
Aligning ACT Tessaera to the Collaborative for Academic, Social, and Emotional Learning (CASEL) Framework

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ACT® Tessaera® is a comprehensive assessment system designed to measure five social and emotional skills (ACT, 2018, 2019). When developing ACT Tessaera, the multitude of existing social and emotional skill frameworks were considered. Due to its many desirable features, the ACT Tessaera development team adopted the Big Five taxonomy, the dominant personality trait model, as the organizing framework. The Big Five framework stems from the lexical hypothesis, which states, “the most important individual differences in human transactions will come to be encoded as single terms in some or all of the world’s languages” (Goldberg, 1993, p. 26). Researchers factor analyzed personal trait-related adjectives identified in the English language dictionary, and this ultimately led to five replicable factors (see de Raad & Mlačić, 2015, for a complete history). The five domains are commonly referred to as extraversion, agreeableness, conscientiousness, emotional stability (the opposite of neuroticism), and openness (see John, Naumann, & Soto, 2008, for full descriptions). A key advantage of the Big Five framework is that it optimizes bandwidth and fidelity (Cronbach & Gleser, 1965); that is, it allows for the summary of a large amount of information while simultaneously allowing for some nuanced individual difference description (Soto & John, 2014). In addition, there are decades of empirical support for the framework including, but not limited to, generalizability across different populations and settings (Marsh, Nagengast, & Morin, 2013; McCrae & Costa, 2003; McCrae, Terraciano, & 78 members of the Personality Profiles of Cultures Project, 2005; Soto & Tackett, 2015) and strong criterion-related validity evidence (e.g., Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007).

The ACT Tessaera skills have been aligned to the Big Five previously (ACT, 2018). Here we present the alignment between the ACT Tessaera skills and the five core social and emotional learning competencies adopted by the Collaborative for Academic, Social, and Emotional Learning (CASEL, 2018). These five competencies are labeled self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. We focus on CASEL’s framework because it receives a lot of attention and is particularly influential in the US (cf. Chernyshenko, Kankaraš, & Drasgow, 2018).

Method

We took a conceptual, face validity approach to aligning the two frameworks. We collected input from five subject matter experts (SMEs), all of whom have extensive knowledge of the two frameworks and are either working towards or have completed a doctoral degree in psychology. The following steps were taken:



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- SMEs were provided 1) the ACT Tessera skill descriptions and the CASEL competency descriptions to ensure they all had the same working definitions and 2) a five-by-five skill-competency matrix (i.e., five ACT Tessera skills by five CASEL competencies; see Figure 1).
- Per instructions provided to them, in the event of any clear overlap in the precise language or semantics between any ACT Tessera skill description and CASEL competency description, SMEs would highlight that cell in the matrix. In the event that there was not clear overlap in precise language, SMEs would call on their knowledge of ACT Tessera skills and Big Five traits to determine whether there was conceptual overlap. This was done independently. Note that no expectations were given regarding whether a rater needed to identify overlap (i.e., it was possible for a rater to conclude there was no overlap) or how many skills could overlap with a single competency or vice versa.
- We compiled the SME matrices and noted when there was perfect agreement (i.e., all five did or did not highlight the same cell). In the event that there was not perfect agreement, a discussion among the SMEs ensued to determine whether consensus could be reached as to whether or not the construct overlap warranted inclusion in the alignment.

Results

With 100% agreement, the SMEs identified two Tessera skills that align with each CASEL competency. In the five-by-five skill-competency matrix, there were four instances where one or two raters identified overlap. After discussions among the five SMEs, they reached consensus that overlap in these four instances was insufficient to warrant identification in the alignment. See Figure 1 which provides a brief summary of the alignment.

Figure 1. Summary of Alignment between ACT Tessera Skill and CASEL Competency Frameworks

		ACT Tessera Skill (Big Five Counterpart)				
						
CASEL Competency		Grit (Conscientiousness)	Teamwork (Agreeableness)	Curiosity (Openness)	Resilience (Emotional Stability)	Leadership (Extraversion)
Self-Awareness					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Self-Management	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	
Social Awareness			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Relationship Skills			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
Responsible Decision-Making	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			

In Table 1, we provide a detailed account of the alignment. We provide the ACT Tessera skill name (and corresponding Big Five trait) and its description and provide some behavioral examples typical of someone with a high level of that skill. We also note which CASEL competencies are reflected in each of the ACT Tessera skills and specifically note which aspects of the competencies align with each skill.

Table 1. Details of Alignment between ACT Tessa Skill and CASEL Competency Frameworks

ACT Tessa Skill (Big Five Counterpart)	ACT Tessa Skill Description	Behavioral Examples	CASEL Comparison
Grit (Conscientiousness)	Reflects the extent to which a student's actions demonstrate persistence, goal striving, reliability, dependability, and attention to detail at school	Attempts challenging things and keeps trying even when things get difficult; checks to see if he/she is meeting goals; seeks out and responds to teachers' feedback	Self-management: effectively motivating oneself; ability to set and work toward personal and academic goals; impulse control; self-discipline; organizational skills Responsible decision-making: ability to make constructive choices about personal behavior and social interactions based on safety concerns and social norms
Teamwork (Agreeableness)	Reflects the extent to which a student's actions demonstrate collaboration, empathy, helpfulness, trust, and trustworthiness	Shows compassion and empathy when others are feeling sad, frustrated, or angry; acknowledges and shows consideration for other students' feeling, opinions, and perspectives; helps and supports others when doing group work	Social awareness: ability to take the perspective of and empathize with others; respect for others Relationship skills: ability to cooperate with others and offer help; teamwork Responsible decision-making: ability to make constructive choices about personal behavior and social interactions based on ethical standards; consideration of the well-being of others
Resilience (Emotional Stability)	Reflects the extent to which a student's actions demonstrate stress management, emotional regulation, a positive response to setbacks, and poise	Recognizes feelings of stress and takes steps to reduce them; doesn't worry much about things that have happened in the past; doesn't worry much about upcoming events that are out of his/her control	Self-awareness: ability to accurately recognize one's own emotions and how they influence behavior; self-confidence Self-management: ability to successfully regulate one's emotions; effectively managing stress and controlling impulses
Curiosity (Openness)	Reflects the extent to which a student's actions demonstrate creativity, inquisitiveness, flexibility, open mindedness, and embracing diversity	Attempts to be creative on school projects; tries to think of new or different ways to solve problems; is willing to consider others' points of view	Social awareness: ability to take the perspective of others including those from diverse backgrounds and cultures; appreciating diversity
Leadership (Extraversion)	Reflects the extent to which a student's actions demonstrate assertiveness, influence, optimism, and enthusiasm	Volunteers to be leader even when not asked to do so; expresses positive ideas and opinions; offers encouragement to others	Self-awareness: optimism Relationship skills: resist inappropriate social pressure; social engagement

Note: ACT Tessa skill descriptions are provided by ACT (2019, <http://www.act.org/content/act/en/products-and-services/act-tessa/methodology.html>). CASEL competency descriptions are provided by CASEL (2018, <https://casel.org/core-competencies/>).

The strong agreement among the five SMEs is evidence for the face validity of this conceptual alignment. Moreover, this alignment is highly similar to the alignment between the Big Five and CASEL frameworks presented by the Organisation for Economic Co-operation and Development (OECD; John & De Fruyt, 2015). They aligned agreeableness, conscientiousness, and emotionality stability with the same competencies we aligned teamwork, grit, and resilience, respectively. However, they asserted that the CASEL framework lacks competency areas related to extraversion and openness (i.e., leadership and curiosity in the Tessera framework). Relative to other Tessera skills, we, too, found less CASEL overlap with curiosity but agreed unanimously that there was sufficient continuity between leadership and curiosity, based on Tessera skill definitions, and CASEL competencies to warrant inclusion in the alignment (see Table 1 for details).

Additional empirical steps could be taken to further support this alignment, such as administering ACT Tessera and a CASEL competency-based assessment to a single sample and exploring the statistical associations among the ACT Tessera skills and CASEL competencies. However, in light of what we have presented here, we conclude that the ACT Tessera skill framework has all the advantages of the Big Five personality model, including decades of empirical backing, and simultaneously aligns with CASEL's core competency framework, which is arguably the most influential social and emotional skill framework in the US (Weissberg, Durlak, Domitrovich, & Gullotta, 2015).

References

- ACT. (2018). *ACT® Tessera® technical bulletin*. Iowa City, IA: ACT.
- ACT. (2019). *ACT Tessera methodology*. Retrieved from <http://www.act.org/content/act/en/products-and-services/act-tessera/methodology.html>
- Chernyshenko, O. S., Kankaraš, M., & Drasgow, F. (2018). *Social and emotional skills for student success and well-being: Conceptual framework for the OECD study on social and emotional skills*. OECD Publishing: Paris, France.
- Collaborative for Academic, Social, and Emotional Learning (2018). *Core SEL competencies*. Retrieved from <https://casel.org/core-competencies/>
- Cronbach, L. J., & Gleser, G. C. (1965). *Psychological tests and personnel decisions* (2nd ed.). Urbana, IL: University of Illinois Press.
- de Raad, B., & Mlačić, B. (2015). The lexical foundation of the Big Five-Factor Model. In T. A. Widiger (Ed.), *The Oxford handbook of the Five Factor Model* (pp. 191-216). New York, NY: Oxford University Press.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*, 48(1), 26-34.
- John, O. P., & De Fruyt, F. (2015). *Education and social progress: Framework for the Longitudinal Study of Social and Emotional Skills in Cities*. OECD Publishing: Paris, France.
- John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative Big Five trait taxonomy: History, measurement, and conceptual issues. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (pp. 114-158). New York, NY: Guilford Press.
- Marsh, H. W., Nagengast, B., & Morin, A. J. S. (2013). Measurement invariance of big-five factors over the life span: ESEM tests of gender, age, plasticity, maturity, and la dolce vita effects. *Developmental Psychology*, 49(6), 1194-1218.

- McCrae, R. R., & Costa, P. T., Jr. (2003). *Personality in adulthood: A five-factor theory perspective* (2nd ed.). New York, NY: Guilford Press.
- McCrae, R. R., Terracciano, A., & 78 Members of the Personality Profiles of Cultures Project. (2005). Universal features of personality traits from the observer's perspective: Data from 50 cultures. *Journal of Personality and Social Psychology*, 88(3), 547-561.
- Roberts, B. W., Kuncel, N. R., Shiner, R., Caspi, A., & Goldberg, L. R. (2007). The power of personality: The comparative validity of personality traits, socioeconomic status, and cognitive ability for predicting important life outcomes. *Perspectives on Psychological Science*, 2(4), 313-345.
- Soto, C. J., & John, O. P. (2014). Traits in transition: The structure of parent-reported personality traits from early childhood to early adulthood. *Journal of Personality*, 82(3), 182-199.
- Soto, C. J., & Tackett, J. L. (2015). Personality traits in childhood and adolescence: Structure, development and outcomes. *Current Directions in Psychological Science*, 24(5), 358-362.
- Weissberg, R. P., Durlak, J. A., Domitrovich, C. E., & Gullotta, T. P. (2015). Social and emotional learning: Past, present, and future. In J. A. Durlak, C. E. Domitrovich, R. P. Weissberg, & T. P. Gullotta (Eds.), *Handbook of social and emotional learning: Research and practice* (pp. 3-19). New York, NY: The Guilford Press.

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