Life Satisfaction and Student Performance

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Although it seems intuitively obvious that the happy student will be a more productive student, empirical tests of that assumption are curiously sparse. We tested a model that included satisfaction with various life domains, overall life satisfaction, cumulative college GPA, and ratings on an assessment center exercise. Results indicated that overall life satisfaction was a significant predictor of both GPA and assessment center ratings, even with traditional academic achievement predictors controlled (e.g., cognitive aptitude, gender). We discuss implications of the results for future research and educational practice.

Although it is hardly controversial to suggest that student performance in college is a function of many factors within and external to the classroom, the research literature has been slow to validate that intuitive assumption. Indeed, while a rich history of research has been devoted to instructional design and pedagogical strategy and techniques, much less attention has been focused on how broader contextual and attitudinal variables might influence student achievement. Most research concerned with student experiences has focused either on correlates of student satisfaction with the university (Astin, 1993), or on relationships between objective college characteristics and academic performance (Astin, 1993; Kuh & Hu, 1999, 2001; Hu & Kuh, 2003).

The thesis that prompted this research is that overall life satisfaction, not just satisfaction with school or faculty, is an important determinant of academic performance. That thesis was first derived from our own collective experiences. Students with high life satisfaction seemed to show greater resiliency and be less fragile in the face of academic challenges. It was further prompted by our experience with the converse: that is, students’ low levels of life satisfaction seemed to derail their focus and deteriorate their performance in the classroom.

Of interest is that life satisfaction (student or otherwise) has traditionally been viewed as an outcome and not as an antecedent or predictor of other important variables. In research terms, it has been treated almost exclusively as a dependent, rather than independent, variable. A notable exception is the relationship between subjective well-being and supervisor’s rating (but not objective measures) of work performance (Cropanzano & Wright, 1999; Staw, Sutton, & Pelled, 1994; Wright & Cropanzano, 1997, 2000). In addition, Staw and Barsade (1993) studied the effects of students’ well-being on performance on an in-basket exercise; so far as we know, previous re-
search has not examined the relationship between student life satisfaction and more objective measures of academic performance. Beyond these studies, however, the potential consequences of life satisfaction have been almost completely neglected. So, although our thesis is intuitively appealing, little extant empirical evidence exists of relationships between life satisfaction and other important outcome variables, particularly those related to objective measures of performance.

We designed the present study to explore the relationships between various measures of student satisfaction and academic performance. Documented linkages between academic performance and student life satisfaction would suggest a greater need to understand and manage the malleable aspects of such student attitudes. College educators have long assumed that cognitive aptitude and the interaction between faculty and students are the primary, if not exclusive, sources of student performance. But if the high-performing student is also more likely to be a satisfied or “happy” student, there are implications for instructors, administrators, and students. Determining whether students’ overall satisfaction with life is in fact related to their learning, as measured by academic performance, was our central purpose here.

THEORETICAL MODEL AND HYPOTHESES

Our model is based on the “integrated life” perspective (Luthans, 2002; Rice, McFarlin, Hunt, & Near, 1985), which proposes that individual performance is affected by satisfaction in all life domains. We propose that satisfaction levels within specific domains are the antecedents of life satisfaction, and that overall life satisfaction mediates the relationship between domain satisfactions and performance, as seen in Figure 1. The relative salience of these domains differs by population (Andrews & Withey, 1976), and as a result, the specific domains included in our model are empirically derived to accommodate our student sample, as described below. For simplicity we do not explicitly address the indirect (mediated) relationships contained in the model, but we do take these mediated effects into account in our structural equation modeling analysis described below.

Domain Satisfactions and Life Satisfaction

Measures of satisfaction with life domains have been found to be important correlates of overall life satisfaction in multiple studies, together explaining about 50% of the variance in life satisfaction (e.g., Andrews & Withey, 1976; Campbell, Converse, & Rodgers, 1976; Near, Smith, Rice, & Hunt, 1983; Near, Smith, Rice, & Hunt, 1984; Rice, Near, & Hunt, 1979). “Bottom-up” theories of life satisfaction (e.g., Brief, Butcher, George, & Link, 1993) have suggested that life satisfaction represents an overall attitude, composed of components of satisfaction in various domains of life, but that the importance of any one specific life domain to overall life satisfaction varies by population (e.g., Andrews & Withey, 1976).

![FIGURE 1](image_url)

Predicted Path Analytic Model: Domain Satisfactions, Life Satisfaction and Student Performance, Controlling for Cognitive Ability and Demographic Variables
Research has examined a wide variety of domain satisfactions, but individual studies have focused on the domains most pertinent to their population of respondents. The population for our study was university students, so we included a wide variety of satisfaction measures we thought relevant to this population, such as satisfaction with the university, housing, leisure, and family relationships. We did not measure job satisfaction, as this domain would not have applied to our respondents, who were not employed full time.1 In selecting domains for study, our major concern was not in investigating the predictive power of any particular domain satisfaction but in the general question of how satisfaction with a comprehensive set of domains would predict overall life satisfaction in a student population. This has been a common methodological strategy used in earlier research when the goal was to estimate the proportion of variance explained in life satisfaction by an aggregated set of domain satisfactions (e.g., Near et al., 1983, 1984; Rice et al., 1979). Factor analysis of all the domain satisfaction items (described below) used with our study indicated the four domain satisfaction factors depicted in Figure 1. Formally stated, we offer the following hypothesis:

Hypothesis 1: Satisfaction with both academic and nonacademic life domains are positively related to overall student life satisfaction.

Life Satisfaction and Performance

Overall satisfaction with the college experience has been shown to be only weakly related to student performance (Astin, 1993). Results from the National Survey of Student Engagement (N = 158,000) and the College Student Experiences Questionnaire (N = 85,000), two comprehensive national studies of undergraduate students, found modest correlations between GPA and university satisfaction (r = .19, p < .01, in both samples: Kuh, 2004, personal communication). Studies in the management literature examining the relationship between satisfaction with the work domain and job performance have yielded similar results. Most recently a meta-analysis by Judge, Thoresen, Bono, and Patton (2001) found that job satisfaction and job performance are correlated, but overall, the strength of the reported relationships has been disappointing, given the idea’s intuitive appeal.

Previous researchers have argued that the roles of full-time student and full-time worker share many conceptual similarities, such as working on defined tasks within a hierarchical structure, managing multiple assignments, and dealing with variable levels of control and support (Cotton, Poolard, & de Jonge, 2002; Tofi, Fleet, & Timutimu-Thorpe, 1996; Winefield, 1993). In addition, students, like workers, are required to meet deadlines, work independently toward goals, and prioritize conflicting academic (work) and nonacademic (work) demands. Thus, it may be that satisfaction and performance in both the educational and work arenas show similarly weak relationships for the same reasons.

However, an argument can be made that the role of student differs from that of full-time employee in some important aspects including “bosses” who change every 10–16 weeks, “workers” who know they are leaving the organization after a specific period of time, greater flexibility with respect to “worker” preferences, a “flexible” work schedule, “enriched” jobs and nonmonetary rewards. Still, a review of the management literature yields some potentially useful insights with respect to the current study, especially given the current employment trends of greater workplace flexibility and employee empowerment, greater reliance on lateral moves and ad hoc teams, and decreased employee tenure (Pfeffer, 1998).

Various theorists have argued that job satisfaction may not be directly related to job performance because job performance is driven by multiple predictors, including ability, training, motivation, tools, and technologies (Judge et al., 2001). Organ (1988) suggested that a measure of individual performance based on quality and quantity of production is inappropriate, because it ignores the kinds of altruistic or citizenship behaviors in which satisfied workers are more likely to engage, which themselves are more likely to improve overall job performance. Additionally, Staw (1975) argued that the majority of previous research had modeled the relationship incorrectly by assuming that satisfaction predicts performance and ignoring the possibility that performance may be an antecedent of satisfaction. To date, this question of causal direction has not been answered definitively.

Another possibility is that the lack of consistent positive findings is due not to the choice of dependent variable, but to the choice of independent variable: that it is not job satisfaction that predicts

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1 Historically, about a third of the population from which we drew our sample is employed part time in jobs unrelated to their studies (e.g., restaurant work) so that we believed variance would not be sufficient to warrant measuring part-time job satisfaction. The majority of this population is full-time students living in a small college town; very few are employed full time or commute to campus from outside the community.
behavior and performance on the job, nor is it student satisfaction with the university that predicts student performance, but rather overall life satisfaction that influences individual performance. By definition, life satisfaction is a broader variable, that takes into account the myriad pressures across life domains, that may influence individual performance—or more specific to the present study—academic performance.

Our hypothesis regarding the relationship between life satisfaction and student performance is based on emerging research in the management literature. In their review of the literature on happiness and performance, Cropanzano and Wright (2001) described several possible theoretical links between “happiness” and performance. As they note, happiness is thought to have “three defining” characteristics: (a) it represents a “subjective experience”; (b) it “includes both the relative presence of positive emotions and the relative absence of negative emotions”; and (c) it “is a global judgment” (Cropanzano & Wright, 2001: 183). Of the three defining characteristics that Cropanzano and Wright (2001) cite, life satisfaction differs from happiness only in that it may lack an emotional or affective component (e.g., Organ & Near, 1985). In fact, preliminary empirical evidence suggests that life satisfaction also includes an affective component (Crooker & Near, 1998), so we treat it here as overlapping substantially with the construct of happiness and expect that life satisfaction would be associated with performance by way of the same mechanisms by which happiness may be associated with performance.

The mood or affective component of happiness may explain why happiness—or by extension life satisfaction—should be related to performance. As Cropanzano and Wright (2001) note, happiness is considered to be highly valuable by most people and scarce by many people, suggesting their need to conserve or maintain happiness whenever possible. They term this model of happiness the “resource maintenance model,” and explain its differential effects for happy and unhappy people:

When an unhappy person goes to work, he or she needs to protect and defend his or her relatively limited reserve of happiness. One is less likely to take risks when something precious is in short supply. For this reason, unhappy people (a) are sensitive to threats in their work environment, (b) are defensive and cautious around their coworkers, and (c) are less optimistic and confident (Cropanzano & Wright, 2001: 183).

Obviously if unhappy people behave in these ways, they are less likely to perform well than happy people. Cropanzano and Wright (2001) go on to note that happy people notice opportunities, are helpful and outgoing with coworkers, and tend to be more confident and optimistic in their approach to work—all qualities that would likely improve their performance ratings from supervisors. They cite extensive literature explaining specific mechanisms by which these differential behaviors by happy and unhappy workers play out. Likewise, Wright and Staw (1999) reviewed expectancy theory, goal-setting theory, and attribution theory, and concluded that each theory predicts that positive mood is related to motivation across a wide range of situations, which in turn should influence both task specific performance as well as performance over time. Finally, Organ (1988) proposed that mood predicts organization citizenship behavior, which is correlated with long-term performance. We propose that the above arguments should also apply to the relationship between student life satisfaction and academic performance.

Empirically, several studies have found a relationship between subjective well-being and individual performance in the work domain (Cropanzano & Wright, 1999; Staw & Barsade, 1993; Staw, Sutton, & Pelled, 1994; Wright & Cropanzano, 1997, 2000). However, in their study of CEO life satisfaction and firm performance in small entrepreneurial firms, Daily and Near (2000) found no significant relationship. In this study, we examine the relationship between student performance and life satisfaction. We control for the effects of demographic variables and cognitive ability, because the latter is one of the variables most likely to influence student performance (e.g., Farsides & Woodfield, 2003; Kuncel, Hezlett, & Ones, 2001; Ree & Earles, 1992; Schmidt & Hunter, 1992). Formally stated: Hypothesis 2: Overall life satisfaction is positively related to student performance, controlling for cognitive ability and demographic variables.

METHODS

We asked all students in a required class on organization behavior at a large Midwestern university to participate in our study. Those who did so received research credit (99% response rate). The students answered five on-line questionnaires with subjective well-being, personality, and demographic items. We collected the general intelligence and performance measures in person. Most participants (n = 673) were male (57%), U.S. citizens
of European descent (79%), and juniors in college (72%), with a mean age of 20.7 years.

**Satisfaction Measures**

Satisfaction measures were collected from an online questionnaire completed by students prior to their participation in the rest of the study.

**Life Satisfaction**

We measured life satisfaction ($\alpha = .85$) with the 5-item Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985), which has been extensively validated (e.g., Lucas, Diener, & Suh, 1996; Sandvik, Diener, & Seidlitz, 1993). An example was, “I am satisfied with the conditions of my life.” Each item was rated on a 7-point scale.

**Domain Satisfactions**

We created an inventory of 11 domain satisfactions following previous research (e.g., Andrews & Withey, 1976; Campbell et al., 1976; Near et al., 1983, 1984), and supplemented it with four items uniquely relevant to students, to provide a comprehensive view of the domain satisfactions of this sample. The domain satisfactions items measured satisfaction with social life, friendships, leisure activities, neighborhood, housing, parents, siblings, health, religion, and city of residence, rated on a 7-point scale.

The four items related to university life were rated on 3- and 4-point scales, reflecting the extent to which the respondent “was satisfied with university choice,” “would recommend this university to others,” “was satisfied with university experience,” and “expressed overall satisfaction with university.” We modeled these items after those used in the facet free job satisfaction measure developed and validated by the Institute of Survey Research at the University of Michigan (Quinn & Staines, 1979), but they are also very similar to those used in other studies of student satisfaction. For example, two large ongoing studies of university students, the National Survey of Student Engagement with a sample of 157,759 students (www.iub.edu/~nsse) and the College Student Experiences Questionnaire with a sample of 85,497 students (www.iub.edu/~cseq), have used similar items, including “evaluation of entire educational experience,” “would select this university again,” and “how well college is liked.” Likewise, in a comprehensive study of the state of undergraduate education in the United States, Astin (1993) measured overall university satisfaction with a single item, “how satisfied are you with your overall college experience,” which is very similar to one of the items in our measure, “all things considered, how satisfied are you with your experience at [university name].”

We subjected the 14 domain satisfaction items and 5 life satisfaction items to a common factor analysis with orthogonal rotation and retained only factors with eigenvalues greater than 1.00. Three items (satisfaction with health, religion, and city of residence) failed to load on any factor. We deleted these items and completed a second common factor analysis, which yielded the 5-factor solution shown in Table 1. We created scales based on the results of the factor analysis, with five measures that we termed life satisfaction, university satisfaction, leisure satisfaction, housing satisfaction, and family satisfaction. Our results demonstrated discriminant validity among the five factors as cross-loadings were minimal; we also found convergent validity within the factors, as indicated by loadings exceeding .40. We tested Cronbach’s alphas to ensure that the scales showed reliability as well as validity; all five scales showed acceptable alphas (.69–.85).

**Performance Measures**

We used two performance measures, cumulative student GPA and performance on a managerial simulation exercise. GPA represented ongoing academic performance in which the student was responsible for initiating and maintaining a range of self-regulatory behaviors (e.g., creating short- and long-term goals, developing and evaluating personal learning strategies, seeking and incorporating feedback, and balancing various time and emotional commitments). Conversely, the managerial simulation encapsulated performance across four managerial-related tasks during a discrete time period. Performance on this measure depended less on self-regulatory skills and environmental demands over time and more on efficient information processing, the ability to maintain high levels of motivation and focus during the task, and problem-solving ability. The predictor variables were all measured 1–3 weeks prior to the administration of the managerial simulation, which allowed us to test for causal direction.

**Grade Point Average (GPA)**

We measured the student’s self-reported cumulative college GPA, with a questionnaire item included with the satisfaction items on the same questionnaire. Since most students were juniors...
majoring in business, this data point reflected academic performance over a long-term time frame in a program considered to be quite challenging relative to other majors on campus. GPA encapsulated motivation, ability, and other aspects of performance in a measure that was very important to most students and reflected the academic performance of respondents in a wide variety of subject areas, as graded by various raters, in situations where both individual and team assignments would have been used as assessment tools. We compared the self-report GPA scores against university records for a random subsample of 100 respondents; self-report GPA was a reliable indicator, as indicated by correlation with data from university records ($r = .93, p < .01$).

**Managerial Simulation**

Students participated in a 3-hour managerial simulation 1–3 weeks after filling out the other questionnaires. Participants (a) attended two 20-minute leaderless group discussion meetings with budget and personnel selection tasks; (b) delivered a 3-minute persuasive speech; and (c) worked on an in-basket exercise, in the role of a top manager. Included in the in-basket were details regarding the times and content of the leaderless group discussions and persuasive speech, as well as administrative information (contact information, organizational charts, etc.) and a stack of materials that required some sort of managerial action (e.g., financial and operational decisions, communications, delegation), which would require significantly more than 3 hours to complete. Thus, students were responsible for maintaining their schedule during the simulation, as well as prioritizing how to allocate time to specific activities. We videotaped the group discussions and speech and trained industrial/organizational psychology graduate students rated performance across discretely described behavior dimensions. We trained raters in a 2-day workshop with a frame of reference design (Bernardin & Buckley, 1981) and videotaped examples. Pairs of raters reached consensus on a behavioral checklist (Reilly, Henry, & Smither, 1990) to assess oral communication, decision making, teamwork, leadership, and planning and organizing behaviors. We also evaluated the in-basket activity with respect to planning and organizing (i.e., the average importance score assigned to the completed tasks) as well as decision making (e.g., content) dimensions. We used the composite scores of the five dimensions ($r = .71$) as indicators of overall performance on the managerial simulation in our analysis. We were not interested in how life satisfaction predicted performance in specific exercises or behavioral domains, but in how these variables related

### TABLE 1

Results of Common Factor Analysis of Satisfaction with Orthogonal Rotation ($N = 673$)

<table>
<thead>
<tr>
<th>Satisfaction with:</th>
<th>Life</th>
<th>University</th>
<th>Leisure</th>
<th>Housing</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life conditions are excellent</td>
<td>.75</td>
<td>.03</td>
<td>.17</td>
<td>.09</td>
<td>.11</td>
</tr>
<tr>
<td>Satisfaction with life</td>
<td>.75</td>
<td>.12</td>
<td>.18</td>
<td>.09</td>
<td>.10</td>
</tr>
<tr>
<td>Life is close to ideal</td>
<td>.74</td>
<td>.00</td>
<td>.18</td>
<td>.06</td>
<td>.10</td>
</tr>
<tr>
<td>Have important things</td>
<td>.64</td>
<td>.10</td>
<td>.06</td>
<td>.01</td>
<td>.10</td>
</tr>
<tr>
<td>Would not change life</td>
<td>.49</td>
<td>.09</td>
<td>.17</td>
<td>.07</td>
<td>.12</td>
</tr>
<tr>
<td>Satisfied with university choice</td>
<td>.05</td>
<td>.80</td>
<td>.01</td>
<td>.01</td>
<td>-.13</td>
</tr>
<tr>
<td>Recommend university</td>
<td>.01</td>
<td>.69</td>
<td>-.01</td>
<td>-.06</td>
<td>-.07</td>
</tr>
<tr>
<td>Satisfied with university experience</td>
<td>.13</td>
<td>.65</td>
<td>.19</td>
<td>.11</td>
<td>.05</td>
</tr>
<tr>
<td>Overall satisfaction with university</td>
<td>.26</td>
<td>.63</td>
<td>.25</td>
<td>.11</td>
<td>.04</td>
</tr>
<tr>
<td>Satisfaction with social life</td>
<td>.29</td>
<td>.18</td>
<td>.88</td>
<td>.11</td>
<td>.12</td>
</tr>
<tr>
<td>Satisfaction with friendships</td>
<td>.19</td>
<td>.15</td>
<td>.73</td>
<td>.15</td>
<td>.21</td>
</tr>
<tr>
<td>Satisfaction with leisure activities</td>
<td>.22</td>
<td>.11</td>
<td>.53</td>
<td>.22</td>
<td>.14</td>
</tr>
<tr>
<td>Satisfaction with neighborhood</td>
<td>.05</td>
<td>.13</td>
<td>.17</td>
<td>.76</td>
<td>.08</td>
</tr>
<tr>
<td>Satisfaction with housing</td>
<td>.12</td>
<td>.11</td>
<td>.19</td>
<td>.75</td>
<td>-.06</td>
</tr>
<tr>
<td>Satisfaction with parents</td>
<td>.22</td>
<td>.08</td>
<td>.13</td>
<td>.03</td>
<td>.69</td>
</tr>
<tr>
<td>Satisfaction with siblings</td>
<td>.16</td>
<td>.12</td>
<td>.19</td>
<td>.11</td>
<td>.65</td>
</tr>
<tr>
<td>Eigenvalue of rotated factor</td>
<td>2.66</td>
<td>2.07</td>
<td>1.74</td>
<td>1.30</td>
<td>1.07</td>
</tr>
<tr>
<td>Unique variance explained</td>
<td>16.60%</td>
<td>12.93%</td>
<td>10.86%</td>
<td>8.10%</td>
<td>6.68%</td>
</tr>
<tr>
<td>Cronbach’s alpha</td>
<td>.95</td>
<td>.84</td>
<td>.77</td>
<td>.69</td>
<td>.78</td>
</tr>
</tbody>
</table>

Note. Bold indicates factor loading greater than .4.
to performance across various situations and behaviors. Examining performance at this level of aggregation mitigated the effects of context-specific predictor variables not measured in the study (e.g., public speaking anxiety), and decreased the influence of measurement error associated with more specific aspects of the simulation scores.

Control Variables
We measured cognitive ability (IQ) with the Wonderlic Personnel Test (WPT), a 12-minute timed test consisting of 50 items, scored as the number of correct responses. The Wonderlic is correlated (range = .85–.93) with the Wechsler Adult Intelligence Scale full scale (Dodrill, 1981; Dodrill & Warner, 1988) and has shown strong test–retest reliability (Dodrill, 1983) and validity (McKelvie, 1989). We also controlled for country of citizenship, as a proxy of spoken and written English skills. We classified respondents from countries outside the United States where English is the official or most widespread spoken language as 1, and all other respondents as 0. We planned to control for demographic variables, including gender, age, parents’ socioeconomic status and ethnicity, but only gender showed sufficient variance to have any effect and was controlled.

Statistical Analysis
We estimated measurement and hypothesized models using covariance structural equation modeling (SEM) with AMOS 5, which is comparable (Hox, 1995) to other SEM programs (e.g., EQS, LISREL). To prevent interpretational problems inherent in the simultaneous estimation of measurement and structural models (Anderson & Gerbing, 1988), we tested the measurement model using confirmatory factor analysis prior to simultaneous estimation of the measurement and hypothesized models. Due to the large sample size we gauged model fit through the goodness of fit index (GFI), comparative fit index (CFI), and the root mean squared error of approximation (RMSEA) measure, as well as traditional chi-square test results.

RESULTS
We present descriptive statistics, scale reliabilities, and intercorrelations in Table 2. For comparison purposes, we created composite scores for the multiple indicator measures by averaging the scores across the applicable indicators. To adjust for differences in response scales across items, we standardized scores on the university satisfaction items before averaging.

Descriptive Statistics and Confirmatory Factor Analysis
To confirm the factor structure of the data, we performed a confirmatory factor analysis of the latent variables. We constrained each indicator to load on its respective latent variable, and we allowed the latent variables to freely intercorrelate. Overall, the model displayed good fit statistics: $\chi^2 (672, 173) = 314.07 \ (p < .01)$, GFI = .96, CFI = .97, RMSEA = .04. Further, examination of the modification indices indicated that model fit could not be improved by allowing the indicators to load on more than one latent variable.

Structural Equation Modeling
Results of the hypothesized structural model resulted in a good fit to the data: $\chi^2 (672, 244) = 507.02$

<p>| Table 2 |
|-------------------|---|---|---|---|---|---|---|---|---|---|
| <strong>Descriptive Statistics, Scale Reliabilities, and Intercorrelations Among Study Variables (N = 673)</strong> |</p>
<table>
<thead>
<tr>
<th><strong>M</strong></th>
<th><strong>SD</strong></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>University satisfaction</td>
<td>0</td>
<td>.79</td>
<td>.84</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leisure satisfaction</td>
<td>5.35</td>
<td>.95</td>
<td>.34</td>
<td>.77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family satisfaction</td>
<td>5.74</td>
<td>1.09</td>
<td>.27</td>
<td>.35</td>
<td>.69</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing satisfaction</td>
<td>5.36</td>
<td>1.15</td>
<td>.24</td>
<td>.38</td>
<td>.21</td>
<td>.78</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>5.13</td>
<td>1.05</td>
<td>.26</td>
<td>.43</td>
<td>.33</td>
<td>.22</td>
<td>.85</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPA</td>
<td>3.19</td>
<td>.39</td>
<td>.04</td>
<td>-.16</td>
<td>-.08</td>
<td>-.07</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managerial simulation</td>
<td>588</td>
<td>78.60</td>
<td>.06</td>
<td>.06</td>
<td>.01</td>
<td>.08</td>
<td>.14</td>
<td>.25</td>
<td>.71</td>
<td></td>
</tr>
<tr>
<td>IQ</td>
<td>25.33</td>
<td>4.86</td>
<td>.02</td>
<td>-.01</td>
<td>-.12</td>
<td>-.08</td>
<td>.08</td>
<td>.30</td>
<td>.33</td>
<td></td>
</tr>
<tr>
<td>Female gender</td>
<td>43%</td>
<td>n/a</td>
<td>.06</td>
<td>-.02</td>
<td>.03</td>
<td>.03</td>
<td>-.04</td>
<td>.06</td>
<td>.03</td>
<td>-.12</td>
</tr>
<tr>
<td>Country of citizenship</td>
<td>89%</td>
<td>n/a</td>
<td>.10</td>
<td>.09</td>
<td>.08</td>
<td>.05</td>
<td>.09</td>
<td>.13</td>
<td>.25</td>
<td>.14</td>
</tr>
</tbody>
</table>

* Coefficient alpha reliability estimates are on the diagonal.
If $r = .08$, $p < .05$, two-tailed test.
If $r = .12$, $p < .01$, two-tailed test.
(p < .01); GFI = .94, CFI = .94, RMSEA = .04. Three paths (university satisfaction to life satisfaction, housing satisfaction to life satisfaction, and life satisfaction to GPA) were not significant. The standardized path coefficient between life satisfaction and performance on the managerial assessment center was significant (.15, p < .01), after taking into account the strong effects of IQ (.38, p < .01), and weaker effects of country of citizenship (.12, p < .01) and gender (.10, p < .05). Thus, both hypotheses received partial support; only two of the four paths from domain satisfactions to life satisfaction were significant (Hypothesis 1) and life satisfaction was significantly related to one performance measure, but not the second (Hypothesis 2).

Post hoc examination of the correlation residuals and modification indices indicated that fit might be improved significantly by adding a direct path between leisure satisfaction and GPA. When we added this path, we found better overall model fit (change in chi square = 18.70, df = 1, p < .01), a significant standardized path coefficient between GPA and leisure satisfaction (−.27, p < .01) and a stronger, and significant, standardized path coefficient between GPA and life satisfaction (.20, p < .01), as shown in Figure 2. Thus, it appears that leisure satisfaction suppressed the relationship between life satisfaction and GPA, and when this suppression effect was taken into account, we could more reliably estimate the true relationship between life satisfaction and GPA. The modification left the remaining path coefficients unchanged. Thus, the post hoc analyses resulted in greater support for Hypothesis 2.

Secondary Analysis of GPA

Our primary analysis of GPA used a measure that was collected concurrently with measures of the predictor variables. We were concerned that our results might have been biased because we did not have longitudinal data for this dependent variable (unlike the measure from the managerial simulation, which was collected after the measures of the predictor variables). Therefore, we contacted the respondents and asked permission to obtain data from the Registrar concerning their actual noncumulative GPA at the end of the semester (i.e., their GPA for that particular semester alone) in which the study was completed (the surveys were

![Path Analysis of Domain Satisfactions and Life Satisfaction on Student Performance, Controlling for County of Citizenship, Gender and IQ](image)

*FIGURE 2*

Path Analysis of Domain Satisfactions and Life Satisfaction on Student Performance, Controlling for County of Citizenship, Gender and IQ. Note. Path coefficients represent standardized regression coefficients; top row represents values with GPA as the dependent variable, and bottom row represents values with managerial simulation as the dependent variable. All path coefficients are significant, p < .01, or *p < .05. Numbers in parentheses represent percent of variance explained. For simplicity of interpretation, correlations between exogenous variables and disturbance terms are not shown. Circles represent latent variables; rectangles represent indicator or observed variables, except for the managerial simulation performance score, which was modeled as a latent variable.
administered in the first few weeks of the 16-week semester. Thus, while the GPA measure used in the primary analysis was the result of performance that had occurred prior to the study, these data were the result of performance after the collection of measures of predictor variables. Of the original sample, 140 respondents agreed to participate. The semester GPA was moderately correlated with the self-reported cumulative GPA at the end of the previous semester ($r = .58$, $p < .01$). Results of regression analysis yielded similar findings to those noted in the primary analysis, as shown in Table 3 (the small sample size prohibited the use of structural equation modeling). We included in the regression analysis all variables that had demonstrated a significant effect in the primary analysis, including leisure satisfaction. Life satisfaction was significantly related to GPA ($\beta = .17$, $p < .05$), as was leisure satisfaction ($\beta = -.21$, $p < .01$), after taking into account the effects of IQ ($\beta = .35$, $p < .01$), gender ($\beta = .12$, $p < .05$), and country of citizenship (not significant). We explained nearly a fifth of the variance in GPA using only these five predictors. Thus, the secondary analyses provided additional support for Hypothesis 2.

**DISCUSSION**

What stands out most in the findings is the significant relationship between objective student performance measures and overall life satisfaction. Although cognitive ability most strongly predicted those performance measures, it is clear that life satisfaction has both statistical and practical significance in relation to student performance. Put simply, for this sample of traditional students in a large business school, those students who were satisfied with their overall life were generally higher performing than those with lower levels of life satisfaction.

These findings provide preliminary evidence for the integrated life model, which proposes that individual performance will reflect satisfaction across life domains. It was perhaps not surprising that life satisfaction was a better predictor of academic performance than university satisfaction (which was not significantly related to either life satisfaction or performance), because a student’s overall performance may be influenced by many variables other than satisfaction with the university setting and classroom experiences. In the present study, the suppressor effect of leisure satisfaction on the relationship between life satisfaction and GPA offered unexpected support for the integrated life perspective, and also indicated that the relationship among domain attitudes, overall life attitudes, and long-term performance may be more complex than we proposed. Without a direct path between leisure satisfaction and GPA, the path coefficient between life satisfaction and GPA was not significant; however, when the negative effects of leisure satisfaction on GPA were controlled, life satisfaction was significantly related to GPA in both our primary and secondary analyses. We postulate that academic and leisure activities are competing “domains” for most students, that is, time spent socializing is time not spent studying. Further research should investigate the extent to which various leisure activities directly contribute positively to leisure satisfaction and negatively to GPA. It may be that some activities (e.g., those not associated with binge drinking) have positive associations with leisure satisfaction without the corresponding negative association with GPA observed in the present study.

Typically, the relationship of various domain satisfactions with overall life satisfaction varies depending on context (e.g., Oishi, Diener, Lucas, & Suh, 1999). In the present study, only two domain satisfactions predicted a third of the variance in overall life satisfaction. Life satisfaction was most strongly correlated with leisure satisfaction, followed by family satisfaction. University satisfaction and housing satisfaction were not significant predictors of life satisfaction, once the effects of family satisfaction and leisure satisfaction were taken into account. There may be several reasons for these differential weightings. Since students often consider their housing to be temporary, they may find it less important than do nonstudents, for whom neighborhood and housing are relatively more enduring variables. Likewise, students dis-

**TABLE 3**

Results of Regression Analysis of Lagged GPA Measure on Life Satisfaction and Leisure Satisfaction, Controlling for IQ, Country of Citizenship, and Gender ($N = 140$)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Unstandardized Coefficient</th>
<th>Standard Error</th>
<th>Standardized Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life satisfaction</td>
<td>.07</td>
<td>.04</td>
<td>.17</td>
</tr>
<tr>
<td>Leisure satisfaction</td>
<td>-.10</td>
<td>.04</td>
<td>-.21</td>
</tr>
<tr>
<td>Country of citizenship</td>
<td>-.03</td>
<td>.02</td>
<td>-.02</td>
</tr>
<tr>
<td>IQ</td>
<td>.03</td>
<td>.01</td>
<td>.35</td>
</tr>
<tr>
<td>Female gender</td>
<td>.17</td>
<td>.08</td>
<td>.12</td>
</tr>
</tbody>
</table>

$F = 5.40, p < .01$
Adjusted $R^2 = .19$
*p < .05. **p < .01.
satisfied with their university know that their association with the university is temporary (i.e., just until graduation). Family (defined here as parents and siblings) tends to be enduring for all samples, but may be especially important to younger respondents, as may be leisure and social activities, when compared to other samples.

Implications

The present findings have several implications for future research and educational practice. So far as we know, no previous research has shown that life satisfaction among students predicts their learning, as measured by academic performance. Our findings provide impetus for a more concerted research focus on holistic satisfaction, not just satisfaction with one specific life domain (e.g., university satisfaction), as an important predictor variable of performance in academic settings. We need to learn more about what comprises student life satisfaction and what aspects are malleable before and during their college years. From a practical perspective, the present findings lend credence to the importance of considering the "whole student" when developing academic improvement policies and strategies. While such rhetoric often exists in college brochures and marketing material, we suspect that the reality is that most efforts to improve student performance remain centered on study skills and pedagogy.

So what could feasibly be done to positively influence the life satisfaction of our students? The key is to focus most directly on those domains of student life satisfaction that best predict overall satisfaction and to recognize that, while instructors may play a modest role in class design and flexibility, much of the influence potential rests with administrators and students themselves. That is, if leisure satisfaction and family satisfaction are the strongest predictors of life satisfaction among college students, then attention to students' needs with regard to healthy leisure activities and more flexible time for family involvement may improve life satisfaction—and thereby, learning and academic performance.

From the perspective of the instructor, we do not view this as suggesting lower standards or "more play" in class, or any such simplistic interpretations. Rather, we see the "life-satisfaction-friendly" instructor as simply one who (a) openly recognizes and communicates that he/she understands that students have important responsibilities and relationships outside of the class and (b) attempts to build in some flexibility that is responsive to that reality. Our findings suggest that the life-satisfied student is one who feels able to blend school and social life, as well as able to maintain strong relationships with family and friends. For example, instructors could integrate other parts of student lives into classroom learning—perhaps assigning "personal strategy case studies," or "mini" cases asking students to apply organization behavior concepts to their own, their friends', or their families' behaviors and experiences. Additionally, to the extent that class demands are clearly communicated in advance and have some opportunity for customization or adaptation to varying student needs and schedules, we suspect that student satisfaction will be enhanced. Any instructor in an institution where midterm exams and final exams are all given in one particular week has witnessed the spectacle of bleary-eyed students trying to make sense of their third (or fourth or fifth) exam in a single day—and wondered, as we have, whether there isn't a better way to aid student learning. Similarly, instructors could further engage in activities such as formulating course policies to more specifically accommodate nonacademic needs, integrating outside activities into course assignments, and being available to help find support for nonacademic matters.

From an administrative standpoint, we think these results are critical in supporting efforts to create life-satisfying learning spaces. Based on the findings, we suspect that the life-satisfied student is one who feels able to blend school and social life, as well as able to maintain strong relationships with family and friends. For example, instructors could integrate other parts of student lives into classroom learning—perhaps assigning "personal strategy case studies," or "mini" cases asking students to apply organization behavior concepts to their own, their friends', or their families' behaviors and experiences. Additionally, to the extent that class demands are clearly communicated in advance and have some opportunity for customization or adaptation to varying student needs and schedules, we suspect that student satisfaction will be enhanced. Any instructor in an institution where midterm exams and final exams are all given in one particular week has witnessed the spectacle of bleary-eyed students trying to make sense of their third (or fourth or fifth) exam in a single day—and wondered, as we have, whether there isn't a better way to aid student learning. Similarly, instructors could further engage in activities such as formulating course policies to more specifically accommodate nonacademic needs, integrating outside activities into course assignments, and being available to help find support for nonacademic matters.

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this study, it has been found to be related to life satisfaction beginning with the earliest studies in this area (e.g., Andrews & Withey, 1976).

From a student perspective, we think the findings serve to confirm what has been a long-standing (though not always consistently supported or reinforced) maxim from parents, counselors, and popular self-help authors (e.g., Covey, 1989) to seek to maintain balance. In contrast to the life integration model, many students consciously opt for a segmentation, or compartmental, model where they isolate themselves during school in an effort to focus intently on their courses and grades. Our findings, and our collective experience as college instructors, suggest that such strategies can be potentially self-defeating. Assuming that the relative importance of leisure satisfaction and family satisfaction to overall life satisfaction found the present study is generalizable across other student populations, it is less likely that a student whose identity and energy is wholly consumed in academic performance will maximize life satisfaction. While some might consider the sacrifice of some present study is generalizable across other student populations, it is less likely that a student whose identity and energy is wholly consumed in academic performance will maximize life satisfaction. While some might consider the sacrifice of some life satisfaction a worthwhile tradeoff for better academic performance, our central finding is that the two are not independent, but rather positively related. Our results suggest that policies and pedagogical styles which convey to students that it’s legitimate for them to enjoy their lives as students and family members may result in increased classroom performance.

Limitations and Conclusions

There were at least two limitations in this study that should be noted. First, the generalizability of the results may be limited because the study used a sample of undergraduate business students from one large Midwestern university. We cannot demonstrate that our results are representative of other business students in other U.S. universites. Nor can we claim that results from these students generalize to samples at other life stages (e.g., middle-aged adults) located in other types of universities. Yet, life satisfaction has frequently been studied among undergraduates (e.g., Larsen, Diener, & Emmons, 1985; Lucas, Diener, & Suh, 1996; Pavot, Diener, Colvin, & Sandvik, 1991), and the relationships between life satisfaction and other variables are largely the same as those found in other samples. Additionally, while GPA is a valid performance measure for virtually all college students, the generalizability of our short-term performance measure, the managerial assessment exercise, is probably limited to business students, because it focused on the application of knowledge and skills specifically emphasized in the business school curriculum.

Second, we cannot make definitive statements regarding the causality assumptions contained in our model, especially with respect to GPA. Even in the case of our supplementary analysis, which included GPA for the semester following the measurement of the satisfaction variables (the survey was administered during the first weeks of the semester), it is possible that satisfaction was influenced by past academic performance. Unfortunately, we cannot reliably test the extent to which the relationship between satisfaction and GPA may be reciprocal, given that we only have satisfaction measures from one point in time. Future research should examine the causal relationship between long-term student performance and satisfaction in greater detail. However, in the case of our short-term performance measure (i.e., the managerial simulation), our data provides us with stronger support for the causality assumptions contained in our model, because the task was performed several weeks after the satisfaction measures were administered.

Just as organizational researchers are increasingly recognizing that work performance can be greatly affected by nonwork domains (Luthans, 2002), it is time to more fully acknowledge that college students also live “integrated lives” and are heavily influenced by the milieu that surrounds them (Astin, 1993; Pascarella & Terenzini, 1991). Our study here suggests that life satisfaction matters and not just in terms of influence on social climate or student retention, but also on academic performance. Our results indicate that the richer our understanding of the contexts that lead to life satisfaction, the better chance we will have of creating effective learning environments.

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