor 8 = Support Community.

Table 9

Factor Loadings and R² for TAGG-F for Study 2

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	R ²
1	.79								.62
2	.68								.46
3	.84								.71
4	.47								.24
5		.84							.71
6		.85							.72
7		.57							.33
8		.56							.31
9			.67						.44
10			.86						.74
11			.88						.78
12			.85						.72
13			.78						.60
14				.60					.36
15				.40					.16
16				.57					.33
17					.77				.59
18					.81				.66
19					.84				.71
20					.80				.64
21					.84				.71
22					.25				.06
23						.73			.53
24						.87			.76
25						.12			.01
26						.23			.05
27							.76		.57
28							.86		.74
29							.87		.75
30							.59		.34
31								.59	.35
32								.50	.25
33								.64	.40
34								.44	.19

Note. Factor 1 = Strengths and Limitations; Factor 2 = Disability Awareness; Factor 3 = Persistence; Factor 4 = Interacting with Others; Factor 5 = Goal Setting and Attainment; Factor 6 = Employment; Factor 7 = Student Involvement in the IEP; Factor 8 = Support Community.

Table 10

Factor Correlations for TAGG-F for Study 2

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
Factor 1	---							
Factor 2	.64	---						
Factor 3	.58	.46	---					
Factor 4	.56	.34	.74	---				
Factor 5	.64	.59	.81	.72	---			
Factor 6	.45	.37	.49	.51	.57	---		
Factor 7	.49	.56	.54	.55	.65	.53	---	
Factor 8	.59	.51	.81	.89	.80	.61	.61	---

Note. Factor 1 = Strengths and Limitations; Factor 2 = Disability Awareness; Factor 3 = Persistence; Factor 4 = Interacting with Others; Factor 5 = Goal Setting and Attainment; Factor 6 = Employment; Factor 7 = Student Involvement in the IEP; Factor 8 = Support Community.

Table 11

Demographic Information for Student Participants

	Study 1	Study 2
Sample Size	349	342
Average Age	17 (1.4)	16 (3.1)
% Female	46.4	43.7
% Eligible for Free/Reduced Lunch	56.0	55.7
Grade Level		
% 9 th grade	12.0	21.0
% 10 th grade	26.0	16.3
% 11 th grade	27.0	25.7
% 12 th grade	35.0	35.6
Racial/Ethnic Categories		
% Caucasian	67.0	70.3
% African American	17.5	11.4
% Hispanic	12.0	11.4
% American Indian	4.0	13.4
% ELL	1.7	2.6
Disability Information		
% LD	61.0	56.6
% ID	12.0	13.1
% OHI	12.0	15.2
% ED	5.0	6.7
% Other disability	12.0	8.4
% Secondary disability	11.5	14.0

Note. Standard deviations are given in parentheses.

Table 12

Factor Loadings and R² for TAGG-S for Study 1

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	R ²
1	.68							.68
2	.39							.43
3	.43							.74
4	.21							.36
5		.69						.84
6		.68						.73
7		.55						.39
8		.30						.28
9			.75					.49
10			.77					.76
11			.67					.75
12			.63					.67
13			.67					.68
14				.52				.43
15				.26				.19
16				.66				.34
17					.62			.59
18					.48			.65
19					.67			.70
20					.48			.64
21					.75			.73
22					.25			.08
23						.85		.67
24						.94		.72
25						.20		.03
26						.08		.06
27							.76	.57
28							.77	.76
29							.84	.73
30							.51	.32
31	.61							.23
32	.46							.22
33	.54							.38
34	.17							.28

Note. Factor 1 = Strengths and Limitations and Support Community; Factor 2 = Disability Awareness; Factor 3 = Persistence; Factor 4 = Interacting with Others; Factor 5 = Goal Setting and Attainment; Factor 6 = Employment; Factor 7 = Student Involvement in the IEP.

Table 13

Factor Correlations for TAGG-S for Study 1

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Factor 1	-						
Factor 2	.50	-					
Factor 3	.46	.79	-				
Factor 4	.32	.82	.83	-			
Factor 5	.00	.40	.54	.54	-		
Factor 6	.39	.60	.58	.48	.27	-	
Factor 7	.15	.58	.57	.73	.67	.39	-

Note. Factor 1 = Strengths and Limitations and Support Community; Factor 2 = Disability Awareness; Factor 3 = Persistence; Factor 4 = Interacting with Others; Factor 5 = Goal Setting and Attainment; Factor 6 = Employment; Factor 7 = Student Involvement in the IEP.

Table 14

Factor Loadings and R² for TAGG-S for Study 2

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	R ²
1	.60							.36
2	.42							.18
3	.38							.14
4	.21							.04
5		.65						.43
6		.68						.46
7		.45						.21
8		.35						.13
9			.72					.51
10			.74					.55
11			.64					.41
12			.63					.40
13			.69					.47
14				.50				.25
15				.25				.06
16				.64				.41
17					.56			.43
18					.44			.20
19					.61			.37
20					.47			.22
21					.73			.54
22					.20			.04
23						.84		.70
24						.91		.83
25						.10		.01
26						---		---
27							.71	.50
28							.77	.60
29							.80	.65
30							.48	.23
31	.62							.38
32	.49							.24
33	.53							.28
34	.06							.00

Note. Factor 1 = Strengths and Limitations and Support Community; Factor 2 = Disability Awareness; Factor 3 = Persistence; Factor 4 = Interacting with Others; Factor 5 = Goal Setting and Attainment; Factor 6 = Employment; Factor 7 = Student Involvement in the IEP.

Table 15

Factor Correlations for TAGG-S for Study 2

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Factor 1	---						
Factor 2	.38	---					
Factor 3	.84	.21	---				
Factor 4	.75	.13	.77	---			
Factor 5	.81	.41	.82	.63	---		
Factor 6	.65	-.04	.60	.69	.44	---	
Factor 7	.46	.46	.34	.34	.50	.21	---

Note. Factor 1 = Strengths and Limitations and Support Community; Factor 2 = Disability Awareness; Factor 3 = Persistence; Factor 4 = Interacting with Others; Factor 5 = Goal Setting and Attainment; Factor 6 = Employment; Factor 7 = Student Involvement in the IEP.

Table 16

Reliability Coefficients (α) for Three Versions of TAGG for Study 1

Factors	TAGG-P	TAGG-F	TAGG-S
Strengths and Limitations	.85	.81	.64
Disability Awareness	.81	.80	.64
Persistence	.93	.91	.82
Interacting with Others	.77	.52	.44
Goal Setting and Attainment	.90	.88	.73
Employment	.74	.62	.56
Student Involvement in the IEP	.85	.85	.81
Support Community	.68	.60	-
Overall	.95	.94	.89

Note: Cronbach's coefficient alpha internal consistency rating is generally viewed as follows: $\alpha \geq .9$ = excellent, .89 to .8 = good, .79 to .7 = acceptable, .69 to .6 = questionable, .59 to .5 = poor, and .49 and below = unacceptable.

Table 17

Reliability Coefficients (α) for Three Versions of TAGG for Study 2

Factors	TAGG-P	TAGG-F	TAGG-S
Strengths and Limitations	.84	.75	.55
Disability Awareness	.76	.77	.57
Persistence	.94	.90	.82
Interacting with Others	.71	.52	.45
Goal Setting and Attainment	.91	.87	.64
Employment	.72	.50	.55
Student Involvement in the IEP	.87	.85	.75
Support Community	.64	.62	---
Overall	.94	.93	.85

Note: Cronbach's coefficient alpha internal consistency rating is generally viewed as follows: $\alpha \geq .9$ = excellent, .89 to .8 = good, .79 to .7 = acceptable, .69 to .6 = questionable, .59 to .5 = poor, and .49 and below = unacceptable.