*Research Article*

OJED
OPEN JOURNALS IN EDUCATION

© *Journal of International Students*
Volume 12, Issue 1 (2022), pp. 216-238
ISSN: 2162-3104 (Print), 2166-3750 (Online)
doi: 10.32674/jis.v12i1.2679
ojed.org/jis

# International and Domestic Graduate Student Satisfaction with Life: Application of the Perfectionism Diathesis-Stress Model

Hanna Suh
*Nanyang Technological University, Singapore*

Jihee Hong
Kenneth G. Rice
Victoria A. Kelly
*Georgia State University, USA*

**ABSTRACT**

With increasing mental health problems witnessed among students, adequately addressing their well-being is becoming important on college campuses. This study compares international and domestic graduate students in the United States on domains that are relevant to both student groups (perfectionistic personality, academic stress) and how these factors combinedly predict satisfaction with life. With 531 international and 359 domestic graduate students, results found support for perfectionism and academic stress predicting life satisfaction in both groups with notable similarities and differences. For perfectionists in both student groups, the level of academic stress was an important factor that determined satisfaction with life. Interestingly, for international students only, the perfectionism dimension of standards, which has been traditionally considered adaptive, functioned in a maladaptive way. Findings from this study suggest that international and domestic students share similarities and differences that should be noted.

**Keywords:** comparative study, emotional well-being, international graduate students, perfectionism

College campuses are witnessing changes in student demographic composition. Notably, with globalization and the influx of international students pursuing higher education in the United States, the enrollment of international students reached approximately 1,095,299 students during the 2018–2019 academic year, comprising about 5.5% of all students enrolled in higher education (Institute of International Education [IIE], 2019). Thus, accurately understanding international student experiences is an important task for university campuses. Specifically, comparing international students with domestic students can be beneficial to gauge how attention and resources could be reexamined. However, only a few studies directly compare international and domestic graduate students (e.g., Hamamura & Laird, 2014), limiting a nuanced understanding of common and divergent psychological experiences of these two student groups. Furthermore, another critical research gap is the lack of exploration on the joint effects of personal qualities and situation-dependent psychological factors (e.g., academic stress) on student well-being, except a study by Lent et al. (2009). Additionally, there has been scarce theoretically driven empirical studies incorporating measurement invariance testing to enable direct group comparisons. In the current study, we seek to address these gaps by exploring the independent and combined effects of perfectionism and academic stress on student satisfaction with life, guided by the perfectionism diathesis-stress model (Flett et al., 1995). The perfectionism diathesis-stress model captures and contextualizes the personality trait (perfectionism) and the type of stress (academic stress) that are likely to be relevant to students, given their primary role as students. Measurement invariance of each measure was examined before comparing international and domestic groups. Findings from this study may shed light on international and domestic graduate student similarities and differences and facilitate greater culturally sensitive understanding of these two student groups.

## INTERNATIONAL GRADUATE STUDENTS

Research conducted on international and domestic graduate students thus far has mostly explored each student group separately. International graduate student research has focused on acculturation, language proficiency, isolation, discrimination, and prejudice (Zhang & Goodson, 2011). However, research on domestic graduate students covers a broader range of topics. The topics include mental health (Hyun et al., 2006) and socialization into professional roles and professional identity (Gardner & Barnes, 2007). Having a narrower focus on specific student samples like majors (e.g., Rummell, 2015), race (e.g., El-Ghoroury et al., 2012), and marital status with family responsibilities (e.g., Sallee, 2015) is also evident.

Such divergent topical coverage on international and domestic graduate students reflects the immediate realities that they experience. Yet, these separate lines of inquiry have prevented researchers from acknowledging potential commonalities. In fact, both student groups exist and function in the same ecosystem of schools, following similar policies and procedures. Their primary role as a student is also the same. Thus, both student groups are likely to possess

personality traits and characteristics geared toward achieving excellent academic performance (e.g., Poropat, 2009). They both are also likely to experience heightened academic stress (Cowie et al., 2018).

Given the academic stress and internal pressure for excellence, ensuring successful academic performance may be amplified for graduate students. This may be because of additional time commitment and the narrowing of future career options. Thus, identifying any similarities and differences between international and domestic students offers an avenue for a more refined understanding of both student groups. Findings then could be used as a guide for determining appropriate and relevant educational and mental health interventions that could be applied to both groups versus interventions that should be applied for each group.

## PERFECTIONISM IN INTERNATIONAL AND DOMESTIC GRADUATE STUDENTS

With approximately 25%–40% of students showing perfectionistic tendencies (Suh et al., 2017), one personality trait reinforced in academic settings relevant to both international and domestic graduate students is perfectionism. Perfectionism is a multidimensional personality trait characterized by setting extremely high self-imposed performance expectations while critically and negatively evaluating one's behavior (Stoeber, 2018). Perfectionism has been frequently examined in relation to academic achievement in school settings (Madigan, 2019). Academic settings readily and consistently provide performance feedback, which regularly informs students about the adequacy of their current performance. These regular reminders can cause students to continuously strive for the best, likely reinforcing their perfectionistic tendencies in academic settings.

Two higher-order dimensions of perfectionism are typically referred to as perfectionistic strivings (standards, personal standards perfectionism) and perfectionistic concerns (discrepancy, evaluative concerns perfectionism; Stoeber & Otto, 2006). Perfectionistic strivings refer to setting high expectations about one's performance while perfectionistic concerns refer to having doubts about actions and concerns over mistakes and also experiencing discrepancy in meeting self-set high standards (Stoeber & Otto, 2006). Perfectionistic strivings have often been considered as adaptive and healthy, while perfectionistic concerns are typically maladaptive and unhealthy (e.g., Dunkley et al., 2014; Stoeber & Otto, 2006). The adaptiveness and maladaptiveness have been primarily determined by their associations with criterion variables (e.g., psychological distress). Findings mostly show that perfectionistic strivings are protective against psychological distress, and that perfectionistic concerns confer risk to psychological distress (Huang & Mussap, 2018; Wang et al., 2012). With U.S. domestic graduate students, Moate et al. (2019) reported that adaptive perfectionists show the highest levels of life satisfaction, while maladaptive perfectionists show the highest levels of negative emotions. These results show that perfectionism dimensions predict well-being in both student groups. When directly comparing international and domestic student psychological distress, Hamamura and Laird (2014) found that perfectionistic concerns accounted for 24% of the variance in depression for East

Asian international students and 25% of the variance for domestic students. This suggests that perfectionistic concerns function similarly for both groups. In sum, perfectionism is a personality trait that is evident in both international and domestic graduate students. However, direct comparisons of the two student groups examining the influence of perfectionism dimensions on satisfaction with life seem scarce.

## STRESS MODEL OF PERFECTIONISM

To understand stress processes, Bolger and Zuckerman (1995) suggested useful frameworks outlining ways in which personality, stress, and psychological outcomes interplay. One framework suggests that personality interacts with stress and amplifies or extenuates the effects of stress on psychological outcomes (differential reactivity model, stress enhancement model, or diathesis-stress model). In this account, the personality variable acts as a moderator of stress to influence psychological outcomes. Applied with a personality variable of perfectionism, a perfectionism diathesis-stress model has been proposed and tested, providing a more nuanced understanding of perfectionism's influence on outcomes (Flett et al., 1995). This perfectionism diathesis-stress model postulates that highly perfectionistic individuals are more at risk for psychological maladjustment when they encounter high levels of stress (perfectionism × stress interaction) because perfectionism moderates the effects of stress.

With two dimensions of perfectionism, the perfectionism diathesis-stress model has mostly examined the perfectionistic concerns factor as the indicator of perfectionism (Enns et al., 2005). This is because individuals with high perfectionistic concerns conditionally base their performance evaluation on external recognition (e.g., grade point average) or approval (Hill et al., 2011). Hence, they are likely to misinterpret neutral cues as stress and thereby intensify the stress. For instance, Flett et al. (1995) found that individuals with high socially prescribed perfectionism (an aspect of perfectionistic concerns) reported high depressive symptoms when they experienced high levels of negative life stress. Dunkley et al. (2014) also found that individuals with higher perfectionistic concerns levels (perfectionism was assessed six months and three years before reporting daily stress levels) reported a greater increase in negative affect and sadness on days when they experienced higher levels of daily stress. In contrast, perfectionistic strivings have mostly been found to mitigate the effects of stress on psychological distress. However, recent findings suggest deleterious effects of perfectionistic strivings on emotional well-being when coupled with stress, but to a lesser extent than perfectionistic concerns (e.g., Huang & Mussap, 2018). For instance, Zureck et al. (2014) found that both dimensions of perfectionism interacted with affective stress to predict physiological stress response after an experimentally induced affective stress.

However, the perfectionism diathesis-stress model has not been examined in both groups of students exploring comparative differences. Understanding how the perfectionism diathesis-stress model similarly or differently applies to international and domestic graduate students can provide insights on the

applicability of the model, expanding the validation of the model. As it allows the clarification of to whom the perfectionism diathesis-stress model is relevant, future intervention efforts can also potentially be tailored.

## ACADEMIC STRESS IN INTERNATIONAL AND DOMESTIC GRADUATE STUDENTS

Stress is a typical experience for a graduate student (Offstein et al., 2004; Oswalt & Riddock, 2007). Of the many types of stress, academic stress is a common and relevant stress that both international and domestic student groups experience given the context (school) in which they are functioning. It is uniquely context-dependent stress that only students experience because of the primary role (student) and context (school) within which they function. Nonoptimal academic performance would lead to failure in a program, which likely creates and intensifies academic stress experiences. Furthermore, both international and domestic graduate students commit to additional years of higher education, often without immediate economic benefits and narrowing their future job prospects to more specialized areas. Thus, the sunk costs of not successfully completing academic requirements are high, likely making academic stress a common experience for both student groups. Because the role of a student is the primary "job" that a graduate student assumes, academic stress can also spill over to other life domains such as family and social life (Pedersen et al., 2017). Hence, it is essential to examine both international and domestic graduate students' common experiences, including academic stress. Previous studies have found that academic stress was negatively associated with indicators of well-being, such as satisfaction with life (e.g., Lent et al., 2009).

## SATISFACTION WITH LIFE WITH PERFECTIONISM AND ACADEMIC STRESS

Assessing the well-being of students allows a holistic understanding of student lives along with their academic engagement. Such an assessment also complements psychological literature that primarily focuses on distress and psychopathology, as experiences of well-being such as happiness or subjective well-being are investigated. Satisfaction with life is one of the most widely studied well-being indicators with a concise and straightforward measure (Anaby et al., 2010).

Satisfaction with life is a global cognitive assessment that an individual makes on how satisfied they feel about their life. It refers to how individuals perceive and judge their lives rather than whether they feel happy or pleasant (Diener et al., 1985). These judgments are based on one's own evaluation against a criterion that each individual sets for themself (Nilsson, 2015). Multiple factors can influence such a subjective appraisal process. Specifically, satisfaction with life often results from an interplay of various personal and environmental factors (Diener et al., 2013), and individuals refer to information sources to make this cognitive judgment.

Consistent with the subjective well-being literature that theorizes satisfaction with life as an indicator of subjective well-being (Pavot & Diener, 2008), satisfaction with life serves as a gauge for individual well-being. It focuses on understanding the positive end of the emotional spectrum, distinguished from attention to a more traditional focus on the negative end of the emotional spectrum, such as depression or anxiety (Pavot & Diener, 2008). With international students, satisfaction with life also has been conceptualized as an indicator of psychological adjustment (Zhang & Goodson, 2011), distinguished from psychological distress (e.g., depression, anxiety) or sociocultural adaptation (e.g., acculturation). Jiang et al. (2020) proposed that satisfaction with life among international students reflects how satisfied they are adjusting to a foreign sociocultural environment, including their attempts to achieve personal goals and adjust through acculturation processes. In other words, evaluation of satisfaction is contextualized for international students.

Both chronically accessible information (e.g., personality) and transient contextual occurrences (e.g., mood) affect the rating of satisfaction with life (Pavot & Diener, 2008). With international students, previous research has found several correlates to be important, including social support (Yusoff, 2012) and academic self-efficacy (Mak et al., 2015). A personality trait such as perfectionism and context-dependent stress such as academic stress can be hypothesized to be associated with satisfaction with life. Existing evidence has separately examined the association between perfectionism and satisfaction with life and academic stress and satisfaction with life, but not many studies examined these two simultaneously. Adhering to the perfectionism diathesis-stress model, it seems reasonable to expect that both will be associated with satisfaction with life. Furthermore, no study appears to have examined group differences (international vs. domestic student) embedded within the same context (i.e., U.S. educational setting), which is a vital contribution to the literature.

## PRESENT STUDY

Guided by the perfectionism diathesis-stress model, this study examines the independent and combined effects of perfectionism dimensions and academic stress on satisfaction with life. First, as a precondition to evaluating group differences in construct relations between international and domestic students, measurement invariances of item indicators for the four central factors were tested. These are (a) standards, an indicator of perfectionistic strivings; (b) discrepancy, an indicator of perfectionistic concerns; (c) academic stress; and (d) satisfaction with life.

Measure invariance refers to the equivalence between groups of specific measurement parameters, such as factor loadings or item intercepts. Invariance is typically evaluated through a set of statistical model comparisons. A set of specific measurement parameters, such as factor loadings, are tested in each model. The first model allows these parameters to be freely estimated between groups. In a subsequent model, the parameters are constrained to be equivalent between groups. When such a constraint substantially worsens fit compared to the

freely estimated model, then noninvariance is suspected. Invariance is supported when the fit between freely estimated and constrained models is not substantially different.

The equivalence of factor loadings is called metric invariance, and the equivalence of both factor loadings and item intercepts is referred to as scalar invariance. Metric invariance is a prerequisite for assuming the same construct is measured in the groups. Scalar invariance is a prerequisite for conducting group comparisons of factor means on the construct of interest. Those two levels typically are sufficient for most purposes. Without invariance support, any detected differences between groups could be a function of measurement limitations and might not reflect actual differences between groups. This study posited that at least metric (factor loadings) invariance was important to establish before testing group differences in structural paths between the factors because some studies examining cross-cultural measurement invariance have revealed mixed findings requiring, in some cases, adjustments to original measurement models (e.g., Tucker et al., 2006).

Predicated on support for at least metric invariance, based on the perfectionism diathesis-stress model, the study hypothesized that a significant three-way interaction of standards, discrepancy, and perceived academic stress would exist. These would then collectively be associated with satisfaction with life, moderated by the group. If the three-way interaction is not significant, alternatively, the study opted to test two-way interactions. However, no hypothesis was posited on what student group would show a more substantial moderation effect. This is because limited research existed on the comparative levels of perfectionism, and the findings were mixed and inconclusive on the comparative levels of perceived academic stress. For instance, some research suggests that international students face greater academic challenges (Zhao et al., 2005). Factors such as English language proficiency (Bastien et al., 2018) and cultural differences hindering developing an advising alliance with academic advisors (Curtin et al., 2013), might especially heighten the perceived academic stress of international graduate students. However, other findings suggest domestic students reported higher stress (but not academic stress; Misra & Castillo, 2004). If the interactions proved to be nonsignificant, the expectation was that the direct effects of perceived academic stress on satisfaction with life would be stronger for international students considering that they relocated to the United States with a goal of achieving higher education degrees. Hence, we reasoned that the effects of academic stress would have stronger implications for satisfaction with life among international students compared with domestic students.

## METHOD

### Participants and Procedure

The study was approved by the respective Institutional Review Board offices on two university campuses. The sample was comprised of 531 international

graduate students and 359 domestic graduate students at two universities. Both universities were large public institutions in the southeastern United States, each with approximately 50,000 students. University offices provided lists of eligible students, and those students were recruited via email to participate. Students who agreed to participate were directed to a web-based survey using Qualtrics, a research survey tool. Four reminder emails were sent. There was no compensation for participation. Approximately 10% of the eligible students participated.

Most participants in both student groups were male (66% in the international group, 74% in the domestic group). Ages ranged from 19 to 49 for international students ($M$ = 25.35, $SD$ = 4.47) and from 21 to 76 for domestic students ($M$ = 32.58, $SD$ = 9.80). The majority of students in the international group were in master's programs (60%), whereas most domestic students were in doctoral programs (58%). Although 52 countries were represented in the international student group, the largest subgroups of students were from India (33.1%), China (24.4%), South Korea (4.9%), Turkey (2.3%), and Taiwan (2.1%).

## Measures

### *Perfectionism*

Students completed the short form of the revised Almost Perfect Scale (SAPS; Rice et al., 2014) to measure perfectionism. The SAPS is composed of standards (perfectionistic strivings) and discrepancy (perfectionistic concerns). The SAPS contains eight self-report items: four items measuring standards (e.g., I have high expectations for myself.") and four items measuring discrepancy (e.g., "I am never satisfied with my accomplishments."). The items are responded to using a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Rice et al. (2014) used multiple samples and structural modeling approaches and found support for the reliability of SAPS scores ($\rho$ = .85 and .87 for standards and discrepancy, respectively). Convergent and concurrent validity were supported based on SAPS score associations with other perfectionism indicators and relevant criterion indicators such as depression and grade point average. In the present study, internal consistency coefficients were .84 and .86 for standards and discrepancy scores, respectively.

### *Perceived Academic Stress*

Students completed a four-item measure of Perceived Academic Stress (PAS; Lent et al., 2009) patterned after the original Perceived Stress Scale (PSS; Cohen et al., 1983). On the PAS, respondents report stress from academic concerns they experienced over the past month (e.g., "In the last month, how often have you felt that academic difficulties were piling up so high that you could not overcome them?"). Response options range from 0 (*never*) to 4 (*very often*). Lent et al. (2009) reported an acceptable internal consistency (Cronbach's $\alpha$ = .75) and support for the validity of the PAS through establishing associations with relevant

variables such as self-efficacy and academic satisfaction. In the present study, the internal consistency coefficient was .83 for the PAS score.

### *Satisfaction with Life*

Students completed the Satisfaction with Life Scale (SWLS; Diener et al., 1985) to evaluate levels of personal contentment (e.g., "So far I have gotten the important things I want in life."). The SWLS contains five items and uses a 7-point response scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The coefficient alphas are on upper .80s (.87, .89) in college student samples (Diener et al., 1985). The SWLS evidenced validity through associations with positive and negative affect and psychological distress in international samples (Gouveia et al., 2009). In the present study, internal consistency coefficient was .87 for the SWLS score.

## Analysis Strategy

### *Measurement Models*

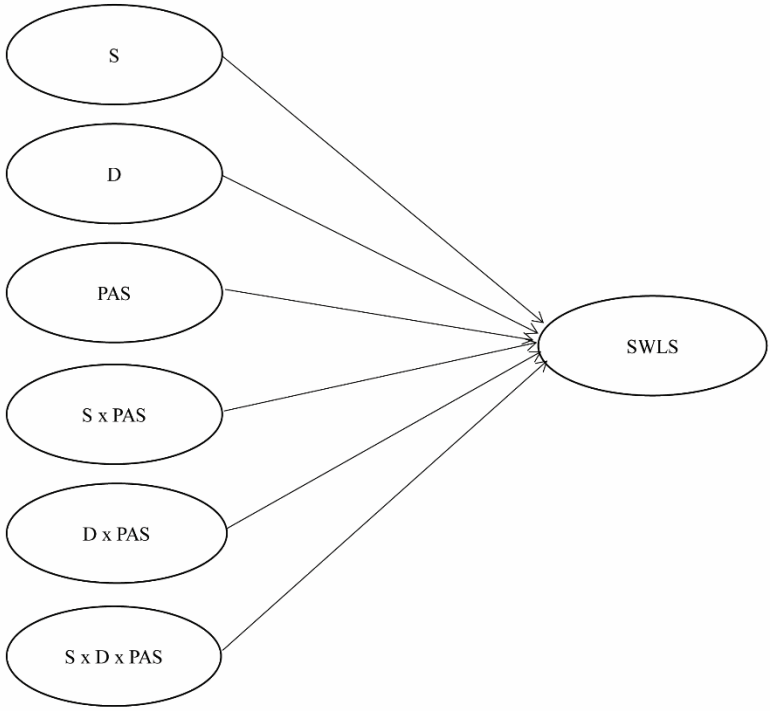
Analyses were conducted with IBS SPSS Version 26 (2019) and M*plus* Version 8.4 (Muthén & Muthén, 1998–2019). Analyses were based on the robust MLR estimator in M*plus,* which yields maximum likelihood parameter estimates with standard errors robust to nonnormality. The default option of full information maximum likelihood in M*plus* was used to address missing data and generate unbiased parameter estimates. Confirmatory factor analysis was used to evaluate the measurement invariance of all variables (two SAPS factors, PAS, and SWLS).

Invariance testing involved a sequence of confirmatory factor analysis (CFA) model comparisons. First, a configural model was tested in which freely estimated factor loadings and intercepts were permitted for both international and domestic students. Second, a metric model that constrained the factor loadings to be equal across groups was tested. Third, a scalar model in which both factor loadings and intercepts were constrained to be equal across groups was tested.

Different measurement models were evaluated using global fit indices: comparative fit index (CFI), root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). Following Brown (2015) and Hu and Bentler (1999), an acceptable model fit for measurement and structural models would be supported with the CFI in the .90–.95 range, RMSEA near or less than .06, and SRMR values of .08 or less. McDonald's noncentrality index (MNCI; McDonald & Marsh, 1990) also was included given its value in measurement invariance analyses (Kang et al., 2016). Nested models (more constrained minus less constrained) were compared using scaling-corrected $\Delta\chi^2$, $\Delta$CFI (decrease >.002; Meade et al., 2008), and $\Delta$MNCI (decrease >.007; Kang et al., 2016). Following other recommendations (e.g., Dimitrov, 2010; Sass, 2011), instances of noninvariance were further explored through descriptive statistics to evaluate the practical extent of noninvariance. Revising models if noninvariance would be detected (e.g., allowing for partial invariance) was considered.

***Structural Models Associations Between Perfectionism, Perceived Academic Stress, and Satisfaction with Life***

Multiple-group structural equation models were tested to compare the strength of associations between two SAPS factors, PAS and SWLS between groups. The effects of the factors in predicting the outcomes were first freely estimated, then effects were constrained to be invariant between international and domestic students. Latent interaction terms (see Marsh & Hau, 2007; Marsh et al., 2004) were used to evaluate the Standards × Discrepancy interaction and the three-way Standards × Discrepancy × PAS interaction. The interaction terms were created using the quasimaximum likelihood approach (LMS/QML) approach in M*plus* (Klein & Moosbrugger, 2000; Klein & Muthén, 2007). Model comparisons involving freely estimated and constrained interaction terms between groups were based on –2 loglikelihood differences with scaling corrections. A conceptual structural model appears in Figure 1.




*Note.* S = standards, D = discrepancy, PAS = Perceived Academic Stress, SWLS = Satisfaction with Life Scale.

**Figure 1: Diathesis-Stress Model of Perfectionism**

*Note*: S = standards, D = discrepancy, PAS = Perceived Academic Stress, SWLS = Satisfaction with Life Scale.

## RESULTS

### Cross-Sectional Measurement Invariance

First CFA was used to test a four-factor measurement model for the SAPS (standards and discrepancy), PAS, and SWLS separately for each subgroup of students. This model fit well for international students, $\chi^2$ (113, $N$ = 531) = 224.31, $p$ < .0001, CFI = .956, RMSEA = .043 (95% CIs [−.035,.051]), SRMR = .094, and for domestic students, $\chi^2$ (113, $N$ = 359) = 217.60, $p$ < .0001, CFI = .964, RMSEA = .051 (95% CIs [−.041, .061]), SRMR = .041. Standardized factor loadings ranged from .61 to .87, and from .61 to .90, for international and domestic students, respectively. None of the modification indices pointed to a substantial revision needed to improve fit at this level of the analysis. Thus, the next steps involved multiple groups analysis beginning with a configural or pattern model and progressing through metric and scalar invariance models.

Fit results for multiple groups invariance models are summarized in Table 1. Metric or partial metric invariance was supported for all three measurements, which was necessary for the later tests of structural models of interest. A single loading was required to be freely estimated to support metric invariance for the SWLS, and that was a minor accommodation for a five-indicator scale. Partial scalar invariance was also supported for the SWLS after allowing a single intercept to be freely estimated between groups. The most substantial model adjustments occurred with the SAPS. Although metric invariance was clearly supported, four of its eight intercepts needed to be freely estimated between groups before partial scalar invariance could be supported.

### Structural Model of Perfectionism Diathesis-Stress Model

Two perfectionism factors were tested to determine if they interacted with perceived academic stress to predict satisfaction with life, although there were no specific expectations for group differences in the magnitude of those three-way interaction effects. Constraining the direct paths and all interactions to be invariant between the groups significantly worsened model fit, Δ-2LL (7) = 17.60, $p$ =.014. In the freely estimated model, the three-way interaction was significant for both groups: $\gamma$ = 0.15 ($SE$ = 0.05), $p$ = .002, and $\gamma$ = −0.18 ($SE$ = 0.07), $p$ = .011, for international and domestic students, respectively. Constraining only that three-way interaction to be invariant between groups significantly worsened fit than the freely estimated model, Δ-2LL (1) = 8.72, $p$ = .003. Thus, the three-way interaction of Standards × Discrepancy × Perceived Academic Stress was not only significant within each student group, but that effect was also significantly different between the groups. This means that the moderating effects of the two perfectionism dimensions on the association between academic stress and satisfaction with life were not the same in both groups of students.

Simple slopes at different levels of the predictors were calculated, and plots were constructed to facilitate the interpretation of the three-way interaction for both student groups (Figures 2 and 3). More specifically, the moderating effects for standards and discrepancy on the association between stress and satisfaction with life were evaluated with simple slopes and then depicted at low (−1 *SD*) and high (+1 *SD*) levels of the predicting factors. For international students, the unstandardized regression coefficient was largest among those with low standards and high discrepancy ($b$ = −1.31, $p$ =.027), followed by those with both high standards and discrepancy ($b$ = −1.24, $p$ =.001), high standards and low discrepancy ($b$ = −1.23, $p$ =.002), and both low standards and discrepancy ($b$ = −0.35, $p$ =.506). For domestic students, the unstandardized regression coefficient was largest among those with both high standards and discrepancy ($b$ = −1.11, $p$ < .001), followed by those with both low standards and discrepancy ($b$ = −0.57, $p$ = .003), high standards and low discrepancy ($b$ = −0.36, $p$ = .098), and low standards and high discrepancy ($b$ = −0.28, $p$ =.263). In general, these results indicated that higher levels of academic stress were associated with lower levels of life satisfaction for both student groups. However, the results further suggested that different combinations of perfectionism levels played a role in exacerbating or buffering that association.

**Table 1: Fit of Four-Factor Measurement Invariance Models for International and Domestic Students**

| Model | $\chi^2$ | *df* | CFI | RMSEA 90% CI | SRMR | MCNI | $\Delta\chi^2$ | $\Delta df$ | *p* | ΔCFI | ΔMCNI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SAPS | | | | | | | | | | | |
| Configural | 102.61 | 38 | .969 | .062 [.048, .077] | .047 | .964 | | | | | |
| Metric | 110.76 | 44 | .968 | .059 [.045, .073] | .058 | .963 | 9.04 | 6 | .171 | −.001 | −.001 |
| Scalar | 183.23 | 50 | .937 | .078 [.066, .090] | .072 | .928 | 71.94 | 6 | <.0001 | −.031 | −.035 |
| Partial scalar[a] | 121.12 | 46 | .964 | .061 [.048, .075] | .058 | .959 | 11.12 | 2 | .004 | −.004 | −.005 |
| PAS | | | | | | | | | | | |
| Configural | 32.65 | 4 | .930 | .186 [.130, .247] | .033 | .966 | | | | | |
| Metric | 35.28 | 7 | .931 | .140 [.096, .187] | .050 | .967 | 5.33 | 3 | .149 | .001 | .001 |
| Scalar | 34.81 | 10 | .939 | .109 [.071, .150] | .050 | .971 | 0.02 | 3 | .999 | .008 | .004 |

| Model | $\chi^2$ | *df* | CFI | RMSEA 90% CI | SRMR | MCNI | $\Delta\chi^2$ | $\Delta df$ | *p* | ΔCFI | ΔMCNI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SWLS | | | | | | | | | | | |
| Configural | 54.23 | 10 | .970 | .101 [.075, .128] | .027 | .975 | | | | | |
| Metric | 72.92 | 14 | .960 | .098 [.077, .121] | .055 | .967 | 17.96 | 4 | .001 | −.010 | −.008 |
| Partial metric[b] | 64.05 | 13 | .966 | .095 [.073, .119] | .043 | .972 | 8.44 | 3 | .038 | −.004 | −.004 |
| Scalar | 98.71 | 17 | .945 | .105 [.086, .126] | .058 | .955 | 38.59 | 4 | <.0001 | −.021 | −.017 |
| Partial scalar[c] | 77.99 | 16 | .958 | .094 [.074, .116] | .048 | .966 | 13.70 | 3 | .003 | −.008 | −.006 |

*Note*: CFI = comparative fit index; MNCI = McDonald noncentrality index; df = degrees of freedom; RMSEA = root mean square error of approximation; CI = confidence interval; SRMR = standardized root means square residual; SAPS = short almost perfect scale; PAS = perceived academic stress; SWLS = satisfaction with life scale.

Scalar invariance was not necessary to establish for the model tested in this study.

[a] Freely estimated intercepts for four items.

[b] Freely estimated loading for one item.

[c] Freely estimated intercept for one item.

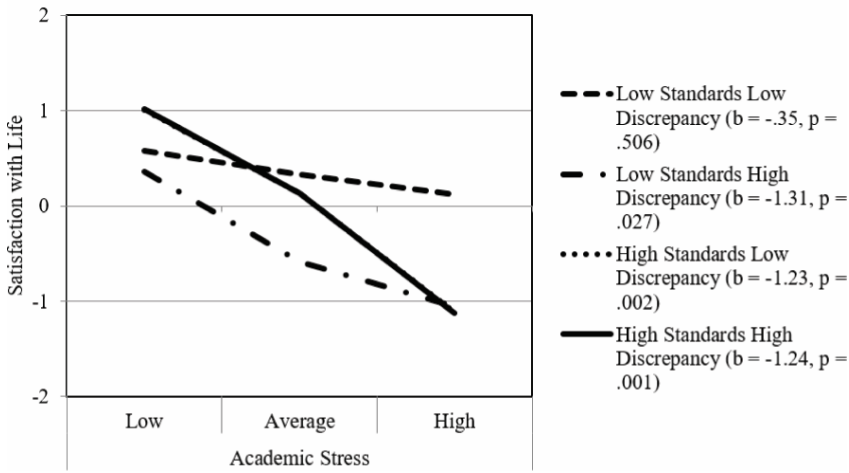



**Figure 2: Three-Way Interaction of Perceived Academic Stress, Standards, and Discrepancy in Predicting Satisfaction with Life in International Students.**

*Note*: High standards and low discrepancy (dotted line) is nearly identical to high standards and high discrepancy (straight line), and thus cannot be seen in the figure.

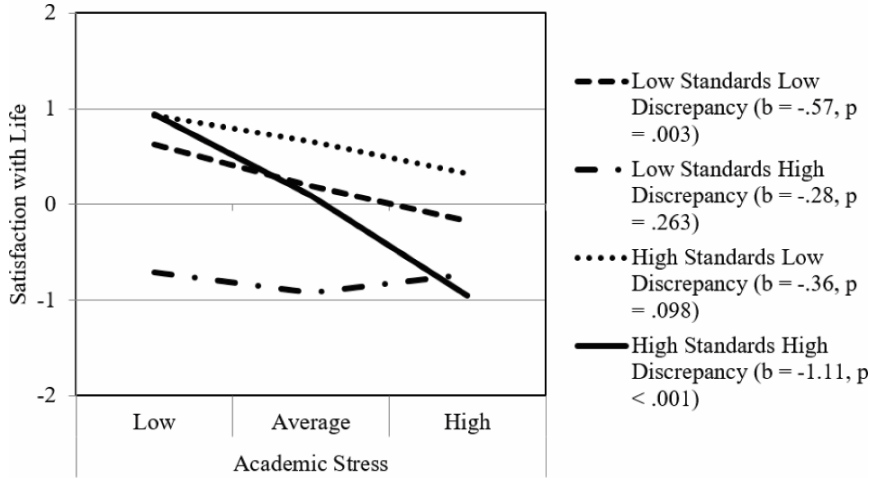



**Figure 3: Three-Way Interaction of Perceived Academic Stress, Standards, and Discrepancy in Predicting Satisfaction with Life in Domestic Students.**

## DISCUSSION

Extending the applicability of the perfectionism diathesis-stress model, this study examined how two aspects of perfectionism that interacted with academic stress were related to satisfaction with life among international and domestic graduate students. Measurement invariance was examined first to allow for fair group comparisons with cross-national samples (Chen, 2008). The results generally supported metric invariance, indicating that meaningful interpretations can be made of group differences in the strength of associations between our constructs of interest. More substantially, the results found support for a three-way interaction (Standards × Discrepancy × PAS) in the association with satisfaction with life for both groups.

First, there were similarities between international and domestic students. Specifically, satisfaction with life of international and domestic students with high standards and high discrepancy was the lowest when perceived academic stress was high. Similarly, this group (high standards and high discrepancy) showed the highest satisfaction with life when perceived academic stress was low, compared with the other three groups (a combination of standards and discrepancy). In sum, for perfectionists in both student groups, the level of academic stress is an essential factor that is associated with how they feel about their lives. The similarities between international and domestic students, however, seem to stop there.

Only one group (those with low levels of both perfectionism scores) seemed unaffected by elevated stress for international students. In other words, any combination of high and low standards and discrepancy, when combined with high stress, was associated with a similarly low level of satisfaction with life for

international students. Thus, when stress is high, the effects of perfectionism seem to abate unless both perfectionism scores are low.

The finding that, for international students, having at least one elevated perfectionism dimension worsened the effects of stress on satisfaction with life partially supports yet partially contradicts the 2 × 2 model of perfectionism (Gaudreau & Thompson, 2010). It supports this model because the group showing low standards and high discrepancy ("pure self-critical perfectionists") showed the most debilitative outcome (i.e., lowest satisfaction with life compared with other groups) regardless of stress level. At the same time, it contradicts the 2 × 2 model because the "mixed perfectionism" (high standards and high discrepancy) was not any more or less adaptive than the "pure personal standards" perfectionism (high standards and low discrepancy). Thus, the distinction of adaptiveness/maladaptiveness may need to be reexamined when understanding perfectionism in international students, especially when in conjunction with the association between stress and subjective well-being.

In contrast, the same "triple threat" of diathesis-stress patterns failed to materialize for domestic students. For domestic students, it was a different group (those with high standards and low discrepancy scores) who seemed unaffected by elevated stress. Also, unlike international students, those with low standards and low discrepancy were affected by all levels of stress, showing low levels of satisfaction with life. Lastly, in rather stark contrast to the international students, domestic students who seemed most immune to the exacerbation of detrimental stress effects with an already low level of satisfaction with life were those with low standards and high discrepancy. In sum, variable levels of stress for these domestic students failed to show an association with any fluctuation in their persistently low satisfaction with life.

The "adaptive" and "maladaptive" labels might characterize perfectionistic domestic students. This is because the most dramatically declining slope predicting satisfaction with life emerged for those with high levels of both perfectionism factors (typically referred to as "maladaptive") and those who showed the highest levels of satisfaction with life were those with high standards and low discrepancy (typically referred as "adaptive"). Further, for domestic students, those who are considered "pure self-critical perfectionists" (low standards, high discrepancy) in the 2 × 2 model showed the lowest levels of satisfaction with life consistent across stress levels. This finding indicates that an important factor that leads domestic students to feel less satisfied with their lives is their discrepancy level within the present study, mostly irrespective of their perceptions of academic stress level. Thus, implementing interventions aimed at reducing discrepancy may prove the most effective in enhancing satisfaction with life among domestic students.

To the best available knowledge, no theoretical proposition or prior findings help explain why there were differences between international and domestic graduate students on how each perfectionism dimension functioned altogether with academic stress. One speculation with international students on the emergence of the "triple threat," with standards being negatively associated with satisfaction with life, might be due to the composition of international graduate

students. A large percentage of the international graduate students consisted of Asian students. Having high standards can be detrimental rather than motivating, because setting high standards might be to fulfill the expectations of others of one's performance, rather than a self-driven and self-set mark.

"Saving face" (preserving one's reputation and avoid embarrassment) by being academically successful is a prevalent and strong Asian value (Kim et al., 2001). Excelling academically is a source of family pride, and failing academically is a source of family shame (Kao, 1995). Thus, the Asian cultural traditions imbued in a large proportion of international students may have contributed to how both perfectionism dimensions could exacerbate the effects of academic stress. Regarding domestic student results, even without high standards, feeling discrepant of not meeting any self-set expectations seems to be a strong source of low satisfaction with life, regardless of academic stress level. Self-disappointment seems to be an important aspect of their life assessment, although only speculations could be made.

The results of this study suggest that the widely used label of "adaptive" and "maladaptive" perfectionists should be carefully applied with international students, especially concerning satisfaction with life. The label of maladaptive perfectionists (typically defined as high standards and high discrepancy) may need to be reconsidered with international students concerning satisfaction with life. Thus, the adaptiveness and maladaptiveness of perfectionism dimensions should be an empirical question evidenced through associative patterns with multiple well-being indicators and diverse samples.

**Implications on Educational Practices**

Findings from this study have implications for educational practice when working with international and domestic graduate students. Specifically, educators can start considering perfectionism as a stress-enhancing factor in intensifying academic stress, thereby affecting life satisfaction when working with both student groups. First, an assessment of perfectionism scores should precede because different combinations of high and low standards and discrepancy scores show distinctive patterns reducing life satisfaction in both student groups. In conjunction with mental health professionals, interventions should be devised to be tailored explicitly per respective perfectionism dimension scores. For example, for both international and domestic students exhibiting high scores in both dimensions of perfectionism, life satisfaction was high when academic stress was low. However, as academic stress increased, the effects of perfectionism dimensions intensified, regardless of whether it is striving for excellence (standards) or finding oneself inadequate in reaching self-set high expectations (discrepancy). Thus, for these students in both groups, rather than invalidating the need to strive for excellence and scrutinize their performance (focus is perfectionism itself), reframing that perfectionism is especially detrimental under stress (focus is perfectionism intensifying stress) would be an accurate approach in an intervention.

In terms of distinguished intervention approaches to each student group, educators can address the effects of both dimensions of perfectionism interacting with stress to predict satisfaction with life for international students. For example, it might be easier for some to become less critical of their performance than reducing their expectations for performance. For domestic students, interventions should primarily address reducing discrepancy without addressing lowering or increasing self-set expectations.

**Limitations and Future Directions**

This study has several limitations. First, within the international student population, country of origin, study field, and previous exposure in the U.S. educational system can be relevant variables to consider in the stress model. Although controlling for these variables can be a way to account for heterogeneity, this approach is restricted in that it cannot explain any subgroup differences within the international student group in relation to outcome variables. There are also multiple ways for international students to be subgrouped (e.g., country of origin, ethnicity, religious background). These subgroupings should largely be guided by reasonable theory and research questions of interest.

Second, future research could reduce the inherent limitations of reliance on self-report measures by supplementing them with, or replacing them with, observer reports. For example, performance-related academic stress could be a manipulated factor in an experimental design. Educator ratings of student perfectionism can be another way to address the limitation of self-reported perfectionism.

Lastly, future studies could control any potential confounding variables as possible, such as years in the United States for international students and support/absence of financial assistantships. Despite limitations, this study found that adaptiveness and maladaptivenss of perfectionism depend on group characteristics. This finding has been acknowledged less thus far, which has direct implications for college educators. Results such as those reported in the current study may set the stage for future longitudinal work to track the risk and resilience of perfectionistic students over time, aiding in tailoring educational practices geared toward maintaining the reduction of perfectionism dimensions.

In conclusion, guided by the perfectionism diathesis-stress model, this study examined how perfectionism interacts with academic stress to account for satisfaction with life. Our findings support that international and domestic graduate students are more different than similar, at least in how perfectionism dimensions interact with academic stress. Particularly, both dimensions of perfectionism functioned to exacerbate the effects of academic stress with international graduate students, which was associated with low satisfaction with life. This finding suggests that a more nuanced understanding of international graduate students' perfectionism levels is warranted.

## REFERENCES

Anaby, D., Jarus, T., & Zumbo, B. D. (2010). Psychometric evaluation of the Hebrew language version of the Satisfaction with Life Scale. *Social Indicators Research, 96*(2), 267–274. https://doi.org/10.1007/s11205-009-9476-z

Bastien, G., Seifen-Adkins, T., & Johnson, L. R. (2018). Striving for success: Academic adjustment of international students in the U.S. *Journal of International Students, 8*(2), 1198–1219. https://doi.org/10.32674/jis.v8i2.143

Bolger, N., & Zuckerman, A. (1995). A framework for studying personality in the stress process. *Journal of Personality and Social Psychology, 69*(5), 890–902. https://doi.org/10.1037/0022-3514.69.5.890

Brown, T. A. (2015). *Confirmatory factor analysis for applied research*. Guilford Press.

Chen, F. F. (2008). What happens if we compare chopsticks with forks? The impact of making inappropriate comparisons in cross-cultural research. *Journal of Personality and Social Psychology, 95*(5), 1005–1018. https://doi.org/10.1037/a001319310.1037/a0013193

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*(4), 385–396. https://doi.org/10.2307/2136404

Cowie, M. E., Nealis, L. J., Sherry, S. B., Hewitt, P. L., & Flett, G. L. (2018). Perfectionism and academic difficulties in graduate students: Testing incremental prediction and gender moderation. *Personality and Individual Differences, 123*, 223–228. https://doi.org/10.1016/j.paid.2017.11.027

Curtin, N., Stewart, A. J., & Ostrove, J. M. (2013). Fostering academic self-concept: Advisor support and sense of belonging among international and domestic graduate students. *American Educational Research Journal, 50*(1), 108–137. https://doi.org/10.3102/0002831212446662

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*(1), 71–75. https://doi.org/HYPERLINK "https://doi.org/10.1207/s15327752jpa4901_13" 10.1207/s15327752jpa4901_13

Diener, E., Inglehart, R., & Tay, L. (2013). Theory and validity of life satisfaction scales. *Social Indicators Research, 112*(3), 497-527. https://doi.org/10.1007/s11205-012-0076-y

Dimitrov, D. M. (2010). Testing for factorial invariance in the context of construct validation. *Measurement and Evaluation in Counseling and Development, 43*(2), 121–149. https://doi.org/10.1177/0748175610373459

Dunkley, D. M., Mandel, T., & Ma, D. (2014). Perfectionism, neuroticism, and daily stress reactivity and coping effectiveness 6 months and 3 years later. *Journal of Counseling Psychology, 61*(4), 616–633. https:// doi.org/10.1037/cou0000036

El-Ghoroury, N. H., Galper, D. I., Sawaqdeh, A., & Bufka, L. F. (2012). Stress, coping, and barriers to wellness among psychology graduate students. *Training and Education in Professional Psychology, 6*(2), 122–134. https://doi.org/10.1037/a0028768

Enns, M. W., Cox, B. J., & Clara, I. P. (2005). Perfectionism and neuroticism: A longitudinal study of specific vulnerability and diathesis-stress models. *Cognitive Therapy and Research, 29*(4), 463–478. https://doi.org/10.1007/s10608-005-2843-04

Flett, G. L., Hewitt, P. L., Blankstein, K. R., & Mosher, S. W. (1995). Perfectionism, life events, and depressive symptoms: A test of a diathesis-stress model. *Current Psychology, 14*(2), 112–137. https://doi.org/10.1007/BF02686885

Gardner, S. K., & Barnes, B. J. (2007). Graduate student involvement: Socialization for the professional role. *Journal of College Student Development, 48*(4), 369–387. https://doi.org/10.1353/csd.2007.0036

Gaudreau, P., & Thompson, A. (2010). Testing a 2× 2 model of dispositional perfectionism. *Personality and Individual Differences, 48*(5), 532–537. https://doi.org/10.1016/j.paid.2009.11.031

Gouveia, V. V., Milfont, T. L., Da Fonseca, P. N., & de Miranda Coelho, J. A. P. (2009). Life satisfaction in Brazil: Testing the psychometric properties of the satisfaction with life scale (SWLS) in five Brazilian samples. *Social Indicators Research, 90*(2), 267–277. https://doi.org/10.1007/s11205-008-9257-0

Hamamura, T., & Laird, P. G. (2014). The effect of perfectionism and acculturative stress on levels of depression experienced by East Asian international students. *Journal of Multicultural Counseling and Development, 42*(4), 205–217. https://doi.org/10.1002/j.2161-1912.2014.00055.x

Hill, A. P., Hall, H. K., & Appleton, P. R. (2011). The relationship between multidimensional perfectionism and contingencies of self-worth. *Personality and Individual Differences, 50*(2), 238–242. https://doi.org/10.1016/j.paid.2010.09.036

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Huang, S. L., & Mussap, A. J. (2018). Maladaptive perfectionism, acculturative stress and depression in Asian international university students. *Journal of Psychologists and Counsellors in Schools, 28*(2), 185–196. https://doi.org/10.1017/jgc.2016.18

Hyun, J. K., Quinn, B. C., Madon, T., & Lustig, S. (2006). Graduate student mental health: Needs assessment and utilization of counseling services. *Journal of College Student Development, 47*(3), 247–266. https://doi.org/10.1353/csd.2006.0030

Institute of International Education. (2019). *Enrollment trends*. Retrieved December 17, 2020, from https://opendoorsdata.org/data/international-students/enrollment-trends/

Jiang, Q., Yuen, M., & Horta, H. (2020). Factors influencing life satisfaction of international students in Mainland China. *International Journal for the Advancement of Counselling, 42*(4), 393–413. https://doi.org/10.1007/s10447-020-09409-7

Kang, Y., McNeish, D. M., & Hancock, G. R. (2016). The role of measurement quality on practical guidelines for assessing measurement and structural invariance. *Educational and Psychological Measurement, 76*(4), 533–561. https://doi.org/10.1177/0013164415603764

Kao, G. (1995). Asian Americans as model minorities? A look at their academic performance. *American Journal of Education, 103*(2), 121–159. https://doi.org/10.1086/444094

Klein, A., & Moosbrugger, H. (2000). Maximum likelihood estimation of latent interaction effects with the LMS method. *Psychometrika, 65*(4), 457–474. https://doi.org/10.1007/BF02296338

Klein, A. G., & Muthén, B. O. (2007). Quasi-maximum likelihood estimation of structural equation models with multiple interaction and quadratic effects. *Multivariate Behavioral Research, 42*(4), 647–673. https://doi.org/10.1080/00273170701710205

Kim, B. S. K., Atkinson, D. R., & Umemoto, D. (2001). Asian cultural values and the counseling process: Current knowledge and directions for future research. *The Counseling Psychologist, 29*(4), 570–603. https://doi.org/10.1177/0011000001294006

Lent, R. W., do Céu Taveira, M., Sheu, H.B., & Singley, D. (2009). Social cognitive predictors of academic adjustment and life satisfaction in Portuguese college students: A longitudinal analysis. *Journal of Vocational Behavior, 74*(2), 190–198. https://doi.org/10.1016/j.jvb.2008.12.006

Madigan, D. J. (2019). A meta-analysis of perfectionism and academic achievement. *Educational Psychology Rev*iew*, 31*(4), 967–989. https://doi.org/10.1007/s10648-019-09484-2

Mak, A. S., Bodycott, P., & Ramburuth, P. (2015). Beyond host language proficiency: Coping resources predicting international students' satisfaction. *Journal of Studies in International Education, 19*(5), 460–475. https://doi.org/10.1177/1028315315587109

Marsh, H. W., & Hau, K. T. (2007). Applications of latent-variable models in educational psychology: The need for methodological-substantive synergies. *Contemporary Educational Psychology, 32*(1), 151–170. https://doi.org/10.1016/j.cedpsych.2006.10.008

Marsh, H. W., Wen, Z., & Hau, K. T. (2004). Structural equation models of latent interactions: Evaluation of alternative estimation strategies and indicator construction. *Psychological Methods, 9*(3), 275–300. https://doi.org/10.1037/1082-989X.9.3.275

McDonald, R. P., & Marsh, H. W. (1990). Choosing a multivariate model: Noncentrality and goodness of fit. *Psychological Bulletin, 107*(2), 247–255. https://doi.org/10.1037/0033-2909.107.2.247

Meade, A. W., Johnson, E. C., & Braddy, P. W. (2008). Power and sensitivity of alternative fit indices in tests of measurement invariance. *Journal of Applied Psychology, 93*(3), 568–592. https://doi.org/10.1037/0021-9010.93.3.568

Misra, R., & Castillo, L. G. (2004). Academic stress among college students: Comparison of American and international students. *International Journal of Stress Management, 11*(2), 132–148. https://doi.org/10.1037/1072-5245.11.2.132

Moate, R. M., Gnilka, P. B., West, E. M., & Rice, K. G. (2019). Doctoral student perfectionism and emotional well-being. *Measurement and Evaluation in Counseling and Development, 52*(3), 145–155. https://doi.org/10.1080/07481756.2018.1547619

Muthén, L. K., & Muthén, B. O. (–2019). *Mplus user's guide* (8th ed.). Muthén & Muthén.

Nilsson, P. A. (2015). Life satisfaction among outbound students in Northern Sweden. *World Journal of Education, 5*(4), 87–92. http://dx.doi.org/10.5430/wje.v5n4p87

Offstein, E. H., Larson, M. B., McNeill, A. L., & Mjoni Mwale, H. (2004). Are we doing enough for today's graduate student? *International Journal of Educational Management, 18*(7), 396–407. HYPERLINK "https://doi.org/10.1108/09513540410563103"

Oswalt, S. B., & Riddock, C. C. (2007). What to do about being overwhelmed: Graduate students, stress and university services. *The College Student Affairs Journal, 27*(1), 24–44. https://eric.ed.gov/?id=EJ899402

Pavot, W., & Diener, E. (2008). The satisfaction with life scale and the emerging construct of life satisfaction. *The Journal of Positive Psychology, 3*(2), 137–152. https://doi.org/10.1080/17439760701756946

Pedersen, D. E., Swenberger, J., & Moes, K. E. (2017). School spillover and college student health. *Sociological Inquiry, 87*(3), 524–546. https://doi.org/10.1111/soin.12161

Poropat, A. E. (2009). A meta-analysis of the five-factor model of personality and academic performance. *Psychological Bulletin, 135*(2), 322–338. https://doi.org/10.1037/a0014996

Rice, K. G., Richardson, C. M. E., & Tueller, S. (2014). The short form of the revised almost perfect scale. *Journal of Personality Assessment, 96*(3), 368–379. https://doi.org/10.1080/00223891.2013.838172

Rummell, C. M. (2015). An exploratory study of psychology graduate student workload, health, and program satisfaction. *Professional Psychology: Research and Practice, 46*(6), 391–399. https://doi.org/10.1037/pro0000056

Sallee, M. W. (2015). Adding academics to the work/family puzzle: Graduate student parents in higher education and student affairs. *Journal of Student Affairs Research and Practice, 52*(4), 401–413. https://doi.org/10.1080/19496591.2015.1083438

Sass, D. A. (2011). Testing measurement invariance and comparing latent factor means within a confirmatory factor analysis framework. *Journal of Psychoeducational Assessment, 29*(4), 347–363. https://doi.org/10.1177/0734282911406661

Stoeber, J. (2018). The psychology of perfectionism: Critical issues, open questions, and future directions. In J. Stoeber (Ed.), *The psychology of perfectionism: Theory, research, applications* (pp. 333–352). Routledge.

Stoeber, J., & Otto, K. (2006). Positive conceptions of perfectionism: Approaches, evidence, challenges. *Personality and Social Psychology Review, 10*(4), 295–319. https://doi.org/10.1207/s15327957pspr1004_2

Suh, H., Gnilka, P. B., & Rice, K. G. (2017). Perfectionism and well-being: A positive psychology framework. *Personality and Individual Differences, 111*, 25–30. https://doi.org/10.1016/j.paid.2017.01.041

Tucker, K. L., Ozer, D. J., Lyubomirsky, S., & Boehm, J. K. (2006). Testing for measurement invariance in the satisfaction with life scale: A comparison of Russians and North Americans. *Social Indicators Research, 78*(2), 341–360. https://www.jstor.org/stable/27522612

Wang, K. T., Heppner, P. P., Fu, C. C., Zhao, R., Li, F., & Chuang, C. C. (2012). Profiles of acculturative adjustment patterns among Chinese international students. *Journal of Counseling Psychology, 59*(3), 424–436. https://doi.org/10.1037/a0028532

Yusoff, Y. M. (2012). Self-efficacy, perceived social support, and psychological adjustment in international undergraduate students in a public higher education institution in Malaysia. *Journal of Studies in International Education, 16*(4), 353–371. https://doi.org/10.1177/1028315311408914

Zhang, J., & Goodson, P. (2011). Predictors of international students' psychosocial adjustment to life in the United States: A systematic review. *International Journal of Intercultural Relations, 35*(2), 139–162. https://doi.org/10.1016/j.ijintrel.2010.11.011

Zhao, C. M., Kuh, G. D., & Carini, R. M. (2005). A comparison of international student and American student engagement in effective educational practices. *Journal of Higher Education, 76*(2), 209–231. http://www.jstor.org/stable/3838723.

Zureck, E., Altstötter-Gleich, C., Wolf, O. T., & Brand, M. (2014). It depends: Perfectionism as a moderator of experimentally induced stress. *Personality and Individual Differences, 63*, 30–35. https://doi.org/10.1016/j.paid.2014.01.038

**HANNA SUH, PhD**, is an assistant professor in the Psychology and Child & Human Development Academic Group at the National Institute of Education/Nanyang Technological University, Singapore. In her research, she explores how individuals deal with stress to lead meaningful and fulfilling lives. Research interest topics include perfectionism, mindfulness, and positive psychology interventions, and online counseling. Email: hanna.suh@nie.edu.sg

**JIHEE HONG, MA**, is a doctoral candidate in the Counseling Psychology PhD program at Georgia State University. Her research interests include exploring role of risk and protective factors (e.g., perfectionism, self-compassion) in predicting mental health outcomes (e.g., suicidal risk factors), and examining psychometric properties of psychological measurements. Email: jhong22@student.gsu.edu

**KENNETH G. RICE, PhD**, is the Matheny Endowed Chair and professor in the Department of Counseling & Psychological Services, and co-director of the Center for the Study of Stress, Trauma, and Resilience, at Georgia State University. Much of his research focuses on stress and how personal characteristics (such as perfectionism) moderate the effects of stress on a variety of health, mental health, and academic outcomes. Email: kgr1@gsu.edu

**VICTORIA A. KELLY** is a project manager for Relias LLC and former research assistant for various academic research labs. Her research interests focus on social influences on judgment and decision-making. Email: victoriaakelly@yahoo.com