

Self-Compassion of University Business and Social Work Students

Research Article

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Introduction

Self-compassion practices have been found to support well-being across a variety of populations, including among individuals in intellectually and emotionally demanding professional or academic environments. While the positive impact of self-compassion practices on helping professionals and trainees is well supported, the self-compassion practices of professionals and students in other fields are not as well understood (Fulton, 2016; Jennings, 2014; Kotera et al., 2023; Moeini et al., 2019; Patsiopoulous & Buchanan, 2011). There is a particular gap in self-compassion research regarding academic fields, and interdisciplinary research has not been conducted to compare the level of self-compassion of students studying business and social work at a public institution. This interdisciplinary study provides a key contribution by measuring the level of self-compassion of undergraduate and graduate business and social work students at a northeastern comprehensive public university in the United States. We also study the association between self-compassion, gratitude, and demographic variables.

Review of Literature

Defining Self-Compassion

Self-compassion is broadly defined as a sense of self-acceptance that allows for understanding of one's own challenges and mistakes (Kotera & Sheffield, 2020). One of the preeminent scholars of self-compassion, Dr. Kristin Neff, defines self-compassion as a "self-to-self relating that represents a compassionate rather than uncompassionate stance toward the

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self when faced with personal suffering” (Neff et al., 2017, p. 596). Neff describes three primary aspects of self-compassion: self-kindness rather than self-judgment, a sense of common humanity rather than isolation, and mindfulness rather than over-identification with one’s own challenges (Neff et al., 2017, p. 596). Understandings of self-compassion have roots in Buddhist philosophies of loving kindness and compassion toward oneself and others (Barnard & Curry, 2011). Within Buddhist psychology, the experiences of feeling compassion for the self and for others are interconnected (Neff, 2023). In recent years, academic and practice-based approaches to health and well-being have come to embrace a co-mingling of Eastern and Western philosophies. This framework has spurred a focus on self-compassion and related mindfulness interventions (Miller et al., 2020).

Defining Gratitude

Gratitude can be viewed as a positive emotion that contrasts negative reactions i.e., anger, anxiety, and jealousy; and gratitude practice can help people develop a positive mindset that fosters congenial relationships (Voci et al., 2019). Cultivation of gratitude has been documented to result in beneficial outcomes in professional practice and increased satisfaction in university students (Booker & Dunsmore, 2018). Positive relationships between gratitude, happiness, forgiveness, compassion, and higher subjective well-being have also been chronicled (McCullough et al., 2002). Satıcı et al. (2014) further reported that increased gratitude practice helps reduce anger and aggression and increases forgiveness in college students. Increased gratitude in social work students has also been associated with increased self-compassion (Authors, 2022).

Self-Compassion and University Student Well-Being

The demands of higher education can negatively impact students' mental and physical health. University students often face significant stress due to sustained periods of pressure “to meet deadlines and maintain high performance” (Flinchbaugh et al., 2012, p. 192). For graduate students, rates of mental health challenges are six times higher than that of the general population in the United States (Quijada, 2021). A growing body of literature demonstrates the importance of self-compassion practices for the well-being of university students (Booker & Dunsmore, 2018). These findings have been consistent across disciplines and education levels. Self-compassion has been associated with decreased stress and greater satisfaction for social work students coping with a professional challenge (Ying & Han, 2009), decreased depression and anxiety among nursing students (Luo et al., 2019), and negatively associated with depression and burnout among psychology doctoral students (Richardson et al., 2019). In a study focusing on undergraduate students with social anxiety, self-compassion training lowered levels of anticipatory anxiety about an upcoming speaking task (Harwood & Kocovski, 2017).

Although the body of scholarship concerning self-compassion has developed significantly in the past 15 years, the bulk of research has focused on particular populations. The literature review revealed that professionals and trainees in the ‘helping professions’ - social work, counseling, nursing, etc. - appear to be studied more frequently in self-compassion research than those in other fields. In assessing the existing body of research, the authors found several articles studying self-compassion among helping professionals and trainees. Among those articles, about 10 focused on social work students and professionals, specifically. In

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comparison, the authors found a handful of works that researched business students' self-compassion and an additional five that considered business students' mental health and related interventions. Further, the authors found only one study that compared levels of self-compassion between health care (including social work) and business students (Kotera et al., 2022). Despite the current imbalance in self-compassion research, there are nevertheless important comparisons to be drawn between business and social work students.

Comparing Academic Environments of Business and Social Work Education

Both business and social work education are accredited programs that offer rigorous and demanding academic environments. Students balance the responsibilities of their academic courses, internships, jobs, families, and friends. While business and social work education is markedly different fields with distinct challenges, students in both types of program experience significant stress and vulnerability to mental health challenges. For MBA students, stress may arise from “a requirement to undertake long periods of independent study and attend condensed full-day teaching schedules” (Kotera et al., 2019, p. 11). Further, the overarching environment of business school may be profoundly isolating. Citing Peter Fleming (2019), Quijada describes the environment of business school as one with the potential to “lead...to alienation and unhappiness” (Quijada, 2021, p. 22). Social work education can also be significantly stressful and challenging. Ying describes the experiences of adult learners in social work programs as “fostering a deeper, broader understanding of the word and oneself” and identifies the potential for this experience to cause “a disequilibrium as pre-existing views are questioned” (Ying, 2009, p. 310). Further, the fieldwork component of social work education

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can create significant stress and challenges that may cause students to call into question their own competency (Ying & Han, 2009).

Comparing Mental Health of Business and Social Work Students

Both student populations struggle with mental health challenges and well-being within the academic environment. Social work students have been found to be more likely than the general population of university students to suffer from mental health challenges (25% vs. 34%) and 40% reported experiencing suicidal thoughts at some point in their life (Kotera et al., 2019). Further, as clinical practitioners, social workers are at increased risk for “burnout, compassion fatigue, and vicarious traumatization” (Miller et al., 2020, p. 322). Business students also experience high rates of mental health challenges, including “stress, burnout, alcohol use and depression” (Kotera et al., 2018, p. 1134) compared to other student groups.

Although both business students and social work students may experience mental health challenges related to their academic environments, the two populations may have distinct perspectives and coping strategies related to psychological well-being. In a comparative study between UK business students and social work students, business students were found to have higher extrinsic motivation and lower self-compassion than social work students (Kotera et al., 2019). The same study found that among business students “poor mental health...appears to be exacerbated...by negative attitudes toward mental illness, causing help avoidance” (Kotera et al., 2019, pp. 17-18). Where healthcare (including social work) students may have a greater knowledge and acceptance of mental health challenges due to the nature of the field, business students are more likely to struggle with shame related to mental illness

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(Kotera et al., 2022). These differences in perspectives may place business students at a disadvantage in addressing mental health challenges and finding adequate professional and peer support.

Comparing Institutional Responses

Understanding mental health and practicing appropriate self-care is foundational to the field of social work. The National Association of Social Workers (NASW) describes social workers' "ethical responsibility to address impairment or personal challenges that could interfere with professional decision-making and services to clients" (Bloomquist et al., 2016, p. 293). Given the risks of burnout that social work students will face as future practitioners, social work education programs have a responsibility to prepare students for challenges related to mental well-being (Ying, 2009). However, adequate education about self-care may not be consistently available within all social work education programs. Social work students may complete their formal training unprepared to practice the protective self-care necessary to address burnout and compassion fatigue and many social work educators are now advocating for a greater focus on the skillset (Iacono, 2017).

Simola describes coursework or content related to mental health as "absent in business circular" (Simola, 2019, p. 316). In a study on teaching empathy in business education, Murwani and Tohang (2020) note that empathy is rarely taught outside of marketing courses that focus on the importance of understanding consumer needs. However, a study undertaken by the Association of MBAs found that among 2,000 business schools in 104 countries, 37 percent of

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MBA programs surveyed had at least some coursework related to stress management skills (Matthews, 2017).

Institutional strategies for addressing student mental health needs within the academic environment vary between business and social work education programs. It appears that incorporating education on self-care may be more common within the field of social work education. However, the need for institutional support for student mental well-being is consistent between the two fields. Further, it seems that both business and social work education have room to develop consistent best practices in supporting students' well-being in the academic environment.

Comparing Effects of Self-Compassion Among Business and Social Work Students

Self-compassion has been shown to support university students' well-being in a number of significant ways. For students who are living away from family in order to attend university, self-compassion was found to curb periods of homesickness (Terry, et al., 2013). Further, self-compassion practices can support academic achievement and resilience, including students' ability to learn from academic setbacks (Neff, et al., 2005), experience greater emotional flexibility in embarrassing situations (Leery et al., 2007), and improve personal motivation, including motivation to make changes and amends after a mistake (Breines & Chen, 2012).

The impact of self-compassion and self-compassion practices on social work students and business students are markedly similar to other student populations and to one another. Among social work students, self-compassion has been found to support positive mental health outcomes, including reduced stress (Ying & Han, 2009) and decreased depressive and anxiety

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symptoms (Kotera et al., 2019). In a study of UK business students, self-compassion was found to be negatively associated with mental health symptoms.

In addition to supporting improved mental health outcomes, self-compassion has also been found to support the professional well-being of both populations. Due to the emotional intensity of the work, social workers are vulnerable to empathic distress, secondary trauma, and burnout (Figley, 1995; Kim & Stoner, 2008). In a study focused on Masters of Social Work students, self-compassion was shown to have a significant and positive relationship with cultural competence (Gottlieb & Shibusawa, 2020). Among clinical social workers, self-compassion emerged as a 'significant' predictor of professional self-care (Miller et al., 2019). Social workers' self-compassion practices have also been shown to support workers' ability to be present for clients and to help clients promote their own emotional well-being (Miller et al., 2020; Miller et al., 2019; Vishkovich & De George-Walker, 2019). For executive business students, high levels of self-compassion were found to "buffer the outcome of challenge stress" (Rukundo et al., 2020, p. 325). In a study on UK business students' self-compassion, researchers posited that "it may be helpful to integrate self-compassion training into higher education business studies curricula, as it can lead to better self-care and mental health" (Kotera et al., 2019, p. 17).

Although business and social work students may have distinct professional and academic challenges to face, the impact of self-compassion on both groups' personal and professional well-being is significant. Existent research demonstrates that self-compassion can support better mental health outcomes, increase students' ability to manage academic and

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professional stress and play a key role in developing professional competence. Even with the increasing focus on the power of self-compassion in supporting university students, the relationship of self-compassion with gratitude and various demographic variables is limited (Authors, 2022). The purpose of this interdisciplinary research is to measure the level of self-compassion, as measured through self-compassion scale (Neff, 2003) and gratitude questionnaire (McCullough et al., 2002), as well as its association with demographic variables for the business and social work students at a northeastern comprehensive public university in the United States.

Methods

Procedure

This quantitative descriptive research was approved by the university's Office of Research Compliance and the respondents were guaranteed anonymity. A convenient sampling strategy was employed, and the unit of analysis was the students enrolled in the School of Social Work and School of Business. All the students were invited to participate in this web-based survey, and the data was collected online using the Qualtrics Software for five months starting in March 2020. Participation in the study was voluntary and \$5 Amazon gift cards were provided to participants.

Participants

In total 212 responses from undergraduate business administration students (51%) and social work students (49%) were collected. About 28% of social work responses were from graduate students and 21% of respondents were undergraduate social work students. With a

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sample size of 400 business students and 350 social work students, the response rate was 35%.

The participants' demographic profile is summarized in Table 1.

About 81% of the respondents identified as Caucasian. Only 22% of the respondents identified as male, 83% were heterosexual, about 62% were single, and 20% of the respondents shared that they were either married or in a civil union. About 24% lived in urban areas, about 21% lived in rural areas and the remaining lived in suburban areas. Forty-four percent of respondents identified as Democrats, 16% as Republicans, and the remaining identified themselves as Independents. Forty-four percent identified as atheists, 10% as agnostics, and 39% as Christians. Nineteen percent of the respondents identified as having a disability. The participants' demographic profile is summarized in Table 1.

<<Insert Table 1 about here>>

Instruments

We will be using the following two reliable and validated instruments to measure their level of self-compassion as they immerse themselves in their professions: (a) Neff's Self Compassion Scale (SCS, 26 items) and (b) Gratitude Questionnaire (GQ, 6 items). We hope to see how the SC of the students correlates to other independent demographic variables i.e., program of study, age, education level, religiosity, spirituality, and gender.

Statistical Analysis

Two major statistical methods were utilized to extract information from the two survey instruments and the demographic data. The Principal Component Analysis (PCA) and the

exploratory factor analysis (EFA) to extract information from the survey items of the two scales. Three families of linear regression models were then built, and final models in each of the three families were presented to address the association between self-compassion and other variables of interest.

Results

Data Management and Analyzing Survey Instruments

The original survey data have three components: (a) Self Compassion Scale, (b) Gratitude Questionnaire, and (c) Demographics. The three components have different portions of missing values. We split the original data set into three subsets of data and impute the missing values related to the self-compassion and gratitude data based on the survey instrument. After data cleaning and some imputation for a few missing values, we obtained 212 valid observations for various analyses.

Handling Missing Values in the Instrument. The SCS contains 12 variables that are named Q2_1, Q2_2, ..., Q2_12. The GQ contains only 6 variables named Q3_1, Q3_2, ..., Q3_6. There are only a few records that involved missing components. We use the simple imputation to fill the missing component with the mode of the corresponding survey items. Since Likert scales of some items were in reverse order in the design. We transformed them back to the usual order and created a new dataset using the same variable names.

Demographic Variables

The demographic variables had two issues that we needed to contend with missing

values and imbalance categories. A few missing values occurred in the years of education and employment that were imputed using the auxiliary information in the variables of age, the years of education, and the length of employment. The household income variable was not used in the analysis because the reported incomes are not accurate (mixed with both annual and monthly incomes). The major issue of these categorical variables is the imbalance category. Since many demographic variables have an excess number of categories that leads to sparse data. To make the analysis reliable, we reorganized the categories in a meaningful way and redefined a set of new demographic variables. Figure 1 lists the definitions of these demographic variables. We re-coded the demographic variables based on the modification noted in Figure 1 and the modified demographic variables were used in subsequent modeling.

<<Insert Figure 1 about here>>

Reliability Analysis of the Survey Instruments

The two survey instruments were well-established and implemented by many studies. The internal reliability measure Cronbach alpha of the two survey instruments based on our study is reported in Table 2.

<<Insert Table 2 about here>>

Both Cronbach alpha fall into the acceptable range of 0.7-0.8 suggesting that the items in the self-compassion scale and gratitude questionnaire have acceptable internal consistency.

Information Extraction: Principal Component Analysis (PCA)

We performed both principal component analysis (PCA) and exploratory factor analysis (EFA) to extract information from the survey items. Different methods for finding the number

of components/factors to retain in an exploratory principal component or factor analysis were utilized in this analysis. The classical ones are the Kaiser rule, the parallel analysis, and the usual scree test (Franklin et al., 1995). Non-graphical solutions by Raiche et al. (2013) to the Cattell subjective Scree test were also proposed: an acceleration factor (AF) and the index of the optimal coordinate OC. The acceleration factor indicates the turning point of the scree plot. It corresponds to the acceleration of the curve, i.e., the second derivative. The optimal coordinates are the extrapolated coordinates of the previous eigenvalue that allow the observed eigenvalue to go beyond this extrapolation.

Our objective was to aggregate the information into a few principal components that carry as much information as possible, then use simple statistical analysis to characterize the behavior of the resulting PCA or EFA scores and relevant association analyses. Therefore, the standard orthogonal rotation was employed to avoid the potential correlation between the resulting PCA or EFA scores.

Some exploratory analyses indicated that both PCA and EFA give similar results in terms of the proportion of the total variation, hence we went with PCA since PCA's estimation of loading does not assume distribution of normality to define the maximum likelihood objection and this helps reduce the risk of model misspecification.

We started with a correlation plot to see the relevance of the PCA procedure on the Self-Compassion data. Similar to López et. al. (2018), we used the six positive items associated with mindfulness (MD), self-kindness (SK), and the sense of common humanity (CH) to define

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the self-compassion index. We also performed the same analysis on the gratitude survey items.

The number of principal components (PCs) selected for future exploratory analyses is the key issue and is also the first question we needed to address before we moved to any further analysis with the PC scores. Raiche et al.'s (2013) simulation-based test and scree plot indicated that it is sufficient to choose the first principal component for future analysis.

<<Insert Figure 2 about here>>

Figure 2 indicates that it is sufficient to retain the first principal component from the PCA for the subsequent analysis.

Table 3 shows the factor loading associated with the first two principal components corresponding to the two subsets of the surveys.

<<Insert Table 3 about here>>

In the self-compassion analysis, the first PC counts about 40.3% of the total variation and the second PC counts 16.5% of the total variation. We can simply call the first PC score as the *self-compassion index*, denoted by *sc.idx*. Similarly, in the PCA of gratitude, the first PC counts about 51.8% of the total variation and the second PC counts 13.9% of the total variation. We can simply call the first PC score the *gratitude index*, denoted by *gr.idx*. Both indices *sc.idx* and *gr.idx* were used in the various association analyses. Figure 3 depicts that the histogram of the self-compassion index scores is approximately symmetric, and the distribution of the gratitude index is skewed to the left.

<<Insert Figure 3 about here>>

Association Analysis

Three families of linear regression models were built and the final models in each of the three families will be presented to address the association between self-compassion and other variables of interest.

Self-Compassion and Demographics Adjusted by Gratitude

We used the best subset variable selection method to select the top 10 strongest demographic variables including the gratitude index to fit the linear regression model.

<<Insert Table 4 about here>>

We can see from Table 4 that, among the top 10 variables, gratitude index, spirituality, and disability status achieved statistical significance. It turns out that, with the same demographic conditions,

- students with high self-compassion also have a high gratitude index.
- students with a low spirituality level also have a low self-compassion score.
- students with a disability have lower self-compassion scores.

Neighborhood types and household size almost achieve a 10% significance level. We observe that

- students who live in suburbs tend to have lower self-compassion scores.
- students who live in households with three or more members have high self-compassion scores.

Program and gender did not achieve statistical significance. It is worth mentioning that

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- students from social work programs have a higher average self-compassion score than those from business programs.
- female students have a higher average self-compassion score than male students.

<<Insert Figure 4 about here>>

Figure 4 visually displays the above-observed information as well as the patterns for age, political affiliations, and length of professional life using the approach outlined by Golino and Epskamp (2017).

Gratitude Index Versus Demographics Adjusted by Self-Compassion Index

The relationship between gratitude and demographics was assessed using a linear regression model of the gratitude index against demographics adjusted by the self-compassion index. The summarized statistics are given in Table 5.

<<Insert Table 5 about here>>

Four variables in the above model achieved statistical significance: self-compassion index, spirituality level, political affiliation, and gender. Under the same demographics, we observe the following patterns.

- Students who have a high gratitude index tend to have a high average self-compassion index. This confirms the relationship between the two variables in the previous regression model.
- Students with a low spirituality level also have a low gratitude index.
- Democrat students have a low average gratitude score compared to their

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independent and republican counterparts.

- Male students have a lower average gratitude index than female students.

Program type, number of children in the household, religion, and age achieved significance at about 15%. With the same demographics,

- The average gratitude index of social work students is higher than that of business students.
- Households having children tend to have a lower gratitude index than those with no children.
- Students with a religious affiliation have a lower average gratitude index than those who don't have a religious affiliation.
- Elder students tend to have a higher average gratitude index than younger students.

The following Figure 5 shows the observed information from the regression model. One interesting observation is that republican students have a higher average gratitude index than democrats and independent students. This is inconsistent with what was observed in terms of self-compassion.

<<Insert Figure 5 about here>>

Relationship between Self-Compassion and Gratitude

The relationship between self-compassion and gratitude has been verified in the two formal statistical regression models. The next figure shows the clear linear relationship

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between self-compassion and gratitude.

<<Insert Figure 6 about here>>

Discussion

Our findings corroborated the prior studies – self-compassion and gratitude were positively correlated (Authors, 2022; Booker & Dunsmore, 2018; Voci et al., 2019). This is critically important, especially as self-compassion and gratitude-giving are teachable skills (Neff, 2023). Neff purported, “self-compassion is not just a good idea, it is something one can do...it can be learned and practiced” (Neff, 2023, p. 211). Integrating self-compassion-based contemplative practices in business, social work, and general core curriculum, would help boost the well-being of students leading to better self-care and mental health and provide them with tools to become compassionate citizens of the world (Authors, 2022; Kotera et al., 2019; Mahfouz, et al., 2018; Ying, 2009).

Additionally, the following demographic variables achieved statistical significance in the regression models for self-compassion – spirituality, disability, geographic location, and household size. Students identified as having a lower spirituality level also had a lower self-compassion score. Disabled students had a lower self-compassion score, students living in the suburbs tended to have a lower self-compassion score, and students who lived in households with three or more members had a higher level of self-compassion.

Moreover, the following demographic variables achieved statistical significance in the regression models for gratitude giving – spirituality, political affiliation, gender, household size, religious affiliation, age, and program. Students who are male, religious, democrats, households

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having children, or lower spirituality level had lower gratitude index. Older students and social work students had a higher gratitude index than their counterparts.

It is worth noting that even though social work students had a higher average self-compassion score than business students, professional program differences did not achieve statistical significance in this research. Moreover, gender did not achieve statistical significance, even though female students had a higher average self-compassion score than male students.

Conclusion

Self-compassion has been researched and proven to be a significant factor of wellness in the helping professions. Given the ongoing stress experienced by students in the rigorous environment of business schools, as well as the ongoing stresses and demands in post-graduation business employment, there is a need to understand how students can build mental wellness with self-compassion. Self-compassion is a strong area of study within social work education, given its intense and demanding curricula and multifaceted field education experiences. As such, business educators can collaborate with those in social work to increase focus on self-compassion practices and modeling, for the benefit of students and future business leaders.

Limitations and Suggestions for Future Research

This research serves as a foundation for future research that can build on our preliminary findings on the association of demographics with self-compassion and gratitude of university students. However, data for this web-based survey research was completed by students who voluntarily participated in the study, and the resulting sample is not random.

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Secondly, the participating students come from a public university that is characterized as a mid-sized comprehensive four-year institution situated in a metropolitan area in the northeastern United States. The generalization of the findings of this study is appropriate only for universities having similar characteristics to the one in the current study. Moreover, the sample was predominantly White, female, partnered, heterosexual, and not identifying with having a disability. Finally, the demographic variables might not have reached statistical significance in the results due to the small sample size. This research has helped us create new knowledge on the self-compassion of social work students. These results will further the conversations around curriculum analysis of self-compassion content and build self-compassion practices within institutions of higher education. Even though these results are very insightful and provide a starting direction for curriculum development, further investigation is needed at a broader scope to further test these emerging observations.

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Table 1
Demographic Profile of Participants

Demographic Variables	Mean/Percent
Age	Mean = 26.74 years (SD 8.9, 18 - 59 years)
Years of Education	Mean = 16 years (SD 2.6)
Years of Professional Employment	Mean = 6.2 years (SD 7.6, 0 - 35 years)
Major	
Undergraduate Business Administration	51%
Social Work	49%
Bachelors in Social Work	21%

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Masters in Social Work		28%
Gender		
	Male	22%
	Female	75%
	Transgender female	1%
	Gender variant/non-conforming	1%
	Agender	1%
Ethnicity		
	White/European American	81%
	Black/African American	5%
	Asian American	6%
	Biracial	4%
	Latinx/Hispanic American	3%
	American Indian	1%
Marital Status		
	Single	62%
	Married (Civil partnership)	20%
	Cohabiting with a partner	15%
	Divorced	2%
	Widowed	1%
	Separated	
Geographic Location		
	Urban	24%
	Suburban	55%
	Rural	21%
Presence of Disability		
	Yes	19%
	No	81%
Political Affiliation		
	Republican	16%
	Independent	40%
	Democrats	44%
Religions Affiliation		
	Atheist	44%
	Agnostics	10%
	Christian	39%
	Jewish	2%
	Buddhist	1%
	Muslim	1%
	Hindu	1%
	Other	2%
Sexual Orientation		
	Heterosexual	83%
	Bisexual	8%
	Queer/gay/lesbian	4%
	Pansexual	1%
	Questioning	3%
	Asexual	1%
Spiritual Affiliation		
	1 (Not at all Spiritual)	40%
	4	41%
	7 (Very Spiritual)	19%

Table 2

Internal reliability measures and their corresponding 95% confidence intervals.

Instrument	LCI	alpha	UCI
Self-Compassion	0.633	0.7002	0.758

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	0792	141	6652
Gratitude	0.738	0.7866	0.828
	9249	934	283

Table 3

Factor loadings of the first two principal components and the corresponding cumulative proportions of variance explained by the PCs in the PCA analyses

Self-compassion			Gratitude		
Subscales	PC1	PC2	Items	PC1	PC2
MD1	0.414	-0.470	Q3_1	0.450	-0.044

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MD2	0.329	-0.556	Q3_2	0.467	-0.035
CH1	0.363	0.546	Q3_3	0.375	0.538
CH2	0.415	0.397	Q3_4	0.374	-0.489
SK1	0.447	-0.066	Q3_5	0.416	-0.418
SK2	0.466	0.096	Q3_6	0.354	0.542
Cumulative Proportion	0.402	0.567		0.518	0.659

Table 4

Statistics of the significance tests of the linear regression coefficients: self-compassion against demographics adjusted by gratitude index.

	Estimate	Std. Error	t value	P-value
(Intercept)	0.3929667	0.3789044	1.0371130	0.3011060

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Age group: <24	baseline			
Age group: [24,30]	-0.2536078	0.2853333	-0.8888123	0.3753171
Age group: [30 or above]	-0.0163567	0.3496067	-0.0467860	0.9627368
Prof. experience: entry	baseline			
Prof. experience: junior	-0.2016477	0.2915303	-0.6916869	0.4900454
Prof. experience: senior	-0.3351703	0.3609911	-0.9284725	0.3544341
Household size: 1-2	baseline			
Household size: 3+	0.3685568	0.2292640	1.6075648	0.1097230
Gender: female	baseline			
Gender: male	0.3359827	0.2757270	1.2185336	0.2246521
Disability: no	baseline			
Disability: yes	-0.4895000	0.2777946	-1.7620936	0.0797895*
Poli. Affil: independent	baseline			
Poli. Affil: mod. Democrats	-0.1774009	0.2886863	-0.6145110	0.5396713
Poli. Affil: Republican	-0.2024552	0.2883966	-0.7020028	0.4836047
Poli. Affil: strong Democrats	0.3329456	0.3186990	1.0447023	0.2975933
Program: business	baseline			
Program: social work	0.2192850	0.2554585	0.8583975	0.3918405
Neighborhood: rural	baseline			
Neighborhood: suburban	-0.4563993	0.2791656	-1.6348692	0.1038638
Neighborhood: urban	-0.0153606	0.3397518	-0.0452112	0.9639902
Spirituality: high	baseline			
Spirituality: low	-0.5501549	0.2294145	-2.3980822	0.0175269*
Gratitude index	0.2777384	0.0681646	4.0745252	0.0000697*

* Variables are statistically significant at level 10%.

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Table 5

Statistics of the significance tests of the linear regression coefficients: gratitude against demographics adjusted by self-compassion index.

	Estimate	Std. Error	t statistics	P-value
(Intercept)	0.8957641	0.5941073	1.5077481	0.1333819
Age group: <23	baseline			
Age group: [24,30]	0.4562476	0.2919431	1.5627961	0.1198668
Age group: [30,99]	0.3571904	0.3571109	1.0002226	0.3185530
Number of kids: no -kid	baseline			
Number of kids: with-kid	-0.4155868	0.2876402	-1.4448148	0.1502582
Gender: female	baseline			
Gender: male	-0.9315584	0.2820473	-3.3028448	0.0011557*
Marital status: married/partners	baseline			
Marital status: other	0.3549690	0.3679038	0.9648419	0.3359257
Marital status: single	-0.0493897	0.3509846	-0.1407177	0.8882512
Religion: non-religion	baseline			
Religion: religion	-0.6184788	0.4136720	-1.4950947	0.1366506
Sexual orientation: heterosexual	baseline			
Sexual orientation: other	-0.2927963	0.2912073	-1.0054565	0.3160343
Poli. affil: independent	baseline			
Poli. affil: Mod Democrats	-0.5159720	0.2923029	-1.7651961	0.0792360*
Poli. affil: Republican	0.2965943	0.3022141	0.9814046	0.3277179
Poli .affil: Strong Democrats	-0.4023794	0.3332566	-1.2074162	0.2288649
Program: business	baseline			
Program: social work	0.3587515	0.2571647	1.3950261	0.1647365
Spirituality: high	baseline			
Spirituality: low	-0.5846721	0.2456986	-2.3796312	0.0183816*
Self-compassion index	0.3385007	0.0727446	4.6532763	0.0000063*

* indicates variable achieves statistical significance at < 0.1 level.

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```

grp.age = Q8_1: 1 = (3,23], 2 = [24, 30], 3 = [31, 59]
grp.edu = Q8_2: 1=[0,15] associate, 2=[15.5,18.5] bachelor,3=[19,25] adv.deg
grp.empl = Q8_3: 1 = [0,5] entry, 2 = [5.5,10] junior, 3 = [10.5,35] senior
kid.num = Q8_5: 1 = (0) No child, 2 = at least one child
home.size = Q8_6: 1 = (1), 2 = (2), 3 = 3 or more
gender = Q9: 1 = (2) female, 2 = (1,3,5,7) male
race = Q11: 1 = (1) white, 2 = (2,3) other
marital.st = Q13: 1 = (1) single, 2 = (2) married/civil Partner, 3 = other
disability = Q14: 1 = yes, 2 = No
religion = Q15: 1 = 9 (no religion), 2 = (1,2,3,6,7,8,10,11,99) (religion)
Sexual.orient = Q16: 1 = (4) heterosexual, 2 = (1,2,3,5,6,7,10) other
poli.affil = Q17: 1 = (4)ind, 2 = (5,6,7) democrats, 3 = (1,2,3, 99) other
SW.Program = Q18: 1 = (1) business Student, 2 = (2,99) social work students
Urbanity = Q19: 1 = (1) urban, 2 = (2) rural, 3 = (3) suburban
Spirituality = Q20: 1 = (1,2,3) low, 2 = (4) moderate, 3 = (5,6,7) high

```

Figure 1. List of the definitions of the demographic variables.

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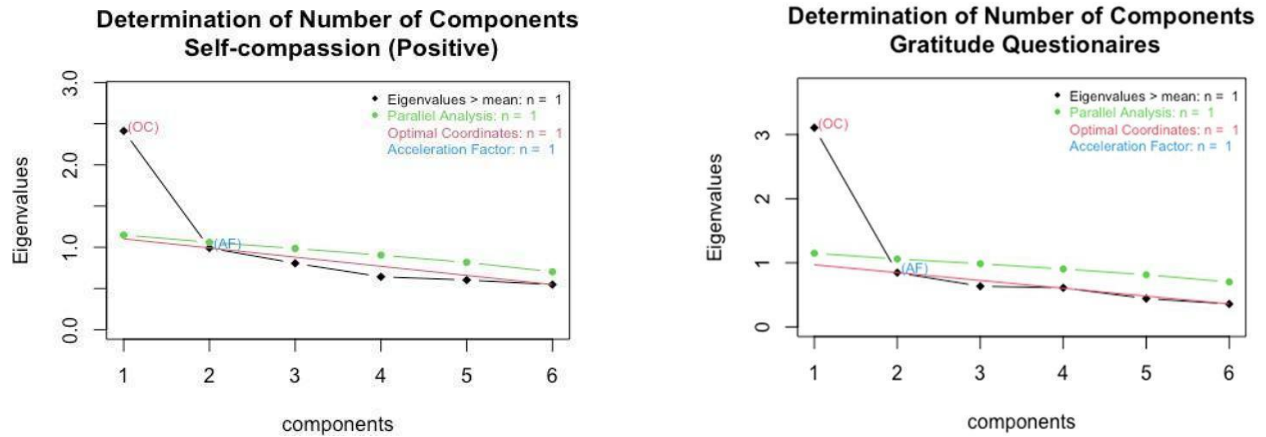


Figure 2. Different methods of identification of the number of principal components to be retained in exploratory analysis: Kaiser's eigenvalue rule, Raiche et al Monte Carlo simulation method (parallel analysis), optimal coordinate (OC) index, and accelerate factor (AF) method.

SELF-COMPASSION OF BUSINESS AND SOCIAL WORK STUDENTS

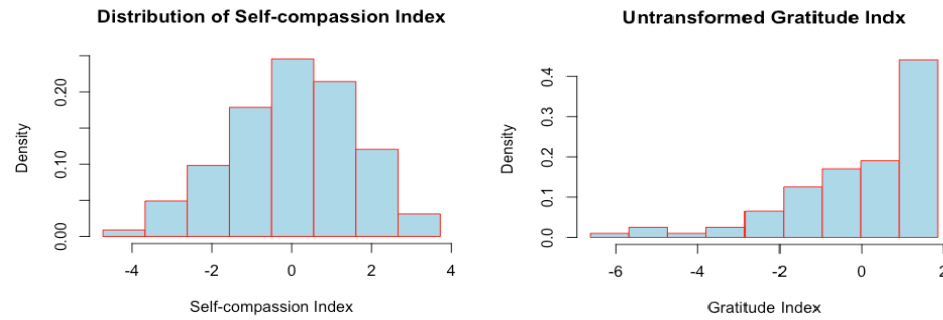


Figure 3. Left panel: the histogram of the self-compassion index scores is approximately symmetric. Right panel: the distribution of the gratitude index is skewed to the left.

SELF-COMPASSION OF BUSINESS AND SOCIAL WORK STUDENTS

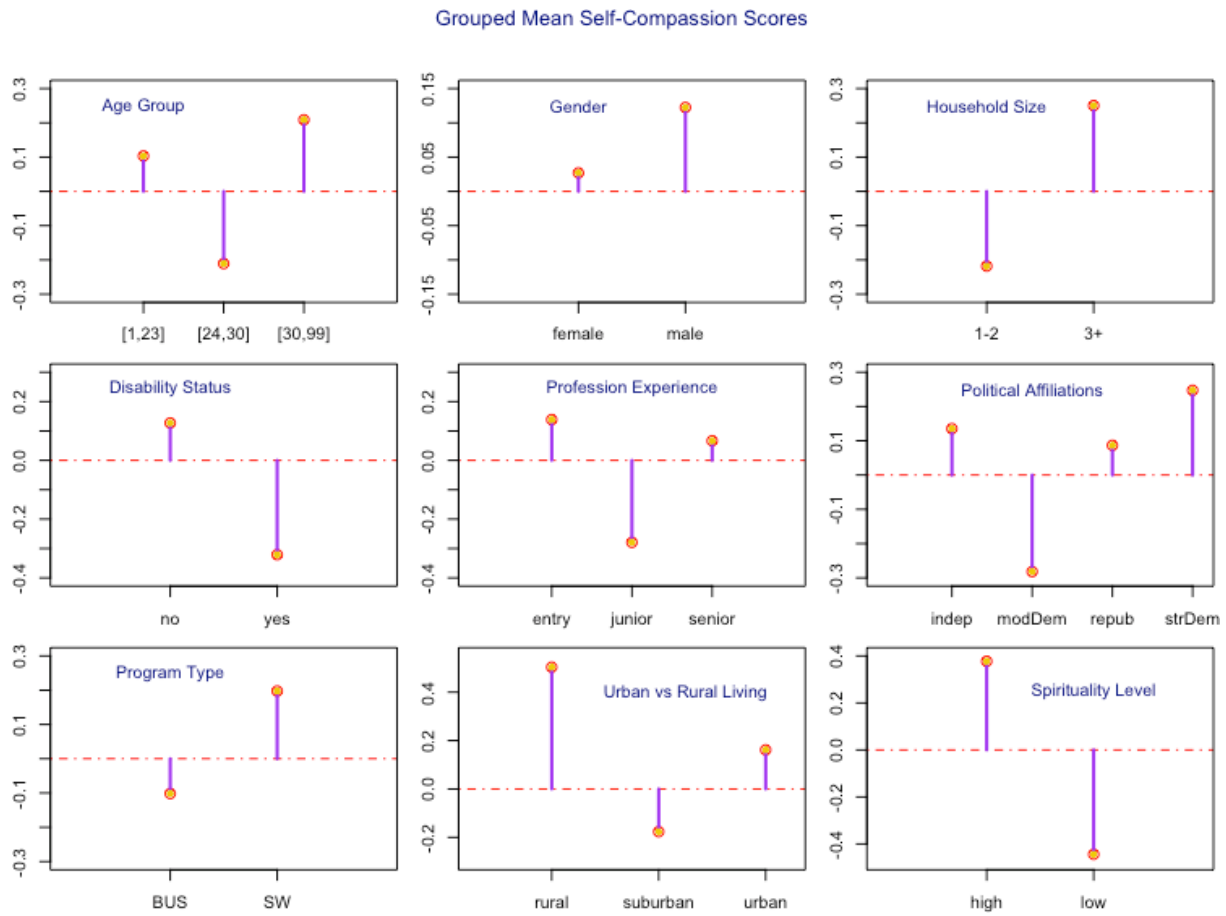


Figure 4. The average self-compassion scores across the categories of the top demographic variables.

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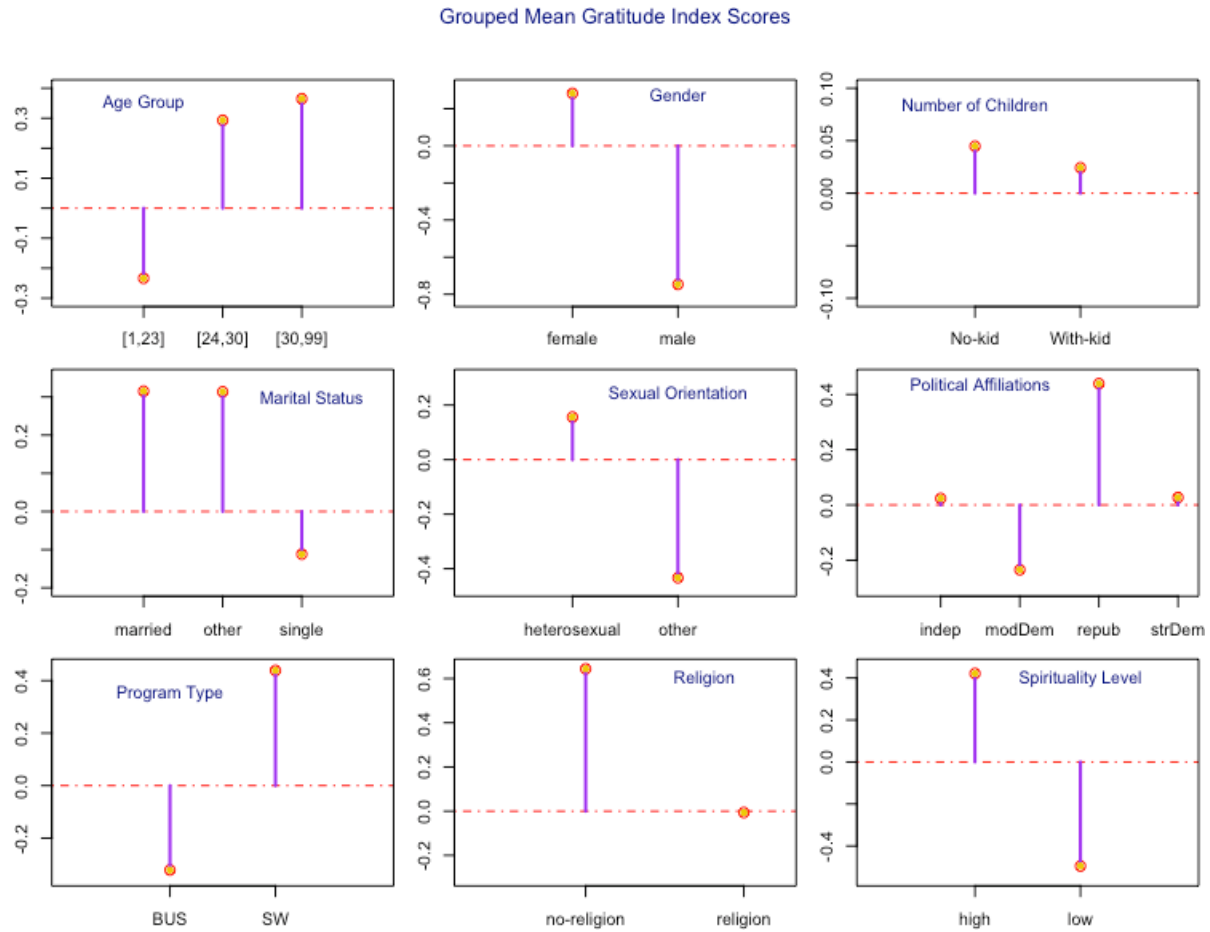


Figure 5. The average gratitude index scores across the categories of the top demographic variables.

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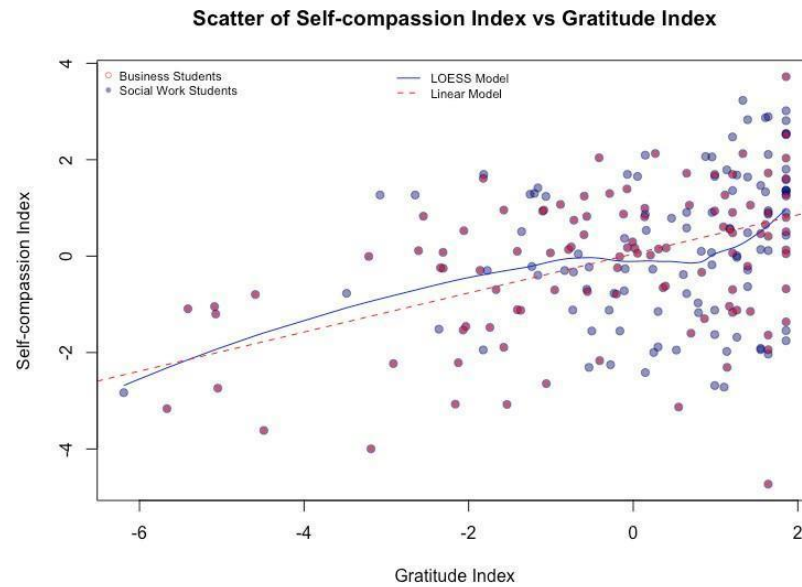


Figure 6. Scatter plot of the relationship between self-compassion and gratitude with fitted linear regression and a smooth regression.