Perceptions matter: faculty caring, campus racial climate and academic performance

Marivic B. Torregosa, Marcus Antonius Ynalvez & Karen H. Morin

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Abstract

Aim. Examine the influence of students’ perception of faculty caring on academic performance and the moderating role of students’ perceptions of campus racial climate.

Background. There is limited knowledge on how students’ perceptions of faculty caring, campus racial climate and academic performance are linked. Understanding this nexus is crucial to improving nursing education.

Design. Secondary analysis of a cross-sectional data obtained from seven undergraduate nursing programs in Texas, USA.

Method. Data were from 385 students enrolled in Medical-Surgical 1 over three semesters (March 2010 - December 2010). Six sets of factor analytic scores derived from 31 original perceptions of faculty caring items served as predictors; one set of scores derived from seven original perceptions of campus racial climate items served as moderating variable in a regression model. Numeric grade was the outcome variable.

Results/findings. Perception of faculty having a positive outlook/compassion had an enhancing effect on performance. As students’ perceptions of campus racial climate became increasingly discriminating, the positive association between perceptions of faculty’s trust in students’ judgment and academic performance became increasingly strong.

Conclusion. Results highlight ways by which students’ perception of micro-level social reality (dyadic interaction) might interact with their perception of meso-level social reality (social environment) to influence their academic performance.

Keywords: academic performance, campus racial climate, faculty caring, nursing education

Why is this research or review needed?

- Our study highlights aspects of faculty caring towards students that are linked to improved academic performance.
- We discuss how student’s perception of the campus climate moderates the relationship between perception of faculty caring and academic performance.
- Our results provide initial evidence to expand Watson’s transpersonal caring theory.

What are the key findings?

- Student perception of faculty caring, specifically faculty having a positive outlook and compassion, enhanced academic performance.
- Campus racial climate does not influence academic performance directly.
- Student perception of campus racial climate moderated the relationship between perceptions of faculty trust towards students’ judgment during clinical training/practicum and academic performance.

How should the findings be used to influence policy/practice/research/education?

- Information about racial disparities may prove helpful in implementing strategies to improve campus racial climate and faculty–student interaction in nursing learning environments.
- The findings provide the foundation for developing and testing of clinical education pedagogies grounded in the caring paradigm.
- The study results highlight ways by which students’ perception of micro-level social reality (dyadic interaction) might interact with their perception of meso-level social reality (social environment) to influence their performance.

Introduction

Caring is the essence of nursing (Watson 1988, Tanner 1990). While most scholarship on nursing caring have been conducted in clinical domains, there is limited information on how caring has an impact on academic success in nursing. Many scholars believe that caring is learned through direct first-hand experience from faculty; and indirectly through role modelling from faculty and staff (Kosowski 1995, Adamski et al. 2009, Drumm & Chase 2010). Understanding the impact of caring on nursing education is not only of value to training systems in the United States, but also to systems elsewhere (Lee-Hsieh et al. 2007, Al-Hussami et al. 2011, Begum & Slavin 2012, Hsiang-Chu et al. 2013).

While we recognize that the efficacy of Watson’s (1996) transpersonal caring model may vary across sociocultural contexts, our focus on nursing students in Texas serves as a starting point to build and to diversify the much needed inventory of cases, experiences and studies that could eventually help calibrate and optimize the synergism between caring and training on academic performance given local contextual factors such as social norms, training practices and values.

Descriptive studies on caring (Hallodorsdottir et al. 1990, Hughes 1993, Hanson & Smith 1996) have provided the groundwork on how and what types of caring are demonstrated in student–faculty relationship. Past studies described some of the positive student outcomes that result from faculty caring: confidence, competence, motivation, feeling of being cared for, growth and empowerment (Hanson & Smith 1996, Shelton 2003, Begum & Slavin 2012). However, what aspects of faculty caring – if any – associate with academic performance remain unclear.

In addition, the role of aspects of the social environment – in this case, campus racial climate – plays in relation to students’ perceptions of faculty caring is virtually unknown. If perceptions of faculty caring impact student outcomes, it is possible that campus climate play a direct (main effect) and a moderating role (interaction effect) in the relationship between perceptions of faculty caring and academic performance.

The social environments where nursing students, peers and faculty interact in the course of nursing school have commonalities regardless of geographical location. These environments are the classrooms, school campuses and clinics and hospitals. Moreover, more students study abroad, either for a part of their home curriculum or to obtain a degree from an institution in another country. Hence, gaining greater understanding about students’ perceptions of faculty caring and campus racial climate on academic performance is relevant both locally and globally. We hypothesize that campus racial climate might be an important factor in students’ overall educational experience.

Watson’s (1996) transpersonal caring theory focuses on the dual humanistic relationship between the ‘carer’ and the ‘one cared for’ (Watson 1996). Watson described this as a union between the ‘carer’ and the ‘one cared for’. In the clinical nursing domain, such a relationship develops when the ‘carer’ (in this context, the nurse) enters into the life space of and feels the conditions of ‘one cared for’ (in this context, the patient). This enables the latter to release thoughts and feelings that are longed to be expressed (Watson 2012).
Watson (2008) proposed 10 carative factors, which includes engaging in genuine teaching and learning in the context of caring relationships in nursing education, as one of the core aspects of the human caring theory. In applying Watson’s theory of transpersonal caring in the context of nursing education, we construe the ‘caree’ to be the faculty; the ‘one cared for’ to be the student (Bevis & Watson 1989, Wade & Kasper 2006). In this context and casting, we argue that experiences of being cared for from faculty could be moderated by other experiences that are part of student life. Student–faculty interactions do not occur in isolation; these interactions are nested in a sociocultural context. It is possible that the social space where student–faculty interactions occur may influence perceptions of caring and student’s academic performance.

Obtaining a deeper understanding of the direct and the moderating role of campus climates on student–faculty relationships and academic performance could expand the caring paradigm of nursing education. Furthermore, a deeper understanding of how campus racial climate interact with faculty–student relationship has the potential to expand Watson’s theory of transpersonal caring in nursing education. Our findings can be used to lay the foundation for the development of institutional policies and identification of clinical education and training pedagogies based on a caring model in nursing.

Review of relevant literature

Faculty caring

The caring paradigm is a shift and separation from the behaviourist model of teaching (Bevis & Watson 1989). This paradigm views students as whole beings; students are the centre of the educative enterprise (Watson 2006). The teaching and learning process is not merely a cognitive process but also a relational, inter-subjective, human process (Watson 1989, 2006). A caring environment for learning encourages open dialogue, reflection, debate and multiple ways of learning (Touhy & Boykin 2008). The learner is actively engaged in the learning process (Bevis 1989). Faculty are not simply giving out information; they become their best selves when they consider the point of views of students (Watson 2006).

There is a plethora of studies on the role of caring in nursing education. Review of studies conducted in the USA and in other countries indicates that caring can be learned when it is taught in the curriculum (Lee-Hsieh et al. 2004, 2007, Glombicki & Dunn 2010, Mlinar 2010, Diener & Hobbs 2012). There is consensus that caring is learned through role modelling from faculty and peers (Kosowski 1995, Gabbert 2008, Begum & Slavin 2012). Students need to experience caring first-hand and at the level of action and interaction to facilitate socialization and internalization of caring attitudes and behaviours (Lee-Hsieh et al. 2007, Drumm & Chase 2010). Caring has to be experienced first so one can learn how to care for others (Kosowski 1995, Adamski et al. 2009, Begum & Slavin 2012). Many argue that students who never experienced caring in nursing education are unlikely to recognize the healing effects that caring brings to nursing practice (Dillon & Stines 1996, Diener & Hobbs 2012).

Qualitative research findings from various countries describe caring–student–faculty relationships and the positive psychological outcomes from such relationships (Hanson & Smith 1996, Shelton 2003, Mlinar 2010, Begum & Slavin 2012, Nadeau 2014). Begum and Slavin (2012) describe them as faculty assuming a parenting role. Others have described these relationships in terms of psychological and instrumental support (Shelton 2003), presence, respect and connectedness with students (Touhy & Boykin 2008, Drumm & Chase 2010).


Conversely, uncaring behaviours from faculty have been associated with negative student outcomes such as diminished sense of self-confidence and self-esteem (Hughes 1992), feelings of fear, despair and helplessness (Hallsdórsdóttir et al. 1990). Uncaring attitudes of faculty contribute to student anxiety (Cook 2005), intimidation, rejection and uncertainty (Hallsdórsdóttir et al. 1990, Hanson & Smith 1996, Taxis 2006). While previous findings on caring in the nursing education context from numerous countries describe the positive psychological outcomes of faculty caring, there is little discussion about specific caring domains that translate into improved student academic performance. Moreover, it is also not clear whether contextual factors such as the school’s campus racial climate, where student–faculty interactions occur, may impact students’ perceptions of faculty caring and on students’ academic performance.
Campus racial climate


The campus climate where student–faculty interactions occur may influence students’ perceptions of faculty caring and on academic performance. For example, perceptions and experiences of discrimination from the general campus climate are associated with poor academic and social integration to learning environment which could be detrimental to success in their majors (Nora & Cabrera 1996, Hurtado & Carter 1997, Cabrera et al. 1999). Currently, it is not known whether the campus racial climate shapes students’ perceptions of caring from faculty and students’ academic performance (Figure 1). Most studies on campus racial climates were conducted among students who were non-nursing majors and were from the general college population (Cabrera & Nora 1994, Pieterse et al. 2010, Clark et al. 2012, Winograd & Rust 2014). Most studies about student perceptions of racial discrimination in nursing education were derived from qualitative investigations (Villarruel et al. 2001, Sanner et al. 2002, Amaro et al. 2006, Alicea-Planas 2009, Starr 2009). Building a conceptual framework of student academic performance derived from interdisciplinary literature and from investigations in other countries could provide findings that could be transferrable to other disciplines and educational settings.

Correlates of academic performance

There are many factors that can influence academic performance. Hence, student’s age, gender, marital status, ethnicity, entrance grade point average (GPA) and university were used as statistical controls in many studies in nursing and in the social sciences. Many studies indicate students’ age could influence student success (Carney-Crompton & Tan 2002, Auerbach et al. 2007, Bruce et al. 2010). Older students were found to have significantly higher levels of active emotional engagement and commitment to their studies compared with younger students.

Gender may also influence students’ academic performance. Male students’ dissatisfaction in the nursing program has been reported (Bruce et al. 2010, Altmiller 2012). Male nursing students found themselves mostly assigned to tasks that require physical exertion (Altmiller 2012). Others report that the lack of gender neutrality in the classroom has made male nursing students feel outsiders to their own learning environment (O’Lynn 2004) and has resulted in feelings of isolation (Patterson & Morin 2002, Meadus & Twomey 2011, Zenobia et al. 2014). Feelings of isolation among male nursing students lead to poor performance on course generated tests and clinical practicums.

Perceptions of campus racial climate and academic performance vary by ethnicity. Past studies reported differential perceptions of campus racial climate between students from under represented populations and White students (Hurtado 1992, Cabrera & Nora 1994, Nora & Cabrera 1996, Fischer 2010). Other reports also indicate the differential effect of ethnicity on academic achievement (Johnson et al. 2007, Fischer 2010).

Conflicting reports exist regarding the role of marital status on student success. While some nursing studies describe being married as barriers to academic success (Villarruel et al. 2001, Amaro et al. 2006), other reports indicate otherwise (Bond et al. 2008, Cason et al. 2008). Finally, nursing schools may differ in entrance GPA requirements and diversity in the student body and is a strong predictor of success in college (Torregosa et al. 2015).

The study

Aims

Aims of this study were to examine: (1) the relationship among students’ perceptions of faculty caring, campus racial climate and academic performance; and (2) the moderating role of campus racial climate on the relationship between perceptions of faculty caring and academic performance.

Design

A secondary data analysis of an original on-line cross-sectional correlational study was performed. The aim of the original study was to examine non-cognitive factors such as
English language acculturation, perceptions of faculty caring, networks, campus racial climate and race and student success (Torregosa 2011).

Sample/participants

Baccalaureate nursing students enrolled in Medical-Surgical 1 course in seven universities in Texas, USA participated in the original study. Four of the seven universities were Hispanic-serving institutions and response rate was at 79%. Data were from a convenience sample of 385 Mexican-American and Non-Hispanic White nursing students. After eliminating missing cases, final sample size was at 327. We refer readers to the original study (Torregosa 2011) on how the final sample size was determined. Based on Tabachnick and Fidell’s (2007) rule of thumb regarding sample size and number of independent variables, \( N \geq 50 + 8(m) \), where \( m \) is the number of predictors, sample size in the original study was deemed sufficient to use for secondary data analysis.

Data collection

In the original study, face-to-face recruitment was conducted in all study locations in the last 4 weeks of the semester for each of three semesters (March 2010–December 2010). Data were collected in three semesters as Medical-Surgical 1 was taught to BSN students at the study locations. Students provided their active email address. A link to the online survey that contained the study questionnaires was sent after recruitment. A $12-gift card was mailed to all participants after responses were received. Institutional Review Board (IRB) approval was obtained for the original and the current study.

Data analysis

A principal component type factor analysis (Field 2009) using varimax rotation was conducted on the 31-item Nursing Students’ Perceptions of Faculty Caring (NSPIC) (Wade & Kasper 2006) and the 7-item Perceptions of Prejudice and Discrimination (PPD) (Nora & Cabrera 1996) (Table 1). NSPIC was used to measure students’ perceptions of faculty caring while the PPD was used to measure students’ perceptions of the campus racial climate. Factor analytic scores were obtained for the NSPIC (Wade & Kasper 2006) and the PPD (Nora & Cabrera 1996).

Factor analysis for NSPIC yielded a Kaiser-Meyer Olkin (KMO) of 0.94, indicating sampling adequacy (Pett et al. 2003). The Bartlett’s test of sphericity was significant (\( \chi^2 (465) = 6788.60, P \leq 0.001 \)) indicating there were sufficiently large correlations among the items. Decision on how many factors to retain was based on eigenvalues greater than 1.00 rule and factor loading greater than the absolute value of 0.65. The 0.65 threshold is higher than that was recommended by Field (2009) and has been used in past investigations (Ynalvez et al. 2014). The resultant six NSPIC factors (NSPIC 1,.., NSPIC 6) were casted as predictors in our normal error regression model. Each of the original NSPIC items was measured on a 6-point Likert scale ranging from ‘strongly disagree’ (1) to ‘strongly agree’ (6) (Table 2).

The factor analysis of the PPD yielded a KMO 0.84 indicating sampling adequacy. The Bartlett’s test of sphericity was significant (\( \chi^2 (21) = 1465.60, P \leq 0.001 \)) indicating items were factorable. Only one factor, ‘non-discriminating/discriminating’ (PPD 1), was extracted from the seven original PPD items (Table 3). Each of the seven original PPD items were measured on a 5-point Likert scale ranging from ‘strongly disagree’ (1)–‘strongly agree’ (5). This factor explained 58% of the variance in campus racial climate. ‘Non-discriminating/discriminating’ was casted as a moderating variable.

Our outcome variable was end of semester Medical-Surgical-1 course grade measured from 0 through 100%. Age, gender, marital status, ethnicity, entrance GPA and university enrolled at served as statistical controls. Age was measured in years; gender was coded (male = 1;
Table 1 Descriptive statistics of the original NSPIC and PPD items \( (n = 327) \).

<table>
<thead>
<tr>
<th>NSPIC items</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shows genuine interest in patients and their care.</td>
<td>380</td>
<td>1</td>
<td>6</td>
<td>5.63</td>
<td>0.80</td>
</tr>
<tr>
<td>Displays kindness to others and me</td>
<td>381</td>
<td>1</td>
<td>6</td>
<td>5.53</td>
<td>0.82</td>
</tr>
<tr>
<td>Instills in me a sense of hopefulness for the future</td>
<td>380</td>
<td>1</td>
<td>6</td>
<td>5.38</td>
<td>0.97</td>
</tr>
<tr>
<td>Makes me feel I can be successful</td>
<td>377</td>
<td>1</td>
<td>6</td>
<td>5.38</td>
<td>0.94</td>
</tr>
<tr>
<td>Helps me envision myself as a professional</td>
<td>377</td>
<td>1</td>
<td>6</td>
<td>5.36</td>
<td>0.99</td>
</tr>
<tr>
<td>Makes me feel like a failure</td>
<td>380</td>
<td>1</td>
<td>6</td>
<td>5.49</td>
<td>1.05</td>
</tr>
<tr>
<td>Does not believe in me</td>
<td>379</td>
<td>1</td>
<td>6</td>
<td>5.58</td>
<td>1.00</td>
</tr>
<tr>
<td>Cares about me as a person</td>
<td>380</td>
<td>1</td>
<td>6</td>
<td>5.12</td>
<td>1.08</td>
</tr>
<tr>
<td>Respects me a unique individual</td>
<td>378</td>
<td>1</td>
<td>6</td>
<td>5.26</td>
<td>0.99</td>
</tr>
<tr>
<td>Is attentive to me when we communicate</td>
<td>376</td>
<td>1</td>
<td>6</td>
<td>5.43</td>
<td>0.94</td>
</tr>
<tr>
<td>Inappropriately discloses personal information about me and others</td>
<td>379</td>
<td>1</td>
<td>6</td>
<td>5.57</td>
<td>1.10</td>
</tr>
<tr>
<td>Does not reveal any of his or her personal side</td>
<td>377</td>
<td>1</td>
<td>6</td>
<td>3.95</td>
<td>1.53</td>
</tr>
<tr>
<td>Acknowledges his or her limitations and mistakes</td>
<td>378</td>
<td>1</td>
<td>6</td>
<td>4.73</td>
<td>1.19</td>
</tr>
<tr>
<td>Makes himself or herself available to me</td>
<td>378</td>
<td>1</td>
<td>6</td>
<td>5.41</td>
<td>0.89</td>
</tr>
<tr>
<td>Clearly communicates his or her expectations</td>
<td>378</td>
<td>1</td>
<td>6</td>
<td>5.34</td>
<td>1.03</td>
</tr>
<tr>
<td>Serves as a trusted resource for personal problem solving</td>
<td>378</td>
<td>1</td>
<td>6</td>
<td>4.88</td>
<td>1.29</td>
</tr>
<tr>
<td>Offers support during stressful times</td>
<td>379</td>
<td>1</td>
<td>6</td>
<td>4.95</td>
<td>1.23</td>
</tr>
<tr>
<td>Accepts my negative feelings, while helping me to see the positive</td>
<td>377</td>
<td>1</td>
<td>6</td>
<td>4.76</td>
<td>1.25</td>
</tr>
<tr>
<td>Discourages independent problem solving</td>
<td>379</td>
<td>1</td>
<td>6</td>
<td>4.93</td>
<td>1.42</td>
</tr>
<tr>
<td>Inspires to me continue my knowledge and skill development</td>
<td>375</td>
<td>1</td>
<td>6</td>
<td>5.35</td>
<td>0.99</td>
</tr>
<tr>
<td>Makes me nervous in the clinical laboratory</td>
<td>377</td>
<td>1</td>
<td>6</td>
<td>3.96</td>
<td>1.65</td>
</tr>
<tr>
<td>Seems caught up in his or her own priorities rather than responding to my needs</td>
<td>378</td>
<td>1</td>
<td>6</td>
<td>5.17</td>
<td>1.30</td>
</tr>
<tr>
<td>Makes demands on my time that interfere with my basic personal needs</td>
<td>379</td>
<td>1</td>
<td>6</td>
<td>4.91</td>
<td>1.38</td>
</tr>
<tr>
<td>Focuses on completion of patient care tasks, rather than the patient’s needs</td>
<td>379</td>
<td>1</td>
<td>6</td>
<td>5.12</td>
<td>1.23</td>
</tr>
</tbody>
</table>

Table 1 (Continued).  

<table>
<thead>
<tr>
<th>PPD items</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helps me find personal meaning in my experiences.</td>
<td>380</td>
<td>1</td>
<td>6</td>
<td>4.83</td>
<td>1.15</td>
</tr>
<tr>
<td>Encourages my to see others’ perspectives about life</td>
<td>376</td>
<td>1</td>
<td>6</td>
<td>4.83</td>
<td>1.17</td>
</tr>
<tr>
<td>Helps me understand the spiritual dimension of life</td>
<td>378</td>
<td>1</td>
<td>6</td>
<td>4.09</td>
<td>1.35</td>
</tr>
<tr>
<td>Is inflexible when faced with unexpected situations (happenings)</td>
<td>376</td>
<td>1</td>
<td>6</td>
<td>4.49</td>
<td>1.74</td>
</tr>
<tr>
<td>Uses grades to maintain control of students</td>
<td>380</td>
<td>1</td>
<td>6</td>
<td>4.49</td>
<td>1.66</td>
</tr>
<tr>
<td>Does not trust in my judgement in the clinical laboratory</td>
<td>377</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>1.24</td>
</tr>
<tr>
<td>Allows me to express my true feelings</td>
<td>379</td>
<td>1</td>
<td>6</td>
<td>4.91</td>
<td>1.21</td>
</tr>
<tr>
<td>Discriminatory words or behaviors towards minority students in the institution</td>
<td>380</td>
<td>1</td>
<td>5</td>
<td>1.63</td>
<td>1.00</td>
</tr>
<tr>
<td>General atmosphere of prejudice among students</td>
<td>380</td>
<td>1</td>
<td>5</td>
<td>1.59</td>
<td>0.84</td>
</tr>
<tr>
<td>Racism is encouraged while attending the institution</td>
<td>380</td>
<td>1</td>
<td>5</td>
<td>1.57</td>
<td>0.91</td>
</tr>
<tr>
<td>Heard negative words about people of my own race</td>
<td>379</td>
<td>1</td>
<td>5</td>
<td>1.67</td>
<td>0.98</td>
</tr>
<tr>
<td>Atmosphere of prejudice among faculty in this institution</td>
<td>376</td>
<td>1</td>
<td>5</td>
<td>1.48</td>
<td>0.79</td>
</tr>
<tr>
<td>Atmosphere of prejudice among academic staff in this institution</td>
<td>379</td>
<td>1</td>
<td>5</td>
<td>1.47</td>
<td>0.78</td>
</tr>
<tr>
<td>Singleed-out in class and treated differently than other students.</td>
<td>379</td>
<td>1</td>
<td>5</td>
<td>1.45</td>
<td>0.85</td>
</tr>
</tbody>
</table>

female = 0). Ethnicity was a dichotomous variable, Mexican-American = 1; non-Hispanic White = 0. Marital status was a binary variable, ever married = 1; not ever married = 0. Entrance GPA was measured on a 0–4 scale; 0 is the lowest and 4 is the highest. The seven study locations were dummy coded generating six dummy variables. University 1 was the reference category.

Validity and reliability

For this study, the Cronbach’s alpha for NSPIC was at 0.94 while that for PPD was at 0.95. The values
obtained indicated that both instruments were internally valid to use for the sample in this study. Wade and Kasper (2006) reported a Cronbach’s alpha of 0.97 when the NSPIC was tested among White senior and junior nursing students. For the PPD, Nora and Cabrera (1996) reported a Cronbach’s alpha of 0.85 and 0.84 for minority and White freshmen college students, respectively, enrolled in a predominantly White doctoral granting institution.

### Results

#### Descriptive results

Average age of the sample was 26 (Table 4). Eighty-five percent of the sample was female. Fifty per cent identified themselves as Mexican-Americans; 31% were married at least once. The average entrance GPA was 3.48. Average grade for Medical-Surgical 1 course was 84%. The descr-
Table 3 Rotated factors of the perceptions of prejudice and discrimination (n = 327).

<table>
<thead>
<tr>
<th>Component Matrix</th>
<th>PPD 1*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discriminatory words or behaviors towards minority students in the institution</td>
<td>0.71</td>
</tr>
<tr>
<td>General atmosphere of prejudice among students</td>
<td>0.73</td>
</tr>
<tr>
<td>Racism is encouraged while attending the institution</td>
<td>0.73</td>
</tr>
<tr>
<td>Heard negative words about people of my own race</td>
<td>0.72</td>
</tr>
<tr>
<td>Atmosphere of prejudice among faculty in this institution</td>
<td>0.88</td>
</tr>
<tr>
<td>Atmosphere of prejudice among academic staff in this institution</td>
<td>0.88</td>
</tr>
<tr>
<td>Singled-out in class and treated differently than other students.</td>
<td>0.65</td>
</tr>
</tbody>
</table>

*PPD 1 non-discriminating/discriminating.

Table 4 Descriptive statistics (n = 327).

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>372</td>
<td>20</td>
<td>60</td>
<td>26.14</td>
<td>7.00</td>
</tr>
<tr>
<td>Male (1 = yes; 0 = no)*</td>
<td>383</td>
<td>0</td>
<td>1</td>
<td>0.15</td>
<td>0.36</td>
</tr>
<tr>
<td>Mexican-American (1 = yes; 0 = no)</td>
<td>327</td>
<td>0</td>
<td>1</td>
<td>0.30</td>
<td>0.50</td>
</tr>
<tr>
<td>Evermarried (1 = yes; 0 = no)</td>
<td>382</td>
<td>0</td>
<td>1</td>
<td>0.31</td>
<td>0.46</td>
</tr>
<tr>
<td>Entrance GPA (0-4)</td>
<td>383</td>
<td>2.20</td>
<td>4.00</td>
<td>3.48</td>
<td>0.35</td>
</tr>
<tr>
<td>Medical-Surgical 1 course grade (0-100%)</td>
<td>356</td>
<td>62</td>
<td>100</td>
<td>84.35</td>
<td>7.18</td>
</tr>
</tbody>
</table>

*The mean can be interpreted as proportion for categorical variables.

Tables 3 and 4 provide descriptive statistics for the factor scores on the 31 original NSPIC items. NSPIC 1 represents a perception of faculty–student interaction that ‘is not/is supportive and accepting’. Along this dimension, scores range from -3.65 to 4.32. Low scores indicate a perception of a ‘non-supportive’ interaction, while high scores indicate a perception of a ‘supportive’ interaction with faculty. The mean 0.00 roughly describes the typical perception of students that their interaction with faculty is ‘supportive’.

For the remaining NSPIC factors, similar descriptions hold: NSPIC 2 (does not instil does instil positive outlook and compassion), NSPIC 3 (does not does trust student’s judgment in the clinical laboratory), NSPIC 4 (is not/is encouraging), NSPIC 5 (is not/is emphatically understanding) and NSPIC 6 (is not/is self-disclosing). High scores in NSPIC 2, NSPIC 3, NSPIC 4, NSPIC 5 and NSPIC 6 describe a perception of interaction with faculty that ‘instils a positive outlook and compassion’ ‘is trusting of student’s judgment in the clinical laboratory’, ‘is encouraging’, ‘is emphatically understanding’ and ‘is self-disclosing’ respectively. The converse descriptions apply to low scores on these factors.

PPD 1 represents a perception of campus climate along the dimension of ‘non-discriminating/discriminating’. Along this dimension, factor scores range from -0.82 to 3.79. Low scores indicate a perception of a ‘non-discriminating’ campus environment, while high scores indicate a perception of a ‘discriminating’ campus environment. Because the mean for each of the original items that heavily load on this factor indicated a perceived social environment that was non-discriminating (Table 1), the mean of 0 for PPD 1 roughly describes the typical perception of students that the campus climate was not perceived to be discriminating (Table 5).

Relationship between perceptions of faculty caring and academic performance

From our factor analysis of the 31 original NSPIC items, six factors with eigenvalues greater than 1.00 retained 65.6% of the variance in faculty caring (Table 2). We labelled these factors based on the items that loaded heavily on each. By that we mean, a factor coefficient of greater than the absolute value of 0.65. The factors were labelled as follows: NSPIC 1 (is not/is supportive and accepting), NSPIC 2 (does not does instil a positive outlook and compassion), NSPIC 3 (does not /does trust in student’s...
judgement in the clinical laboratory), NSPIC 4 (is not/ is encouraging), NSPIC 5 (is not/is empathically understanding) and NSPIC 6 (is not/ is self-disclosing). Among the six NSPIC factors NSPIC 2, ‘instilling a positive outlook and compassion’ towards students, had a positive significant effect on students’ academic performance ($B = +1.15; P < 0.01$) (Table 6). In other words, students who perceived faculty to be instilling positive outlook and showing compassion reported high course grades.

**Moderating influence of campus racial climate**

PPD 1 (Non-discriminating/Discriminating) did not show any significant direct association with academic performance ($B = -0.24; P > 0.05$). However, PPD 1 (Non-discriminating/Discriminating) and NPSIC 3, (does not/does trust student’s judgement in the clinical laboratory) exhibited significant positive interaction on academic performance ($B = +0.94; P < 0.01$). Meaning, as perceptions of discrimination of campus racial climate increased, the positive association between perceptions of faculty trust in student’s judgement during clinical practicum and academic performance became stronger.

If campus climate is perceived to be discriminating, the trust shown by faculty to a student goes a long way as to improve that student’s performance. The moderating role of perceptions of discrimination on the relationship between NPSIC 3, ‘perceptions of faculty trust on student’s judgment during clinical laboratory’ and academic performance partially supported our prediction about the mediating role of perceived campus racial climate on the relationship between perception of interaction with faculty and academic performance.

Regarding the control variables, only ever married and entrance GPA had direct positive associations with students’ academic performance. Age, gender and ethnicity were not associated with academic performance. The regression model explained 44% of the variance in academic performance. We recognize the hierarchical structure of the data set we used; that is, students are embedded in universities and institutions. That said we initially ran a two-level hierarchical linear model. However, the intra-class correlation (ICC) was not statistically significant. This meant that the traditional normal error regression would be a better way to model the data.

**Discussion**

One major finding of this study is perception of faculty behaviour relating to exhibiting a positive outlook and compassion towards students was significantly associated with improved academic performance. This lends support to the caring paradigm of nursing education, which purports that teaching and learning is inherently inter-subjective and relational (Bevis & Watson 1989, Watson 2006). This also highlights the significant role that subjective evaluation (perception) plays in predicting academic performance (behaviour).

Connecting our findings to previous literature, they support past studies regarding the enhancing effect of faculty caring construed as instilling compassion and kindness towards students on students outcomes (Beck 1991, Hanson & Smith 1996, Begum & Slavin 2012). Unlike past studies, our results show that such aspect of faculty caring towards students could improve students’ performance. Past studies indicate that students are more likely to interact with

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### Table 6 Regression results for academic performance using six components of NSPIC and One component of PPD, and select control variables ($n = 327$).

<table>
<thead>
<tr>
<th>Variables</th>
<th>$B$</th>
<th>se</th>
<th>Beta</th>
<th>$P$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>58.89</td>
<td>4.26</td>
<td>0.000***</td>
<td>0.0415*</td>
</tr>
<tr>
<td>Univ 2 (1 = yes; 0 = no)</td>
<td>2.87</td>
<td>1.39</td>
<td>0.016</td>
<td>0.0394*</td>
</tr>
<tr>
<td>Univ 3 (1 = yes; 0 = no)</td>
<td>8.85</td>
<td>1.81</td>
<td>0.039</td>
<td>0.000***</td>
</tr>
<tr>
<td>Univ 4 (1 = yes; 0 = no)</td>
<td>8.04</td>
<td>2.01</td>
<td>0.029</td>
<td>0.001***</td>
</tr>
<tr>
<td>Univ 5 (1 = yes; 0 = no)</td>
<td>5.03</td>
<td>1.48</td>
<td>0.030</td>
<td>0.0008**</td>
</tr>
<tr>
<td>Univ 6 (1 = yes; 0 = no)</td>
<td>2.94</td>
<td>1.47</td>
<td>0.015</td>
<td>0.0476*</td>
</tr>
<tr>
<td>Univ 7 (1 = yes; 0 = no)</td>
<td>2.32</td>
<td>1.42</td>
<td>0.011</td>
<td>0.0150</td>
</tr>
<tr>
<td>Age</td>
<td>0.07</td>
<td>0.06</td>
<td>0.007</td>
<td>0.2801</td>
</tr>
<tr>
<td>Male (1 = yes; 0 = no)</td>
<td>0.05</td>
<td>0.08</td>
<td>0.010</td>
<td>0.0584</td>
</tr>
<tr>
<td>Mexican Americans (1 = yes; 0 = no)</td>
<td>-0.02</td>
<td>0.02</td>
<td>0.000</td>
<td>0.9805</td>
</tr>
<tr>
<td>Evermarried (1 = yes; 0 = no)</td>
<td>1.94</td>
<td>0.95</td>
<td>0.13</td>
<td>0.0415*</td>
</tr>
<tr>
<td>Entrance GPA</td>
<td>5.68</td>
<td>1.16</td>
<td>0.30</td>
<td>0.00000***</td>
</tr>
<tr>
<td>NSPIC 1</td>
<td>0.15</td>
<td>0.39</td>
<td>0.02</td>
<td>0.7055</td>
</tr>
<tr>
<td>NSPIC 2</td>
<td>1.15</td>
<td>0.38</td>
<td>0.17</td>
<td>0.0030**</td>
</tr>
<tr>
<td>NSPIC 3</td>
<td>0.47</td>
<td>0.36</td>
<td>0.07</td>
<td>0.2010</td>
</tr>
<tr>
<td>NSPIC 4</td>
<td>0.32</td>
<td>0.38</td>
<td>0.05</td>
<td>0.4024</td>
</tr>
<tr>
<td>NSPIC 5</td>
<td>-0.24</td>
<td>0.40</td>
<td>-0.03</td>
<td>0.5429</td>
</tr>
<tr>
<td>NSPIC 6</td>
<td>-0.27</td>
<td>0.38</td>
<td>-0.04</td>
<td>0.4825</td>
</tr>
<tr>
<td>PPD 1</td>
<td>-0.24</td>
<td>0.43</td>
<td>-0.03</td>
<td>0.5749</td>
</tr>
<tr>
<td>NSPIC1 × PPD 1</td>
<td>0.39</td>
<td>0.36</td>
<td>0.07</td>
<td>0.2903</td>
</tr>
<tr>
<td>NSPIC 2 × PPD 1</td>
<td>0.00</td>
<td>0.29</td>
<td>0.00</td>
<td>0.9876</td>
</tr>
<tr>
<td>NSPIC 3 × PPD 1</td>
<td>0.94</td>
<td>0.36</td>
<td>0.16</td>
<td>0.0096**</td>
</tr>
<tr>
<td>NSPIC 4 × PPD 1</td>
<td>0.37</td>
<td>0.30</td>
<td>0.08</td>
<td>0.2170</td>
</tr>
<tr>
<td>NSPIC 5 × PPD 1</td>
<td>0.56</td>
<td>0.40</td>
<td>0.09</td>
<td>0.1659</td>
</tr>
<tr>
<td>NSPIC 6 × PPD 1</td>
<td>-0.32</td>
<td>0.35</td>
<td>-0.06</td>
<td>0.3650</td>
</tr>
</tbody>
</table>

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$.

NSPIC 1 – Is not/is supportive and accepting; NSPIC 2 – Does not/ does instill positive outlook and compassion; NSPIC 3 – Does not/ does trust student’s judgement in the clinical laboratory; NSPIC 4 – Is not/ is encouraging; NSPIC 5 – Is not/is empathically understanding; NSPCI 6 – Is not/ is self-disclosing; PPD 1 – Non-discriminating/discriminating.

$R^2 = 44\%$. 

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Clinical practicum are students general sources of stress (Haldorsdottir et al. 1990, Hanson & Smith 1996, Gillespie 2002, Begum & Slavin 2012). Faculty who instil a positive outlook and compassion may encourage persistence among students (Dillon & Stines 1996, Shelton 2003). Growth, increased self-knowledge and confidence and empowerment are some of the outcomes from faculty’s positive attitude and compassion towards students (Hughes 1992, MacNeil & Evans 2005).

Another major finding is perceived campus racial climate moderated the influence of perceptions of faculty trust towards student’s judgment in the clinical laboratory on academic performance. More specifically, an increasing perception of an environment being discriminatory conditioned the relationship between students’ perception of faculty’s trust and academic performance to become stronger. In the case of the students in our sample, this means that high academic performance was associated with the perception of faculty trusting students’ judgment in the clinical laboratory. Together, these two major findings highlight ways by which the students’ perception of the micro-level social reality (dyadic interaction) might interact with perception of the meso-level social reality (social environment) to influence students’ performance.

Past studies report that students are often stressed. They experience high anxiety and uncertainty in clinical training (Shipton 2002, Lee 2007, Moridi et al. 2014), presumably a result of working in a new environment and of the expectations and reactions from both faculty, patients and patients’ family members. A chaotic and harsh clinical learning environment could erode students’ self-esteem without faculty support. It is possible that faculty behaviour, that of trusting students’ judgments in an exciting and intense environment, provides students with a sense of confidence as budding nurses in the profession. The expression of trust from faculty towards students during clinical rotation conveys support, encouragement and positive socialization into the nursing profession.

Past studies have indicated that demeaning attitudes of faculty, uncertainty of one’s skills resulting in fear of harming patients, rejection from patients to provide care and tedious preparations of long nursing care plans prior to clinical practicum are students general sources of stress (Shipton 2002, Lee 2007, Moridi et al. 2014). It may be that perceptions of trust from faculty during clinical practicum may help overcome students’ stress and anxiety. The findings from this study suggest that faculty who allow students to make guided clinical decisions during clinical practicum, instead of being too quick in criticizing student performance helps establish a ‘union’ with students. Trust from faculty could be a confidence builder for students which may lead to a sense of belongingness in the nursing profession.

In a way our findings expands Watson’ theory to nursing education by providing initial evidence regarding learning environment conditions and the specific domains of faculty caring that have the most impact on academic performance. Watson’s theory on transpersonal caring has always been conceptualized as a dual relationship between the ‘carer’ and the ‘one cared for’. There is initial evidence that conditions in the learning environment could shape faculty–student interactions and student outcomes in nursing.

Previous studies in higher education indicate that students who experience marginalization may refrain and feel intimidated from seeking help due to fear of rejection, or perceived negative judgment from others about one’s academic ability. In the context of clinical training, faculty would want their students to be forthcoming in seeking help as this will not only protect patient safety but and safeguard faculty’s nursing license. For marginalized students, seeking academic help might serve as validation of others’ stereotypical views. Thus, the best recourse is to not seek help at all (Deil-Amen 2011, Winograd & Rust 2014).

Both entrance GPA and being ever married were found to be positively associated with academic performance. It is possible that marital experience – previous or current – motivated students to become more focused on their studies and improved and developed their time management skills (Salem et al. 2013). The recognition of the importance of future job security, perhaps made salient and impressed by marital experience, could be another motivating factor for these students to perform well scholastically. The findings of our study support past studies about the link between entrance GPA and academic success. It is possible that students who have a high entrance GPA are inherently motivated and already possess academic skills needed to succeed in college (Bean & Kuh 1984). Compared to past studies, age was not associated with academic performance in this study. Perhaps, the life stage (young adults) and age range (21-26) of our respondents may have been already stable and narrow enough so as not to exhibit any meaningful and substantial impact on academic performance. With regard to gender, the differential influence of gender on
academic performance may no longer be significant because enrolment of male students in nursing has increased over the years (National League for Nursing 2013). It may be that the differential treatment that male nursing students experience, as reported in past literature, has steadily diminished with time as more males enrol in nursing programs (or the normalization of male enrolment and visibility in nursing).

Conclusions

Students’ perception of faculty caring has an impact on their academic performance. In particular, our findings indicate that faculty caring perceived as exhibiting a positive outlook and compassion towards students is associated with enhanced performance in highly technical courses such as Medical Surgery I. Our findings also suggest that students’ perception of the overall campus racial climate has the capacity to condition the link between students’ perceptions of faculty caring and academic performance. When that aspect of overall campus social environment – campus racial climate – is perceived by students to be increasingly discriminating, students’ perceptions of trust from faculty towards their judgment in the clinical laboratory have increasingly enhancing effect on students’ academic performance. In other words, it is when campus racial climates are perceived by students to be increasingly discriminating that their perception of trust from faculty steadily increases its enhancing impact on academic performance.

Our findings have important implications on institutional policies relating to ethno-racial diversity on campuses and pedagogical strategies for clinical training. Consideration of campus ethnic and racial disparities can prove helpful in developing strategies to improve campus racial climate and faculty–student interaction in nursing learning environments. Because of transnational job-related (labour) migrations brought about by an increasingly global economy, the diversity and volume of students pursuing and of professionals following health care-related careers are rapidly increasing. That said, our results emphasize the need for health care training (e.g. nursing schools) and service (e.g. hospitals) institutions to be intentional in creating social environments (meso-level) and in providing forums for interpersonal interactions (micro-level) that jointly foster synergistic multicultural engagement at both and across levels. We contend that this two-pronged approach will go a long way to improve performance, not only among health care students but also among health care professionals.

Limitations

Our study is not without limitations and weaknesses. Our measure of campus diversity, choice of study locations, the manner by which we obtained our sample (i.e. convenience sampling) even sample size itself and the time-dimensional aspect of our research (i.e. a cross-sectional study) may have produced unintended distortions in our results. For future studies, we strongly recommend using other measures for campus diversity, using multilevel analysis, employing randomness in the selection of locations and respondents and using longitudinal design to capture trends in attitudinal change.

Data collection was based on participant recall which may have degraded the accuracy of information provided by respondents, while events during the semester (history effect) may have influenced our results’ internal validity. Also, the aetiology of interaction and of perception of interaction might be different from each other although these may be correlated. Using perception of interaction as a proxy for interaction itself may have distorted our results. In regard to our outcome variable, we recognize that course grade is not a standardized metric. That said, schools may vary in grading scales while teachers in their ‘expectations’ and ‘toughness’ in grading. In deriving implications from our results, we caution our readers to be mindful of these limitations.

Acknowledgement

We thank the nursing schools and nursing students who participated in this study.

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Conflict of interest

No conflict of interest has been declared by the author.

Author contributions

All authors have agreed on the final version and meet at least one of the following criteria [recommended by the ICMJE (http://www.icmje.org/recommendations/)]:

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• substantial contributions to conception and design, acquisition of data or analysis and interpretation of data;
• drafting the article or revising it critically for important intellectual content.

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