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Psychometric Properties of the Santa Clara Brief Compassion Scale

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Abstract The Santa Clara Brief Compassion Scale (SCBCS) is a five-item scale intended to operationalize and measure compassion. Santa Clara University has been administering the SCBCS, along with other demographic questions, to all new entering as well as exiting graduating students for the past decade. Previous research has utilized compassion scores and demographic data collected from these surveys in both between and within-subject designs to examine compassion among these undergraduate students. The purpose of the current study was to examine the reliability and validity of the SCBCS through various psychometric tests utilizing 6,763 responses that have been collected in recent years. Internal reliability, split-half reliability, and test/re-test reliability findings suggest that the SCBCS is a reliable scale. Tests for convergent and divergent validity, as well as a factor analysis, propose that the scale is valid and is appropriate for its intended use of measuring self-reported compassion.

Keywords Compassion, Validation, Reliability, Santa Clara

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Contemporary and highly popular religious figures such as Pope Francis and the Dalai Lama have focused a great deal of attention on the role and importance of compassion in religious and spiritual life. Additionally, modern and popular religious writers and scholars have purported that the common denominator of all of the major religious traditions is compassion (e.g., Armstrong, 2006, Smith & Marranca, 2009). Religious, spiritual, and pastoral activities underscore the importance of and interest in compassion development and expression yet little effort has been made to adequately operationally define and measure this important and highly desirable quality.

Compassion has been defined by Lazarus (1991) as "being moved by another's suffering and wanting to help" (p. 289). However, compassion is not only categorized by a sense of wanting to help, but also through pro-social behaviors such as volunteering one's efforts to help people in need or using one's talents to have a positive effect on the world to lessen another's suffering (Peterson & Seligman 2004; Plante, 2015; Rashedi, Plante, & Callister, 2015; Seligman 2002).

There has been very little research on cultivating compassion in educational environments, specifically among undergraduate college students (Lovette-Colyer, 2013; Callister & Plante, 2015). In order to further encourage and enhance compassion research among college students, several universities have begun to assess compassion and several have being utilizing the Santa Clara Brief Compassion Scale (SCBCS) to do so. In several recent investigations, the SCBCS has been used to assess changes in compassion scores from students who enter the university as first-years (or transfers) and before they graduate as seniors (Callister & Plante, 2015; Plante & Halman, in press).

The SCBCS is a five-item scale intended to operationalize and measure compassion associated with pro-social feelings and behaviors (Hwang, Plante, & Lackey, 2008). The scale was developed from and largely influenced by Sprecher and Fehr's *Compassionate Love Scale*, a 21 statement scale that assesses altruistic love among various targets. The SCBCS was developed through measuring different aspects of compassion including general tender feelings towards others, empathy, and compassionate love, which is defined as an altruistic love towards all of humanity (Sprecher & Fehr, 2005).

Callister and Plante (2015) used four years of data collected from these surveys in order to determine if any demographic factors had an influence on compassion scores. Some key findings include women having higher compassion scores than men, students majoring in social science and natural science having higher compassion scores than students in the school of engineering, and students who have participated in community-based learning experiences having higher compassion scores than those who have not has these service learning experiences.

During recent years, the amount of survey responses has increased to over 6,000. A recent study by Plante and Halman (in press) used a sample of 491 college students in a within-subjects longitudinal design to examine any changes in compassion among students during their four years in college. These results were consistent with the earlier study by Callister and Plante (2015) and included that women had higher compassion scores than men, students majoring in social science and natural science had higher compassion scores than students in the school of engineering, and students who were required to take more community based service learning courses and assignments also had higher scores of compassion. Santa Clara University, as a private Jesuit, Catholic, university located in the Silicon Valley area of northern California encourages community based learning experiences associated with course work in all academic

departments and majors in their efforts to help students understand and appreciate social justice concerns within the community. Some fields of study, especially those in the social sciences, often offer more classes that integrate community service learning, which could then influence later compassion scores. Overall, the Plante and Halman study revealed that a student's compassion score generally increase during their time at this college.

The purpose of the present study was to examine the reliability and validity of the SCBCS through various psychometric tests utilizing a sample of 6,763 college students. The study sought to develop more clarity about the psychometrics of the scale by examining the reliability and validity of the instrument. The more reliable and valid the scale is the more confidence research may have in utilizing the instrument. With more confidence in the measurement of compassion clerics, pastoral counselors, and researchers may have a useful tool to evaluate compassion and compassion development among diverse populations.

Method

Participants

The results of 5,012 first year responses and 1,751 senior responses for the Santa Clara Brief Compassion Scale (SCBCS) were utilized in the present data analysis. All participants were undergraduate students at Santa Clara University. The senior sample was comprised of students in the 2011-2013 graduating cohorts, having filled out the first-year responses between the years of 2007 and 2009. Females ($n = 1,098$) made up 62.7% of the sample while males ($n = 608$) made up 34.7%. Some questionnaire failed to report gender ($n = 45$).

The majority of participants identified as Caucasian (59.9%) followed by Asians (19.1%), Mexican/Chicano (9.9%), other race/ethnicity (4.8%), Other Latino (3.9%), African American

(2.9%), Native Hawaiian/Pacific Islander (2.1%), Native American (1.3%), and Puerto Rican (0.2%). Race/ethnicity data was missing for three participants. It is important to note that the sum of the reported percentages exceeds 100% because participants were allowed to identify with multiple racial/ethnic groups on the surveys.

A small majority of the participants were students in the university's business school (29.6%) while 11.3% were students in the engineering school. Of the students within the college of arts and sciences, nearly one-fourth (23%) were majoring in the social sciences, 12.1% were obtaining degrees in mathematics and/or the natural sciences, 16.2% were studying the humanities, and only 1.9% of the participants were majoring in the arts.

Materials

The *Santa Clara Brief Compassion Scale* (SCBCS; Hwang et al., 2008) was utilized to operationalize and measure compassion. The SCBCS is a 5-item measure designed to measure "compassion and its relation to pro-social behaviors" (p. 421). Items on the SCBCS were generated from Sprecher and Fehr's *Compassionate Love Scale* (2005) which seeks to measure altruistic love towards others. Items on the SCBCS are scored on a 7-point scale from 1 being "not at all true of me" to 7 being "very true of me."

The *Santa Clara Brief Compassion Scale* was integrated within two sets of surveys administered by Santa Clara University, one administered prior to first-year's starting their fall quarter and one administered to the same cohort when they several weeks before their college graduation generally four years after the initial administration. The scale was embedded into a much larger questionnaire used to measure demographics and a wide variety of questions about values, beliefs, attitudes, and behaviors. The questionnaire also included questions based on the

participants' behaviors in college, personal values, attitudes, and future personal and professional goals.

Procedure

The research proposal was approved by the university's Institutional Review Board (IRB) and the university's Institutional Research department. Prior to the analysis, all of the personal information of the participants, such as their names and student ID numbers, were removed and replaced by a coded participant ID numbers.

Several steps to measure reliability were taken. First, the inter-correlation between the five items on the SCBCS were measured followed by a split-half reliability test. Test/re-test reliability was then measured using participants that were matched from the first-year survey to the senior survey.

The process for assessing validity included checking for convergent and divergent validity within the study by correlating all the items on both the first-year and senior surveys with the mean scores of the compassion scale included on the survey. Then effect sizes were measured for each significant result found. A factor analysis was also executed to observe if there were any extraneous factors determining the compassion score.

Results

The overall mean level of compassion scored by the SCBCS was 3.30 ($SD = 1.01$) among the senior survey responses and 3.44 ($SD = .95$) among the freshman survey.

The SCBCS was found to have high internal reliability. Pearson correlation coefficients were calculated between the five items on the SCBCS for both surveys (see Tables 1 & 2). All

items on the SCBCS were significantly positively correlated for both the freshman survey (r's ranged from .51 to .845) and the senior survey (r's ranged from .56 to .87).

Table 1. Inter-correlation between items on *Santa Clara Brief Compassion Scale* for Freshman survey

	Question 1	Question 2	Question 3	Question 4	Question 5
Question 1	1	.84**	.60**	.51**	.69**
Question 2	.84**	1	.62**	.53**	.72**
Question 3	.60**	.62**	1	.70**	.66**
Question 4	.51**	.53**	.70**	1	.66**
Question 5	.69**	.72**	.66**	.66**	1

** Correlation is significant at the $p < 0.01$ level (2-tailed)

Table 2. Inter-correlation between items on *Santa Clara Brief Compassion Scale* for Senior survey

	Question 1	Question 2	Question 3	Question 4	Question 5
Question 1	1	.87**	.66**	.56**	.72**
Question 2	.87**	1	.69**	.57**	.76**
Question 3	.66**	.69**	1	.75**	.69**
Question 4	.56**	.57**	.75**	1	.69**
Question 5	.72**	.76**	.69**	.69**	1

** Correlation is significant at the $p < 0.01$ level (2-tailed)

The split-half reliability test also highlighted the SCBCS' high internal reliability. Cronbach Alpha's were found to be .89 for the senior survey and .90 for the freshmen survey.

The SCBCS also had high split-half reliability with the Guttmann split-half coefficients of .85 for the senior survey and .84 for the freshman survey.

Test/re-test reliability was measured in the Plante and Halman study (in press) study where they used participants who completed both the freshman survey and the senior survey ($n =$ 491). Test/re-test analysis found that there was a positive, statistically significant correlation ($r =$ .50, $p < .01$) between participants' freshman scores on the SCBCS and their senior scores.

To examine convergent/divergent validity, correlations were measured with the mean compassion scale scores and all of the test items on both surveys. Notable correlations included a positive correlation with the participant's gender ($r = .23$, $p = .01$, $d = .33$), attending a racial/cultural awareness workshop ($r = .23$, $p = .01$, $d = .31$), wanting to help others in difficulty ($r = .54$, $p = .01$, $d = .21$), and wanting to work for social change ($r = .50$, $p = .01$, $d = .70$) instead of working for high income potential which had a low negative correlation ($r = -.12$, $p = .01$, $d =$ .39). These findings contribute to the SCBCS's convergent and divergent validity by finding expected positive and negative correlations with survey items that would be predicted based on compassion related outcomes. For example, high score on compassion were associated with wanting to work for social change, attending diversity and cultural awareness workshops, and wanting to help others in need.

A factor analysis for both the freshman survey and the senior survey was conducted using a principle components analysis with Varimax rotation. Only 1 factor was extracted in the analysis. For the freshman survey that factor explained 76.84% of the variance and for the senior survey it explained 79.69% of the variance. Correlations between the compassion scale score and the factor ranged from .80 to .88 for the freshmen survey and from .82 to .90 for the senior survey (see Table 3). Thus, the compassion score measures one factor.

Table 3. Item-to-total correlations for the SCBCS

	Item-to-total correlation	
	Freshmen	Senior
Question 1	.86**	.88**
Question 2	.88**	.90**
Question 3	.84**	.87**
Question 4	.80**	.82**
Question 5	.88**	.89**

** Correlation is significant at the $p < 0.01$ level (2-tailed)

Discussion

The SCBCS was designed as a practical, easy to use and score, and a no cost method of measuring compassion that can be used in research, educational, work, and clinical environments. Because of these attributes and benefits, it can easily be distributed and scored in large epidemiological studies and other large organizational settings. In order to have confidence in using the scale, research that examines the psychometric properties of the SCBCS is needed.

Internal reliability, split-half reliability, and test/re-test reliability findings suggest that the SCBCS is a highly reliable scale. The internal reliability properties demonstrate that each item on the scale is strongly correlated with the other items demonstrating consistency. The split-half reliability results demonstrated a high Cronbach alpha and a high Guttmann split-half coefficients for both the freshman and senior student data.

The examination of convergent and divergent validity found that the scale appears to adequately measure compassion and is associated with variables that it should be associated with

(e.g., desire to work for social change) and is unrelated to irrelevant variables as well. For example, compassion scale scores positively correlated with having a tolerance of others with different beliefs ($r = .28$, $p = .01$), having the ability to see the world from someone else's perspective ($r = .29$, $p = .01$) and had no correlation with factors that one would think wouldn't matter such as having a roommate of a different race/ethnicity. A high effect size ($d = .70$) was also found for the correlation between one's compassion scale score and one wanting to pursue a career in social change. The factor analysis procedure revealed that there is only one factor to the scale accounting for most of the variance. Thus, our results shows promise that the compassion scale is both a reliable and valid instrument measuring one variable.

The SCBCS demonstrated positive correlations with gender, in that women tended to score higher than men. These findings are consistent with previous research (Sprecher & Fehr, 2005; Hwang et al., 2008; Callister & Plante, 2015; Plante & Halman, in press), with the mean differences between genders in our current study being similar to the mean difference between genders in earlier studies (Hwang et al., 2008). Although the mean differences were similar, the mean score for both genders were noticeably larger in the 2008 study. One hypothesis for the decrease in means could be attributed to the much larger and more diverse sample in the current study than the original study conducted almost a decade ago. Another hypothesis for this decrease in overall compassion score could be a cultural shift among college students to a more narcissistic and less compassionate community that has been discussed elsewhere (Plante, 2015).

Some of the important limitations of the current study include a large discrepancy between the senior and freshman surveys. Compliance with completing the questionnaire among graduating seniors was an issue relative to the high compliance rates among entering freshman. Another important limitation was the reliance on self-report surveys that could have been

impacted by social desirability bias and other demand characteristics. Lastly, although the SCBCS has been found to have good reliability and validity, it has only been evaluated in particular college environments.

Further research could utilize the SCBCS at other universities with a large, diverse undergraduate student body. Additional research could also utilize populations from non-university organizations such as hospitals, social service organizations, faith groups, and the general population. Measuring and supporting compassion research is important and perhaps especially vital for our society now.

References

Armstrong, K. (2006). *The great transformation: The beginning of our religious traditions*. New York: Anchor.

Callister, E. S., & Plante, T. G. (2015). Does faith that does justice education improve compassion? In T. G. Plante (Ed.). *The psychology of compassion and cruelty: Understanding the emotional, spiritual, and religious influences,* pp. 109-124. Santa Barbara, CA: Praeger/ABC-CLIO.

Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.

Lovette-Colyer, M. (2014). Cultivating compassion: Rhetoric or reality? *Journal of Catholic Higher Education, 33*(2), 129-148.

Hwang, J. Y., Plante, T., & Lackey, K. (2008). The development of the Santa Clara Brief Compassion Scale: An abbreviation of Sprecher and Fehr's Compassionate Love Scale. *Pastoral Psychology, 56*(4), 421-428.

Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification*. New York: Oxford University Press

Plante, T. G. (Ed.). (2015). *The psychology of compassion and cruelty: Understanding the emotional, spiritual, and religious influences.* Santa Barbara, CA: Praeger/ABC-CLIO.

Plante, T. G., & Halman, K. E. Nurturing compassion development among college students: A longitudinal Study. *Journal of College and Character*, in press.

Rashedi, R., Plante, T. G., & Callister, E. S. (2015). Compassion development in higher education. *Journal of Psychology and Theology, 43*(2), 131-139.

Santa Clara University (n.d.). Santa Clara University - University Mission, Vision, and Values Statement. Retrieved on March 3, 2016 at https://www.scu.edu/aboutscu/mission-vision-values/

Seligman, M. E. P. (2002). *Authentic happiness*. New York: Simon & Schuster.

Smith, H., & Marranca, R. (2009). *The world's religions*. New York: HarperOne.

Sprecher, S., & Fehr, B. (2005). Compassionate love for close others and humanity. *Journal of Social and Personal Relationships, 22*, 629–651.