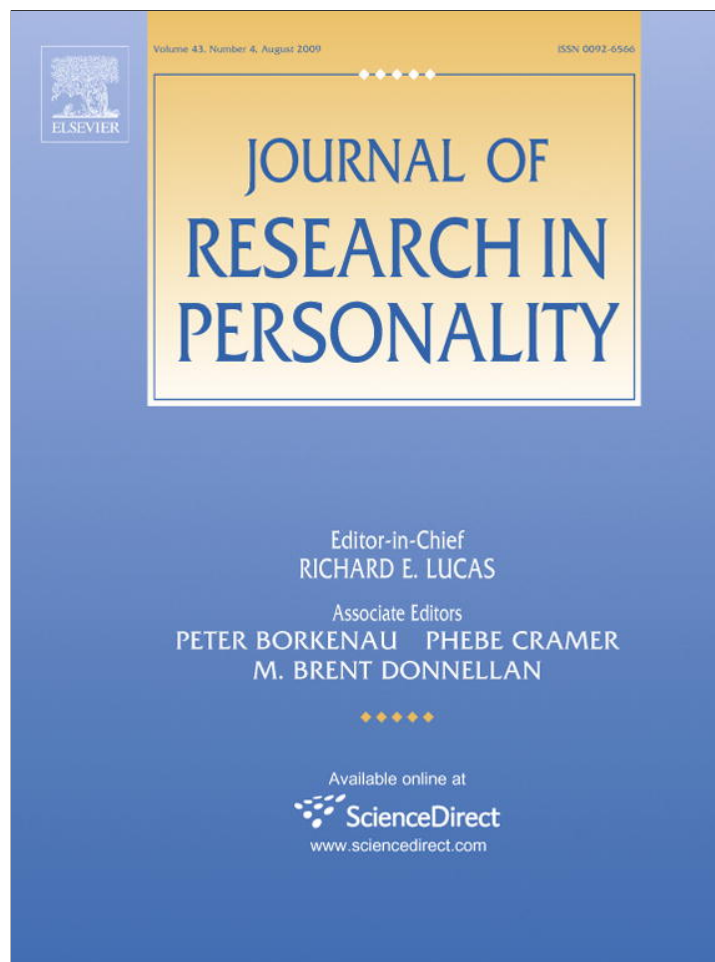


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Brief Report

Dispositional happiness and college student GPA: Unpacking a null relation

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ABSTRACT

We examined the mechanisms that underlie the null relation between dispositional happiness and college grade point average (GPA) by testing the hypothesis that dispositional happiness has positive and negative indirect links to GPA that offset each other. The sample consisted of 317 first-year students. Using structural equation modeling, we found that dispositional happiness exerted a positive indirect effect on cumulative GPA via commitment to college ($p < .01$) and a negative indirect effect on cumulative GPA via satisfaction with peer (student) relationships ($p < .05$). As predicted, the sum of its indirect effects on cumulative GPA was not significant ($p = .22$).

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1. Introduction

The present study was guided by a top-down view which posits that there are stable individual differences in the disposition to be happy. From this perspective, happiness entails experiencing a preponderance of positive affect most of the time (Lyubomirsky, King, & Diener, 2005). Happy people differ from less happy people in how they encode, interpret, and respond affectively to objective life events and conditions (Lyubomirsky, 2001). Happiness is posited to be associated with several resources that promote success in many culturally valued domains such as health, wealth, love, and work (Lyubomirsky et al., 2005). Nevertheless, Lyubomirsky and Lepper (1999) proposed that dispositional happiness should be unrelated to college GPA. In support of this prediction, they (1999) reported correlations between their measure of happiness and college GPA of $-.03$ and $-.08$. Our goal was to provide an explanation for this null effect.

We propose that some of the affective resources of happy people that may foster success in other contexts are detrimental to academic performance in college. More specifically, we hypothesize that dispositional happiness is linked to satisfaction with peer relationships and to positive arousal related to academic goals, and these variables, in turn, hinder academic performance. At the same time, dispositional happiness is posited to be associated with motivational variables such as commitment to college and goal-striving that foster academic performance. Because of a cancellation process whereby its positive indirect effects are offset by its negative indirect effects, we pre-

dict that the sum of dispositional happiness' indirect effects on cumulative GPA will not be significant.

2. The proposed model of the relation between dispositional happiness and GPA

As indicated in Fig. 1, we contend that dispositional happiness will not exert a direct effect on cumulative GPA. Instead, we hypothesize that dispositional happiness will exert two positive indirect effects and two negative indirect effects on cumulative GPA. The rationale for each hypothesized indirect effect is presented ahead. Because of the robust correlations that have been reported between high school GPA and first-year GPA and between composite scores on the ACT College Entrance Exam (ACT) and first-year GPA (Robbins, Allen, Casillas, Peterson, & Le, 2006), we controlled for academic readiness in testing our structural equation model linking dispositional happiness to cumulative GPA.

2.1. Happiness → commitment to college → cumulative GPA

Robbins et al. (2006) defined commitment to college as a student's dedication to staying in college and getting a degree. Upon deciding which college they will attend, happy students increase their ratings of the college's desirability whereas unhappy students do not (Lyubomirsky, 2001). Consequently, happy students may start college with a greater commitment to the institution than unhappy students. Kluger and Koslowsky (1988) found a strong positive relation between academic commitment and college GPA. Therefore, we hypothesized that dispositional happiness will exert a significant positive indirect effect on cumulative GPA via commitment to college.

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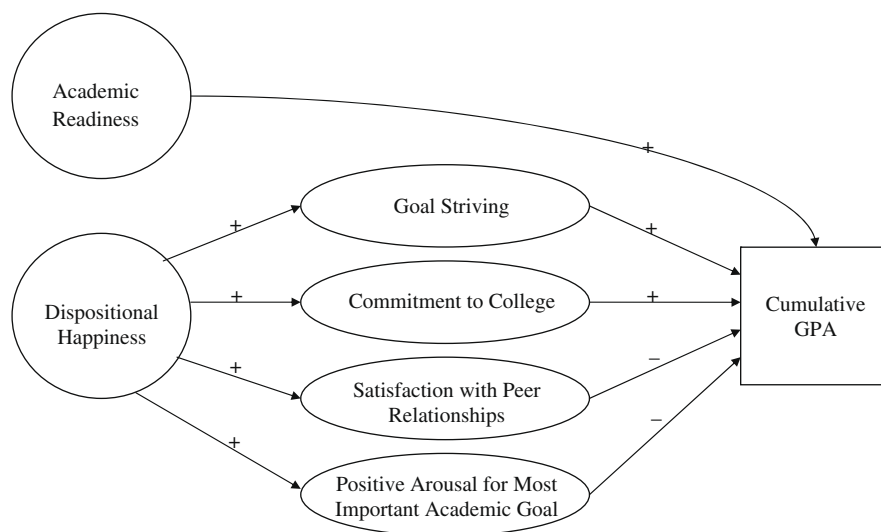


Fig. 1. Hypothesized indirect effects model of the relation between dispositional happiness and cumulative GPA.

2.2. Happiness → goal striving → cumulative GPA

Robbins et al. (2006) defined goal striving as the strength of a student's efforts to achieve goals. Happy and unhappy people have been shown to differ in their self-regulation and instrumental pursuit of goals. Happiness may foster goal striving by conferring resources such as energy and optimism that are linked to effective coping, self-improvement, and recovery following resource-draining acts of self-regulation (Lyubomirsky et al., 2005). Controlling for prior grades, aptitude test scores, and academic self-efficacy, grade striving is a positive predictor of course grades (Zimmerman & Bandura, 1994). Consequently, we hypothesized that dispositional happiness will exert a significant positive indirect effect on cumulative GPA via goal striving.

2.3. Happiness → satisfaction with peer relationships → cumulative GPA

Relative to unhappy people, happy people report more frequent social interaction and greater enjoyment of social interactions (Lyubomirsky et al., 2005). Wintre and Bowers (2007) found that the likelihood of university persistence increased as social adjustment increased from low to moderate levels and then decreased as social adjustment increased from moderate to high levels. They suggested that students with a large investment in friendships may be less likely to persist because they spend less time doing their academic work. Consequently, we hypothesized that dispositional happiness will exert a significant negative indirect effect on cumulative GPA via satisfaction with peer relationships.

2.4. Happiness → positive arousal for most important academic goal → cumulative GPA

Happiness is strongly related to the proportion of time that people feel positive emotions (Lyubomirsky & Lepper, 1999). The evidence regarding the effects of positive affect on cognitive performance is mixed (Oishi, Diener, & Lucas, 2007). Consistent with the mood-as-input model (Martin, Ward, Achee, & Wyer, 1993), positive arousal for academic goals has been shown to be a significant, inverse predictor of test scores in Introductory Psychology (Okun, Fairhome, Karoly, Ruehlman, & Newton, 2006). We hypothesize, therefore, that dispositional happiness will exert

a significant negative indirect effect on cumulative GPA via positive arousal for most important academic goal.

3. Method

3.1. Participants

The participants were a convenience sample of 317 first-year students who (a) entered the University in the fall of 2006, and (b) were enrolled in sections of Introduction to Psychology in the spring of 2007. Students who participated in the study received credit towards fulfilling a course requirement. Sixty-three percent of the students were women. Eighty-nine percent of the students reported that they were White-Non-Hispanic and 11% reported that they were Hispanic.

3.2. Measures

3.2.1. Dispositional happiness

Indicators of dispositional happiness included the four items on the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999). Across 14 samples, the mean coefficient alpha for the happiness scale was .86 and the mean test-retest reliability estimate was .72. Items were rated on 7-point scales. One of the items asked the extent to which participants identified themselves as a happy person with anchor points of "not a very happy person" and "a very happy person."

3.2.2. Academic readiness

Indicators of academic readiness included total scores on the ACT, total scores on the SAT Reasoning Test (SAT), and high school GPA. ACT total scores were correlated .86 with SAT total scores, and ACT and SAT total scores were correlated .37 and .38, respectively, with high school GPA.

3.2.3. Satisfaction with peer relationships

There were four indicators of satisfaction with peer relationships (Pascarella & Terenzini, 1983). Okun, Karoly, Martin, and Benshoff (2008–2009) reported coefficient alphas of .85 and .87 for this scale. Items were rated on a 5-point scale with anchor points of "strongly disagree" and "strongly agree." One of the items was: "The student friendships I have developed at ... have been personally satisfying."

3.2.4. Commitment to college

There were three indicators of commitment to college (Pasarella & Terenzini, 1983). Okun et al. (2008–2009) reported coefficient alphas of .63 and .70 for this scale. Items were rated on a 5-point scale with anchor points of “doesn't apply to me at all” and “applies to me a great deal.” One of the items was: “I am pleased now about my decision to go to college.”

3.2.5. Goal striving

Items from the Goal Setting scale (Neal & Carey, 2005) served as indicators of goal striving. Neal and Carey (2005) reported a coefficient alpha of .86 for the 10-item scale. Based upon an exploratory factor analysis and an item analysis, we dropped three items from this scale that did not increase the coefficient alpha. Items were rated on a 5-point scale with anchor points of “strongly disagree” and “strongly agree.” One of the items was: “I usually keep track of my progress toward my goals.”

3.2.6. Positive arousal for most important academic goal

Students were asked to list their most important academic goal. Then, they completed the four-item positive arousal subscale of the Goal Systems Assessment Battery (Karoly & Ruehlman, 1995). Participants indicated how well each statement applied to their most important academic goal using a 5-point scale with anchor points of “not at all” and “extremely.” One of the items was: “This goal is a source of pleasure for me.” Okun et al. (2006) reported a coefficient alpha of .94 for the positive arousal subscale for an academic goal.

3.3. Procedure

Students were administered a web-based survey. SAT scores, ACT scores, high school GPA, and cumulative GPA at the beginning of the fall 2007 semester were obtained from the student information system.

4. Results

4.1. Preliminary analyses

The internal consistency reliability of our questionnaire measures ranged from .71 to .89. As expected the correlation between dispositional happiness and cumulative GPA was not significant, $r(290) = -.07, p > .25$. Satisfaction with peer relationships did not exhibit a quadratic relation with cumulative GPA, $p > .85$.

4.2. Main analyses

4.2.1. Measurement model

An initial measurement model assuming uncorrelated errors did not provide an adequate fit to the data, $\chi^2(317, 279) = 621.81, CFI = .903, RMSEA = .062, SRMR = .062$. The fit of the model was subsequently enhanced by allowing four pairs of indicators posited to load on the same latent variable to have correlated errors. For three of these pairs of correlated errors, the indicators were worded very similarly (e.g., “I usually keep track of my progress toward my goals” and “I set goals for myself and keep track of my progress”). The fourth pair of indicator allowed to have correlated errors involved ACT and SAT total scores. This is not surprising because, in contrast to high school GPA which measures academic achievement, the ACT and SAT share the same assessment method and have in common a focus on academic aptitude. When these four parameters were freed, the fit of the measurement model to the data was good by conventional criteria (Hu & Bentler, 1999), $\chi^2(317, 275) = 441.90, CFI = .953, RMSEA = .044,$

SRMR = .058, and showed significant improvement over the initial model, $\chi^2(317, 4) = 179.91, p < .001$.

4.2.2. Structural equation model

The fit of the hypothesized path model to the data was deemed to be unsatisfactory, $\chi^2(317, 287) = 529.55, CFI = .931, RMSEA = .052, SRMR = .098$. In a series of steps, we freed four parameters: the correlations between (a) the disturbance term for goal striving and the disturbance term for commitment to college, (b) the disturbance term for goal striving and the disturbance term for positive arousal for most important academic goal, (c) academic readiness and dispositional happiness, and (d) academic readiness and the disturbance term for positive arousal for most important academic goal. When these four parameters were freed, constraining the path from positive arousal for most important academic goal to cumulative GPA to be equal to zero did not result in a significant degradation in model fit, χ^2 change (317, 1) = 0.09; therefore, this path was deleted from the model. Finally, as expected, adding a path representing the direct effect of dispositional happiness on cumulative GPA did not significantly improve the model fit, χ^2 change (317, 1) = 0.8; consequently, this path was not included in the model.

Fig. 2 depicts the structural relations retained in the final version of the model. As predicted, dispositional happiness exerted significant, positive direct effects on goal striving, commitment to college, satisfaction with peer relationships, and positive arousal for most important academic goal. Except for positive arousal for most important academic goal, all of the hypothesized direct effects on cumulative GPA were significant.

The fit of this model to the data was adequate using conventional criteria and demonstrated better fit than the initial model (Hu & Bentler, 1999), $\chi^2(317, 284) = 456.39, CFI = .951, RMSEA = .044, SRMR = .064$. Academic readiness uniquely accounted for 63% of the variance and satisfaction with peer relationships, goal striving, and commitment to college explained an additional 9% of the variance in cumulative GPA. Dispositional happiness accounted for 5% of the variance in goal striving, 8% of the variance in commitment to college, 21% of the variance in satisfaction with peer relationships, and 9% of the variance in positive arousal for most important academic goal.

Three indirect effects were estimated pertaining to the influence of dispositional happiness on cumulative GPA. The indirect effect of dispositional happiness on cumulative GPA via commitment to college was significant (standardized indirect effect = .066, $p < .01$) as was the indirect effect of dispositional happiness on cumulative GPA via satisfaction with peer relationships (standardized indirect effect = $-.054, p < .05$). In contrast, the indirect of dispositional happiness on cumulative GPA via goal striving was not statistically significant ($.035, p = .055$). As predicted, the sum of the indirect effects of dispositional happiness on cumulative GPA was not statistically significant ($.042, p = .22$).

4.3. Sensitivity analysis

To determine whether our indirect effect estimates were influenced by controlling for academic readiness, we dropped academic readiness and re-estimated our model. Similar to the original model, dispositional happiness exerted significant indirect effects on cumulative GPA via satisfaction with peer relationships (standardized indirect effect = $-.110, p < .01$) and via commitment to college (standardized indirect effect = $.055, p < .05$). Also, the indirect effect of dispositional happiness on cumulative GPA via goal striving remained statistically non-significant (standardized indirect effect = $.039, p = .055$). Most importantly, the sum of the indirect effects of dispositional happiness on cumulative GPA remained statically non-significant ($-.016, p = .67$).

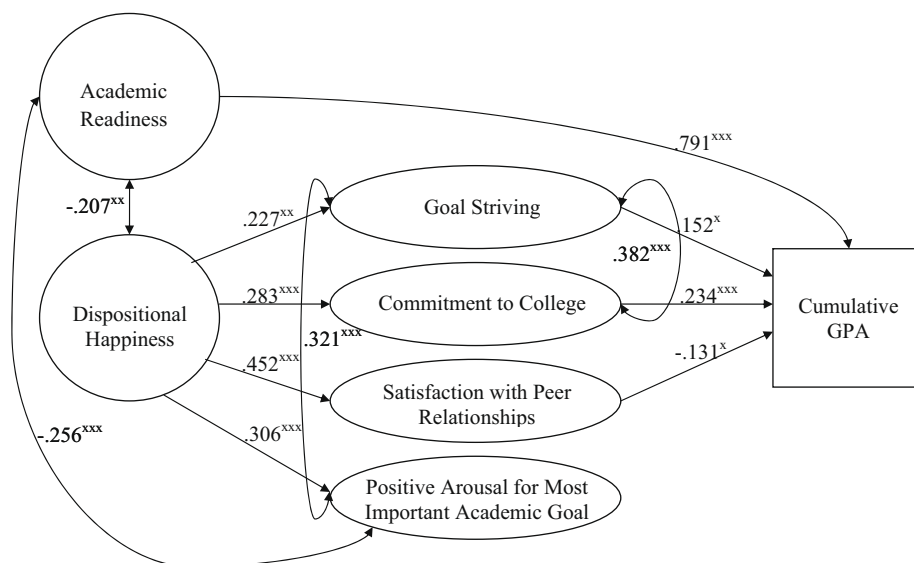


Fig. 2. Summary of the revised indirect effects model of the relation between dispositional happiness and cumulative GPA. (All estimates of direct effects are standardized.) Note: $^x p < .05$, $^{xx} p < .01$, $^{xxx} p < .001$.

5. Discussion

The impetus for the present study was the finding that, although happiness is associated with success in many domains of life, it is not related to academic performance in college. Such discrepancies were anticipated by Lyubomirsky et al. (2005) who cautioned that being happy is not always associated with better functioning. They suggested that the benefits and costs associated with dispositional happiness could, in certain domains, lead to similar levels of performance between happy and unhappy people. The present study sought to identify the mechanisms that can account for the null relation between dispositional happiness and college GPA.

Consistent with previous research (Lyubomirsky & Lepper, 1999), we found that the bivariate association between the measure of dispositional happiness and cumulative GPA was small and not statistically significant ($r = -.07$) as was the direct effect of dispositional happiness on cumulative GPA ($p > .25$). Furthermore, as hypothesized, the sum of the indirect effects of dispositional happiness on cumulative GPA was not significant.

O'Connor and Paunonen (2007) called for the use of structural equation methods to examine mediators of the associations between personality traits and academic performance in college. Building on this suggestion, we proposed that some of the affective resources of happy people (such as experiencing more positive affect and being more satisfied with their informal social interactions) that appear to be advantageous in many domains of life might be disadvantageous in an academic context. We found some support for this notion insofar as dispositional happiness exerted a negative indirect effect on cumulative GPA via satisfaction with peer relationships. Perhaps, relative to unhappy freshmen, happy freshmen build a greater fund of social capital and spend more time engaged in informal social interaction in non-academic contexts. Time spent in non-academic informal social interaction may adversely affect grades by detracting from time that could be allocated to academic pursuits (Chamorro-Premuzic & Fumham, 2005).

On the other hand, we also found some support for the notion that dispositional happiness is related positively to motivational variables that promote academic performance. More specifically, happy students had higher commitment to college than unhappy

students, and students who were strongly committed to obtaining a college degree outperformed students who were weakly committed to obtaining a college degree. Lack of college commitment may undermine efforts to succeed in courses.

5.1. Dispositional happiness and academic readiness

Contrary to our expectation and previous research (Lyubomirsky & Lepper, 1999), dispositional happiness was inversely related to total standardized test scores ($r_s = -.17$ and $-.18$). One possibility is that happy people are more likely than unhappy people to focus on goals and activities that engender positive affect. Undergraduates report less positive arousal for their academic goals than for their health and social goals (Karoly & Ruehlman, 1995). Consequently, happy students may be less likely than unhappy students to invest in, for example, preparing for standardized tests.

5.2. Academic readiness, goal commitment, and cumulative GPA

Academic readiness was unrelated to goal commitment. This finding is consistent with previous research indicating that goal commitment is more strongly influenced by post-college entry variables such as academic integration than by pre-college entry variables such as high school GPA (Pascarella & Terenzini, 1983). In contrast, academic readiness was a strong predictor of cumulative GPA. When academic readiness was dropped from the model as a control variable, the same pattern of statistical significance and non-significance for the indirect effects was observed.

5.3. Limitations

The present study has several limitations. First, five of our seven variables were measured using self-report questionnaires and they may share method variance. Second, our assumptions regarding the direction of causal relations may be wrong. Future studies using longitudinal designs can address this issue. Third, our findings may not generalize to students enrolled in colleges and universities that differ from the large, urban campus from which we drew our sample.

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