To be kind or not to be kind: The moderating role of self-compassion in the relationship between general resourcefulness and academic self-regulation

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To cite this article: Rebecca D Martin & Deborah J Kennett (2017): To be kind or not to be kind: The moderating role of self-compassion in the relationship between general resourcefulness and academic self-regulation, The Journal of Social Psychology, DOI: 10.1080/00224545.2017.1407286

To link to this article: https://doi.org/10.1080/00224545.2017.1407286

Accepted author version posted online: 22 Nov 2017. Published online: 08 Dec 2017.

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To be kind or not to be kind: The moderating role of self-compassion in the relationship between general resourcefulness and academic self-regulation

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Trent University

ABSTRACT
We investigated whether the relationship between students' general resourcefulness and academic self-regulation changes as a function of self-compassion. A predominantly female sample of 196 undergraduates completed inventories assessing these and other measures. The significant moderating effect of self-compassion revealed that the positive relationship between general resourcefulness and academic self-regulation was stronger for participants scoring low in self-compassion. For those low in self-compassion, scoring low in general resourcefulness was associated with the lowest academic self-regulation, whereas scoring high in general resourcefulness was associated with the greatest academic self-regulation. The positive relationship between general and academic self-regulation was attenuated for participants high in self-compassion, with predicted scores for academic self-regulation falling in between the two values described for the low self-compassion function. Implications of the findings are discussed, including the potential value of incorporating self-compassion training alongside programs aimed at increasing general resourcefulness and academic self-regulation.

ARTICLE HISTORY
Received 2 June 2017
Revised 6 November 2017
Accepted 6 November 2017

KEYWORDS
Academic self-regulation; adjustment; general resourcefulness; grades; self-compassion

Anecdotally, many of us know of well-adjusted high achievers who overly analyze and are very self-critical about past academic disappointments, despite the empirical and theoretical perspectives expounding the benefits of being self-compassionate both within and outside of the academic realm on well-being, personal adjustment, and motivation following disappointing situations (Breines & Chen, 2012; Kyeong, 2013; Neff, 2011). The current study addressed this contradiction, proposing that less self-compassionate students engage in more academic self-regulatory behaviors if they have a solid foundation of general resourcefulness skills to fall back on and to effectively cope with academic setbacks. Conversely, students scoring low in both self-compassion and general resourcefulness were predicted to take part in academic self-regulation much less frequently.

According to Rosenbaum’s Self-Control Model (1980, 1990), to reduce feelings of stress or tension associated with setbacks in goal attainment and to increase chances of success, individuals must engage in general resourceful behaviors. Rosenbaum (1980, 1989, 1990, 2000) defines general learned resourcefulness as a behavioral coping repertoire that includes the use of positive self-talk, application of problem-solving strategies (e.g., planning, anticipating consequences, having alternative strategies), the ability to delay immediate gratification, and a recognition that behavioral changes require a lot of personal commitment and effort.

Furthering the theoretical work of Rosenbaum, Kennett’s (1994) academic self-regulation model suggests a student’s repertoire of academic-specific self-regulation strategies is one of the key factors contributing to academic success, with past research showing this construct to be a strong and unique predictor of higher academic grades, greater adjustment to university, increased retention,
and a better predictor of these variables than general resourcefulness (Kennett, 1994; Kennett & Keefer, 2006; Kennett & Reed, 2009). As shown in Figure 1, after an academic setback or during academically stressful encounters, general resourceful skills act as a foundation for engaging in academic self-regulation behaviors, such that students possessing a larger repertoire of general learned resourcefulness are more likely to direct this skill base specifically to academia, enabling them to offset academic stress and setbacks by planning a study schedule, completing assignments before going to the pub with peers, and telling themselves to relax while writing exams (i.e., academic self-regulatory behaviors). Nonetheless, the theoretical model also asserts that even when students have general resourceful skills at their disposal, they will be more disinclined to engage in academic self-regulatory behaviors if they attribute academic disappointments to a lack of personal ability or do not believe in their academic abilities (i.e., lack academic self-efficacy). An abundant number of empirical studies support Kennett’s (1994) model, showing that greater academic self-regulation behaviors are independently predicted by higher general resourcefulness scores, along with a positive explanatory style for failure (i.e., academic failure is not a result of lack of effort or personal ability), and higher academic self-efficacy (Akgun & Carrochi, 2003; Akgun, 2004; Kennett, 1994; Kennett & Keefer, 2006; Reed, Kennett, Lewis, & Lund-Lucas, 2011).

Separate from studies on the academic self-regulation model, research on an individual’s interpretation of how to treat the self amidst personal failures has burgeoned over the last decade, with the construct of self-compassion receiving a lot of attention. According to Neff’s (2003a) definition, self-compassion involves three key components, each with a negative equivalent: self-kindness (perceiving the self as worthy of one’s own care and comfort following setbacks) versus self-criticism (critically judging oneself following disappointments); mindfulness (letting go of personal imperfections) versus over-identification (fixating on the details); and common humanity (viewing personal failures as normal) versus isolation (construing them as unique to the self). People interpreting setbacks as a common human experience, viewing themselves as deserving of personal care and affection, and accepting their imperfections are thus said to be more self-compassionate (Neff, 2003a).

Total self-compassion scores (where higher scores represent being more self-compassionate) are typically used in studies adopting Neff’s Self-Compassion Scale. Within the academic domain, higher levels of self-compassion have been associated with greater intrinsic motivation, perseverance, mastery-based (versus performance-based) achievement goals, and constructive coping strategies following an academic disappointment (Breines & Chen, 2012; Kyeong, 2013; Leary, Tate, Allen, Adams, & Hancock,
2007; Neely, Schallert, Mohammed, Roberts, & Chen, 2009; Neff, Hsieh, & Dejitterat, 2005; Neff, Kirkpatrick, & Dejitterat, 2004), and less academic-related anxiety, negative affect, homesickness, burn-out, and procrastination tendencies (Kyeong, 2013; Sirois, 2013; Terry, Leary, & Mehta, 2013; Williams, Stark, & Foster, 2008). Nonetheless, more than 80% of these correlations represent small-to-medium effect sizes with r ranging from .13 to .40, suggesting that not all students who score high on self-compassion necessarily experience the positive benefits linked to this construct and that, conversely, not all students who score low on self-compassion are destined to be less motivated, procrastinate more, and use fewer adaptive coping responses after experiencing a disappointment.

More generally, self-compassion has been positively and more strongly linked with a variety of favorable health outcomes, including life satisfaction, social connectedness, and well-being, and negatively and more strongly related with maladaptive health outcomes, including depression, anxiety, and rumination, with over 80% of effect sizes ranging from .40 to .65 (Neff, 2003b; Neff, Kirkpatrick, & Rude, 2007; Zessin, Dickhauser, & Garbade, 2015). Importantly, responding to everyday life obstacles with self-compassion is thought to soothe perceived threats to one’s ego, whereas taking a harshly self-critical approach to setbacks and exaggerating the negative impact and uniqueness of a disappointing event (i.e., taking a non-self-compassionate approach), because it is correlated with greater negative affect, triggers feelings of threat (Johnson & O’Brien, 2013).

Given academic self-regulation behaviors are triggered by threats to goal progress and one’s self-concept of being a “good” student (Kennett, 1994; Rosenbaum, 1990) and that taking a self-critical, isolating, and over-identifying view of disappointment (i.e., a less self-compassionate response) is more ego-threatening (Johnson & O’Brien, 2013), we hypothesized that a less self-compassionate response to failure may be advantageous with respect to increased academic self-regulation, but only for students who possess a wide array of general resourcefulness skills. Conversely, the intensified feelings of threat and anxiety associated with a less self-compassionate response may overwhelm less generally resourceful students and, ultimately, interfere with these students’ already limited ability to engage in academic self-regulatory behaviors (Kennett, 1994; Kennett & Keefer, 2006). In fact, an unpublished mixed methods study by the authors (Martin & Kennett, 2017) found self-criticism was common following an academic disappointment among both students scoring high and low in general resourcefulness, but that students with plentiful general resourcefulness repertoires were motivated by their self-criticism to engage in greater academic self-regulation, while the less generally resourceful students adopted a helpless response, thinking “why bother trying, I’m just going to fail anyways.” However, two of the students scoring low in general resourcefulness were starting to take a more self-compassionate approach to failures and were feeling more optimistic about their academic futures. We therefore expected students scoring low in general resourcefulness and high in self-compassion in the present study would engage in more academic self-regulation behaviors than students scoring low in both of these measures.

Specifically, we tested our hypotheses using a moderation analysis, whereby the positive relationship between general resourcefulness (independent variable) and academic self-regulation (dependent variable) was assessed separately for students having low and high self-compassion (moderating variable). In general, we predicted the positive relationship between general resourcefulness and academic self-regulation (Kennett, 1994; Kennett & Keefer, 2006) would be stronger for less self-compassionate students (i.e., larger differences in academic self-regulation for less and highly generally resourceful students when self-compassion is low), compared to a more attenuated positive relationship among more self-compassionate students (i.e., smaller differences in academic self-regulation of less and highly generally resourceful students when self-compassion is high). Additionally, we expected a crossover moderation, with the lowest and highest scores on academic self-regulation arising among the less self-compassionate students, and with scores on academic self-regulation among the more self-compassionate students falling in between the former two values. Shown in Figure 1 is the hypothesized addition of self-compassion as a moderator for the positive relationship between general resourcefulness and academic self-regulation.
A second aim of this investigation was to replicate previous studies examining the unique/independent and shared variance of variables shown in Figure 1 to the predictions of academic self-regulation, grades, and adjustment, respectively (e.g., Kennett & Keefer, 2006; Kennett & Reed, 2009; Reed et al., 2011). Not considered in this body of literature was self-compassion’s relationship with these various dependent variables. The present study addresses this gap by assessing these relationships.

Method

Participant characteristics

The sample was comprised of 196 undergraduate students, exceeding Tabachnick and Fidell’s (2007) recommended size for detecting a medium $R^2$ effect size in standard multiple regression with eight potential predictor variables. Students were predominantly female (89%), single (93%), Canadian citizens (97%), attending university full-time (96%), and in their first (67%) or second (24%) year of study. They were pursuing a wide variety of majors, with only 36% of them being a psychology or joint-psychology major. Ages ranged from 17–56, with 18-year olds (40%), 19-year olds (29%), and 20-year olds (13%) comprising the majority of the sample. Most students identified as Caucasian (81%), with Asian (7%) and mixed (5%) ethnicities being the second and third most commonly reported.

Measures

Rosenbaum’s 36-item Self-Control Schedule (SCS) measures general resourcefulness (Rosenbaum, 1980). It assesses participants’ use of positive self-statements to cope with the interfering effects of negative emotions and unpleasant bodily sensations (e.g., “To overcome bad feelings that accompany failure, I tell myself that it is not catastrophic and I can do something about it.”); ability to delay immediate gratification in order to complete less pleasant but important tasks (e.g., “I first do the things I like even if there are more urgent things to do.”, reversed-scored); problem-solving skills to overcome obstacles that get in the way of self-regulation behaviors and behavioral change (e.g., “If I find it difficult to concentrate on a task, I divide it into smaller segments.”); and understanding that self-regulation behaviors take personal effort and hard work (e.g., “If I carried the pills with me, I would take a tranquilizer whenever I felt tense or nervous.”, reversed-scored). Each item is measured on a 6-point Likert scale, ranging from −3 = very uncharacteristic of me to +3 = very characteristic of me, with higher scores indicating a more plentiful repertoire of general resourcefulness skills. Evidence for the construct-related validity and reliability of the SCS has been well documented (e.g., Boonpongmanee, Zauszniewski, & Boonpongmanee, 2002; Kiefer, 2002; Lévesque, 1995; Nakano, 1995; Ngai, Chan, & Holroyd, 2008; Redden, Tucker, & Leslie, 1983; Rosenbaum, 1980). Cronbach’s alpha for the 36 SCS items in the current study was .86.

Academic Resourcefulness Inventory (ARI) measures students’ academic self-regulation behaviors (Kennett, 1994). The 23 items of the inventory are assessed using a 7-point Likert scale, with opposing statements on either side of the scale. The items measure students’ ability to delay immediate gratification to complete academic tasks (e.g., “Unsuccessful at meeting deadlines/Successful at meeting deadlines.”), problem-solving skills related to academia (e.g., “Disinclined to take time each day to review my notes to prepare for future exams/Inclined to take time each day to review my notes to prepare for future exams.”), and personal effort required to succeed (e.g., “Lazy/Industrious.”). Higher scores indicate a larger repertoire of academic self-regulation skills. Construct-related validity and internal consistency of the ARI have been well established (e.g., Kennett, 1994; Kennett & Keefer, 2006; Reed & Kennett, 2017). Kennett (1994) found a 7-month test-retest reliability of .75. Internal consistency was high in the current study (23 items; $\alpha = .86$).

Academic Self-Efficacy Scale measures students’ belief in their ability to succeed academically, specifically, whether or not they think they will attain good grades, have the ability to learn and understand course material, and possess good study skills compared with other students (Kennett, 1994). Higher scores indicate greater academic self-efficacy. Kennett (1994) demonstrated internal
reliability, construct validity, and a 7-month test-retest reliability of .75. In the present study, internal reliability was excellent (9 items; $\alpha = .91$).

*Explanatory Style for Failure Questionnaire* assesses the types of reasons students perceive as responsible for their academic disappointments (Kennett & Keefe, 2006). The scale’s 18 items are divided into four subscales: Lack of Effort, Task Difficulty, Bad Luck, and Lack of Ability, with the Lack of Ability items being reverse-scored to reflect a positive explanatory style as modelled by Seligman’s (1991) theory of learned optimism. Lack of Effort consisted of 6 items ($\alpha = .78$), Task Difficulty had 5 items ($\alpha = .75$), and Bad Luck ($\alpha = .53$) and Not Lack of Ability ($\alpha = .73$) were each comprised of 3 items. Although Cronbach’s alpha is poor for the Bad Luck subscale in the current study, in previous studies, Bad Luck has been unrelated to general resourcefulness and academic self-regulation (e.g., Kennett & Reed, 2009).

*Self-Compassion Scale* measures participants’ self-compassionate responses when experiencing a difficult situation or feelings of personal failure and inadequacy (Neff, 2003a). The 26 items are measured using a 5-point Likert scale, with total scores indicating greater self-compassion. Factor analyses by Neff (2003b; 2016) revealed six subscales reflecting Self-Kindness (e.g., “When I’m going through a very hard time, I give myself the caring and tenderness I need.”), Mindfulness (e.g., “When I fail at something important to me, I try to keep things in perspective.”), Common Humanity (e.g., “I try to see my failings as part of the human condition.”), Self-Criticism (e.g., “When times are really difficult, I tend to be tough on myself.”), Over-Identification (e.g., “When I fail at something important to me, I become consumed by feelings of inadequacy.”), and Isolation (e.g., “When I fail at something that’s important to me, I tend to feel alone in my failure.”). Internal consistency, construct-related validity, and factor structure have been demonstrated in numerous investigations (e.g., Neff, 2003a, 2003b, 2016). Cronbach’s alpha was .93 for total self-compassion in the current study.

*University Adaptation Questionnaire* measures students’ adjustment to university (Crombag, 1968). Using a 6-point Likert scale, students answer 18 items assessing how at home they feel at university, how happy they are being a student/with their decision to attend university, how academically satisfied they are with their studies, and how socially adjusted or lonely they feel. Higher scores indicate better overall adjustment. Van Rooijen’s (1986) study supported internal consistency of the items (18 items; $\alpha = .83$). In the current study, Cronbach’s alpha was .90.

Demographic questions asked about age, sex, ethnicity, year at university, and time spent doing various academic and non-academic activities. These questions were always presented last, given this section of the survey required the least amount of concentration (Aspelmeier, 2014).

**Procedure**

A convenience sample of undergraduate students from a research participant pool at a small, liberal arts university in Ontario, Canada was recruited using an online research participation management system (the SONA system). Interested students were redirected to an external online survey site (Qualtrics), whereby students’ consent was obtained, followed by the questionnaires, which were presented in a random order. After completing the survey, participants were provided with debriefing and contact information and received a bonus credit towards a psychology course. At the end of the academic term, students’ GPAs were obtained. This study received ethical approval from the university’s Research Ethics Board.

**Results**

All data analyses were conducted using IBM SPSS Statistics Version 23. Only 0.2% of all data points (i.e., number of items multiplied by 196 participants) were missing. Little’s test provided evidence that the minor missing data for items of the inventories were missing completely at random (MCAR), $\chi^2 (5151) = 5194$, $p = .33$. Item-level multiple imputation was performed to maintain sample size and thus increase power relative to listwise deletion and to reduce bias compared to single imputation methods (Gottschall, West, & Enders, 2012; Sterne et al., 2009). Six participants did not provide an ID number to assess their year-end grades, with this one item value remaining
Assumptions for linear regression were checked, finding support for normality, linearity, and homoscedasticity. The means, standard deviations, and bivariate correlations (see Table 1) of the academic self-regulation variables replicated those reported in other studies (e.g., see Kennett, Reed, & Stuart, 2013). Inspection of the bivariate correlations revealed that students having more plentiful repertoires of general learned resourcefulness or academic self-regulation skills were more likely to respond to personal failures with self-compassion, have higher grades and scores on the academic self-efficacy and adjustment inventories, and were more likely to attribute academic disappointments as not due to a lack of effort nor ability. Noteworthy, Lee and Preacher’s (2013) calculator for testing the difference between two dependent correlations revealed that total self-compassion scores were significantly more strongly correlated with general measures (i.e., general resourcefulness and adjustment to university) than with academic-specific measures (i.e., explanatory style dimensions, academic self-efficacy, academic self-regulation, and grades), with z scores and p-values ranging from −2.66 to −6.00 and .008 to < .001, respectively.

### Does self-compassion moderate the relationship between general resourcefulness and academic self-regulation?

To examine whether the relationship between general resourcefulness (independent variable) and academic self-regulation (ASR; dependent variable) changes as a function of self-compassion (the moderator), a moderating analysis was conducted (see Table 2). General resourcefulness and total self-compassion scores were centered to avoid multicollinearity (see Howell, 2013). At step 1, centered general resourcefulness (Gen Res) and total self-compassion scores (Self-Comp) were entered and these main effects accounted for 18% of the total variance in academic self-regulation, with general resourcefulness uniquely contributing 12% of the variance to the prediction (p < .001). The main effect of self-compassion did not reach significance (p = .41), with its contribution being shared with general resourcefulness (18%−12% = 6%). The cross-product of general resourcefulness and self-compassion (Moderator) was entered at step 2, and significantly accounted for an additional 2% of the variance to the prediction of academic self-regulation (p = .03). Based on the regression coefficients and intercept at step 2, ASR = .29 (Gen Res) + .03 (Self-Comp) + [−.005 Moderator + 112.3], two linear regressions lines were computed (see Howell, 2013), one for low self-compassion (ASR = .47 (GenRes) + 111.25) and one for high self-compassion (ASR = .12 (GenRes) + 113.4), with low and high GenRes scores and Self-Comp scores being 2 standard deviations below and above the mean. As signified by the slopes of the two equations, the relationship between general

<table>
<thead>
<tr>
<th>Measure</th>
<th>SCS</th>
<th>ASR</th>
<th>Self-Comp</th>
<th>SE</th>
<th>Effort</th>
<th>Luck</th>
<th>Diff</th>
<th>Ability</th>
<th>Adjust</th>
<th>GPAA</th>
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<tr>
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<td>.46***</td>
<td>.24**</td>
<td>.44**</td>
<td>.58***</td>
<td>.22**</td>
<td>.19**</td>
<td>−.38***</td>
<td>−.06</td>
<td>−.28**</td>
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<tr>
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<td></td>
<td>.46***</td>
<td>.24**</td>
<td>.44**</td>
<td>.58***</td>
<td>.22**</td>
<td>.19**</td>
<td>−.38***</td>
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<td></td>
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<td>.33***</td>
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<td>.39***</td>
<td>−.41***</td>
<td>−.19**</td>
<td>−.32**</td>
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<td></td>
<td></td>
<td></td>
<td>.33***</td>
<td>.43***</td>
<td>.30***</td>
<td>.17**</td>
<td>−.10</td>
<td>−.10</td>
<td>.23**</td>
</tr>
<tr>
<td>Luck</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.41***</td>
<td>.39***</td>
<td>.43***</td>
<td>.30***</td>
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<tr>
<td>Diff</td>
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<td></td>
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<td>.42***</td>
<td>.02</td>
<td>−.26**</td>
<td>−.18**</td>
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<td>M</td>
<td>12.46</td>
<td>111.38</td>
<td>71.19</td>
<td>40.36</td>
<td>23.18</td>
<td>11.61</td>
<td>21.71</td>
<td>14.64</td>
<td>75.02</td>
<td>73.42%</td>
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<td>SD</td>
<td>25.56</td>
<td>18.37</td>
<td>16.79</td>
<td>7.10</td>
<td>7.98</td>
<td>4.00</td>
<td>4.23</td>
<td>15.50</td>
<td>9.49%</td>
<td></td>
</tr>
</tbody>
</table>

*Note. SCS = general learned resourcefulness; ASR = academic self-regulation; Self-Comp = self-compassion; SE = academic self-efficacy; Effort = attributing disappointment to a lack of effort; Luck = attributing disappointment to bad luck/misfortune; Diff = attributing disappointment to a difficult task; Ability = not attributing disappointment to a lack of ability; Adjust = adjustment to university; GPA = year-end grade.

*a Descriptive statistics for GPA are based on 190 students.

* p < .05. ** p < .01. *** p < .001.
resourcefulness and academic self-regulation was much steeper for low self-compassion than for high self-compassion. As shown in Figure 2, students scoring low in self-compassion and low in general resourcefulness had the most depleted repertoire of academic self-regulatory skills, whereas students scoring low in self-compassion and high in general resourcefulness had the highest academic self-regulatory scores. The positive relationship between general and academic self-regulation was attenuated for high self-compassion, with predicted scores for academic self-regulation falling in between the two values described for the low self-compassion function (see Figure 2).

**Unique predictors of academic self-regulation**

Standard multiple regression analysis was conducted on academic self-regulation as the dependent variable, and self-compassion, general resourcefulness, academic self-efficacy, effort and ability were simultaneously entered as the independent variables (IVs: variables that were significantly related to academic self-

<table>
<thead>
<tr>
<th>Variable</th>
<th>Step 1</th>
<th>Step 2</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>B SE  β sr^2</td>
<td>B  SE  β sr^2</td>
</tr>
<tr>
<td>Gen Res</td>
<td>.28*** .05 .39*** .12***</td>
<td>.29*** .05 .41*** .13***</td>
</tr>
<tr>
<td>Self-Comp</td>
<td>.07 .08 .06 .00</td>
<td>.03 .08 .03 .00</td>
</tr>
<tr>
<td>Moderation</td>
<td>−.01* .00 −.14* .02*</td>
<td>−.14* .02*</td>
</tr>
<tr>
<td>Intercept</td>
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<td>112.31</td>
</tr>
<tr>
<td>R^2</td>
<td>.18</td>
<td>.20</td>
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<td>F</td>
<td>21.24***</td>
<td>16.04***</td>
</tr>
<tr>
<td>ΔR^2</td>
<td>.02</td>
<td>.02</td>
</tr>
<tr>
<td>ΔF</td>
<td>4.80*</td>
<td></td>
</tr>
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</table>

Note. Gen Res = general learned resourcefulness; Self-Comp = self-compassion; Moderation = the interaction between general learned resourcefulness and self-compassion. *p < .05. **p < .01. ***p < .001.
regulation at the bivariate level) to determine the IVs’ unique and shared relationship to the DV. Together, all of the independent variables explained 42% of the variability in academic self-regulation scores (see Table 3). Greater general learned resourcefulness and academic self-efficacy and not attributing academic disappointment to a lack of effort, however, uniquely predicted higher levels of academic resourcefulness skills, accounting for 17% of the total variance (calculated by summing the squared semi-partial \( r^2 \) values - \( sr^2 \), which represent the proportion of variance in \( Y \) that is uniquely accounted for by \( X_i \); Darlington & Hayes, 2017). A substantial percentage of the variance, however, was shared (25%) among all the variables.

**Unique predictors of adjustment to university**

Standard multiple regression was conducted to determine the predictors of university adjustment, for the following independent variables: self-compassion, general resourcefulness, academic self-regulation, academic self-efficacy, effort, and ability (i.e., variables that were significant at the bivariate level). Self-compassion, general learned resourcefulness, and academic self-regulation uniquely accounted for 12% of the variance in adjustment scores, with all of the independent variables accounting for 30% of the total variance (see Table 4). In summary, students having a larger repertoire of both general resourcefulness and academic self-regulatory skills and viewing disappointments with self-compassion were

### Table 3. Summary of standard multiple regression for Academic Self-Regulation (Y) with General Resourcefulness, Academic Self-Efficacy, Lack of Effort, Bad Luck, Not Lack of Ability, and Self-Compassion as independent variables (\( N = 196 \)).

<table>
<thead>
<tr>
<th>Variable</th>
<th>( r )</th>
<th>( B )</th>
<th>( SE )</th>
<th>( \beta )</th>
<th>( sr )</th>
<th>( sr^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen Resourceful</td>
<td>.42***</td>
<td>.12*</td>
<td>.05</td>
<td>.17*</td>
<td>.14*</td>
<td>.02*</td>
</tr>
<tr>
<td>Self-Efficacy</td>
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<td>1.09***</td>
<td>.17</td>
<td>.42***</td>
<td>.35***</td>
<td>.12***</td>
</tr>
<tr>
<td>Lack Effort</td>
<td>-.38***</td>
<td>-.46**</td>
<td>.15</td>
<td>-.20**</td>
<td>-.17**</td>
<td>.03***</td>
</tr>
<tr>
<td>Bad Luck</td>
<td>-.17*</td>
<td>-.13</td>
<td>.28</td>
<td>-.03</td>
<td>-.03</td>
<td>.00</td>
</tr>
<tr>
<td>Not Lack Ability</td>
<td>.33***</td>
<td>.20</td>
<td>.28</td>
<td>.05</td>
<td>.04</td>
<td>.00</td>
</tr>
<tr>
<td>Self-Compassion</td>
<td>.24**</td>
<td>.06</td>
<td>.07</td>
<td>.05</td>
<td>.04</td>
<td>.00</td>
</tr>
<tr>
<td>Intercept</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

\[ R = .65*** \]
\[ R^2 = .42 \]
\[ Adj. R^2 = .41 \]

Note. Gen Resourceful = general learned resourcefulness; Self-Efficacy = academic self-efficacy; Lack Effort = attributing disappointment to a lack of effort; Bad Luck = attributing disappointment to bad luck/misfortune; Not Lack Ability = not attributing disappointment to a lack of ability; Self-Compassion = self-compassion.

\*\( p < .05 \). \**\( p < .01 \). \***\( p < .001 \).

### Table 4. Summary of standard multiple regression for Adjustment to University (Y) with General Resourcefulness, Academic Self-Regulation, Academic Self-Efficacy, Lack of Effort, Not Lack of Ability, and Self-Compassion as independent variables (\( N = 196 \)).

<table>
<thead>
<tr>
<th>Variable</th>
<th>( r )</th>
<th>( B )</th>
<th>( SE )</th>
<th>( \beta )</th>
<th>( sr )</th>
<th>( sr^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen Resourceful</td>
<td>.41***</td>
<td>.10*</td>
<td>.05</td>
<td>.17*</td>
<td>.14*</td>
<td>.02*</td>
</tr>
<tr>
<td>Aca Self-Reg</td>
<td>.39***</td>
<td>.19**</td>
<td>.07</td>
<td>.23**</td>
<td>.17**</td>
<td>.03**</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>.30***</td>
<td>-.02</td>
<td>.18</td>
<td>-.01</td>
<td>-.01</td>
<td>.00</td>
</tr>
<tr>
<td>Lack Effort</td>
<td>-.17*</td>
<td>-.00</td>
<td>.14</td>
<td>-.00</td>
<td>-.00</td>
<td>.00</td>
</tr>
<tr>
<td>Not Lack Ability</td>
<td>.23**</td>
<td>.35</td>
<td>.26</td>
<td>.10</td>
<td>.08</td>
<td>.01</td>
</tr>
<tr>
<td>Self-Compassion</td>
<td>.43***</td>
<td>.27***</td>
<td>.06</td>
<td>.29***</td>
<td>.26***</td>
<td>.07***</td>
</tr>
<tr>
<td>Intercept</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ R = .55*** \]
\[ R^2 = .30 \]
\[ Adj. R^2 = .28 \]

Note. Gen Resourceful = general learned resourcefulness; Aca Self-Reg = academic self-regulation; Self-Efficacy = academic self-efficacy; Lack Effort = attributing disappointment to a lack of effort; Not Lack Ability = not attributing disappointment to a lack of ability; Self-Compassion = self-compassion.

\*\( p < .05 \). \**\( p < .01 \). \***\( p < .001 \).
more likely to report being better adjusted at university. Noteworthy again, a considerable proportion of the variance was shared (18%) among all of the variables.

**Unique predictors of year-end grades**

The independent variables of general resourcefulness, academic self-regulation, academic self-efficacy, effort, bad luck, and ability were simultaneously entered into a regression model with grades as the dependent variable. Self-compassion was not significantly related with grades at the bivariate level and was, therefore, not included. Higher academic self-regulation and academic self-efficacy and lower failure attributions to a lack of personal ability independently predicted higher year-end grades, accounting for 8% of the unique variability (see Table 5). Together, all of the independent variables explained 26% of the variability in grades, with 18% of the variance being shared among all of the variables.

**Discussion**

A moderation analysis was performed to see whether the relationship between general resourcefulness and academic self-regulation varied as a function of self-compassion in a sample of predominantly female and Caucasian undergraduates at a small Canadian university. The moderating effect of self-compassion was significant and in line with our hypothesis. Specifically, the positive relationship between general resourcefulness and academic self-regulation was stronger for students scoring low in self-compassion than high in self-compassion, such that the highest academic self-regulation scores were observed for those scoring high in general resourcefulness and low in self-compassion, and the lowest academic self-regulation scores were found among students scoring low on both these constructs. However, for students scoring high in self-compassion, more moderate levels of academic self-regulation were observed regardless of whether or not they were highly generally resourceful, although the relationship between general and academic resourcefulness was still positive.

This finding suggests that low self-compassion is a “double-edged sword.” For students with vast repertoires of general resourcefulness skills, a disposition towards less self-compassionate responses to setbacks—that is, self-critical cognitions, fixating on the details of the failure, and viewing setbacks as exclusive to the self—may amplify the “threat” a disappointment poses to reaching academic goals, thus, helping motivate these students towards changing their academic behaviors and solving the problems at hand to enhance future performance. Yet, for a student who lacks the basic general resourcefulness skills, responding to failure in this manner may be particularly detrimental, leading to feelings of helplessness and ultimately giving-up.
Interestingly, the lack of significant relationships between explanatory style for failure components and self-compassion differentiates these variables and suggests that helplessness may not only arise from a pessimistic explanatory style (Seligman, 1991) but also the combination of low general resourcefulness and low self-compassion. This latter point is especially concerning given that general resourcefulness scores have been dropping over the last couple decades, with the current sample following this trend. Specifically, when the scale was first developed, mean and standard deviation scores were around 22–27 and 21–25, respectively, for both Israeli and English-speaking student samples (e.g., Kennett, 1994; Redden et al., 1983; Rosenbaum, 1980). More recent English-speaking samples, however, have found mean scores are lower than earlier years despite comparable standard deviations (Kennett & Keefer, 2006; Kennett & Reed, 2009), with average general resourcefulness scores as low as 11 being reported (e.g., Kennett et al., 2013). Encouragingly, self-management programs and academic success courses (Kennett, 1994; Kennett & Reed, 2009) have been effective at teaching general coping strategies and study skills, with significant improvements observed in general resourcefulness, academic self-regulation, and grades for students having below average scores in general resourcefulness and completing the sessions, supporting that these skills can be learned. Past research has also found support for the usefulness of this type of program intervention for students with disabilities (Reed et al., 2011, 2009).

Moreover, several recent studies (e.g., Albertson, Neff, & Dill-Shackleford, 2015; Breines & Chen, 2012; Neff & Germer, 2013; Rao & Kemper, 2017; Smeets, Neff, Alberts, & Peters, 2014) suggest that self-compassion can be learned. One notable program for increasing self-compassion is Neff and Germer’s (2013) 8-week Mindful Self-Compassion Program, validated through their randomized control trial, where participants learn specific mindfulness meditations and self-compassion exercises, and are given opportunities to practice these individually and in groups. Based on our moderation findings, future research should examine whether including aspects of the Mindful Self-Compassion Program within programs aimed at increasing general resourcefulness and academic self-regulation is additionally beneficial.

Incorporating self-compassion training within academic-based programs is worth considering particularly for students having marked resourcefulness skill deficits. Kennett (1994), for example, observed that students scoring one or more standard deviations below the mean in general resourcefulness were more likely to drop out of her self-management program. These students also scored substantially lower on measures of academic self-efficacy and self-reinforcement, and likely would have scored very low in self-compassion had it been measured. Possibly the inclusion of self-compassion training within these programs would prevent these low-scoring students from giving up and dropping out, while, at the same time, assisting them to engage in more academic self-regulation behaviors.

Given the theory that a less self-compassionate response to setbacks is associated with intensified threats (Johnson & O’Brien, 2013) and Rosenbaum’s (1980, 1990) assertion that resourceful individuals engage in more self-regulatory behaviors when experiencing threats to their goals, it was not surprising to find that highly resourceful students who were less self-compassionate engaged in the most academic self-regulation behaviors. Nonetheless, students scoring high in both general resourcefulness and self-compassion had a predicted academic self-regulation score of 120 that was substantially above the typically reported mean in the literature of 108 (e.g., Kennett, 1994; Kennett & Keefer, 2006); albeit it was a lower score compared to those scoring high in general resourcefulness and low in self-compassion (135). Such a finding supports that being highly self-compassionate does not debilitating the use of self-regulatory behaviors in someone who is highly resourceful. Rather, most detrimental is scoring low in both general resourceful and self-compassion, where the observed average predicted academic self-regulatory score was 88.

A second aim of this study was to examine the bivariate relationships among the typical academic self-regulation model variables (see Figure 1) along with self-compassion. Standard multiple regression analyses were also used to help understand which variables independently predicted academic self-regulation, adjustment, and grades, respectively, as well as the shared contribution of the variables in these predictions. The pattern of bivariate correlations amongst the variables traditionally included in the academic self-regulation model was consistent with past research (e.g., Kennett, 1994; Kennett & Keefer, 2006; Kennett et al., 2013). For instance, greater repertoires of general
resourcefulness and academic self-regulation skills were associated at the bivariate level with a greater belief in one’s academic ability and less explaining academic disappointments as a result of poor personal ability and/or a lack of effort. Noteworthy, our observations of the significantly stronger bivariate relationships between self-compassion and the more general measures (i.e., general resourcefulness and university adjustment) compared to the academic-specific ones (i.e., academic self-regulation, explanations for academic disappointments, academic self-efficacy, and GPA) are also consistent with the effect sizes noted earlier of past research (e.g., Neff, 2003b; Neff et al., 2007; Zessin et al., 2015; versus Breines & Chen, 2012; Kyeong, 2013; Leary et al., 2007).

Likewise, the traditional variables observed to predict academic self-regulation, year-end grades, and university adjustment in standard multiple regression analyses, respectively, replicated previous studies (e.g., Kennett, 1994; Kennett & Keefer, 2006; Kennett et al., 2013), with general resourcefulness, academic self-efficacy, and not attributing academic disappointment to a lack of effort uniquely predicting academic self-regulation; academic self-efficacy, not attributing disappointment to a lack of ability, and academic self-regulation uniquely predicting students’ final GPA; and academic self-regulation and general resourcefulness uniquely predicting adjustment. Self-compassion did not play a unique role in either the prediction of academic self-regulation or final grades. Instead, self-compassion’s relationship with academic self-regulation was in the form of shared variance, with the moderation finding suggesting that self-compassion’s role in predicting academic self-regulation is complex, given that greater self-compassion appears to be particularly important for aiding students with more limited general resourcefulness skills to engage in academic self-regulation behaviors. Not unexpectedly, self-compassion was unrelated to grades at the bivariate level. Breines and Chen (2012) noted a trend towards better performance following failure for a self-compassion intervention group over a self-esteem and a control group, but, in a natural setting, typically non-significant relationships are observed between total self-compassion scores and grades (e.g., Neff et al., 2005). Self-compassion did, however, uniquely predict adjustment to university and is comparable to a previous study investigating the predictors of student well-being (Neely et al., 2009).

The main limitation of this study is its generalizability to other undergraduate students, as the sample was predominantly female and Caucasian, and from a small, liberal arts university in Canada. The extent to which our findings apply to male students, undergraduates belonging to a different ethnic or cultural group, and students from larger universities or ones offering a different selection of programs remains to be determined. In general, more research is required on men’s self-compassion. Many of the self-compassion studies have focused solely on females (e.g., Albertson et al., 2015; Smets et al., 2014). Studies that have compared gender differences in self-compassion find either non-significant differences (Iskender, 2009; Neff et al., 2007) or that women, on average, score lower (Neff, 2003b; Yarnell et al., 2015). Similarly, past research examining gender differences in general resourcefulness shows mixed results, with some studies finding no significant difference (Kiefer, 2002; Rosenbaum, 1980) and others observing females to score higher than males (Redden et al., 1983). Reassuringly, past research suggests general learned resourcefulness is a comparable construct across Thai, Japanese, Chinese, Turkish, and French-Canadian samples (Boonpongmanee et al., 2002; Lévesque, 1995; Nakano, 1995; Ngai et al., 2008; Turkel & Tezer, 2008).

A key strength of the present study is its novelty. To our knowledge, the findings on self-compassion within the academic domain have unequivocally pointed towards the benefit of increased self-compassion. The findings of the current study, however, suggest that having a less self-compassionate disposition when setbacks arise may rouse greater academic self-regulation behaviors in students who are more generally resourceful.

In summary, self-compassion played a moderating role in the positive relationship between general and academic resourcefulness. For students with limited general resourcefulness skills, responding to failure with a lack of self-compassion may paralyze them and result in helplessness. For these students, taking a self-compassionate approach is more beneficial. On the other hand, for students possessing a wide array of general resourcefulness skills, a non-self-compassionate response to setbacks may help drive them to learn from their disappointing experiences and draw upon their academic resourcefulness repertoires to ensure their mistakes are not repeated, more so than their
highly self-compassionate counterparts. Thus, the benefit of “being kind or not being kind” to oneself in times of academic failure appears to depend on one’s level of general resourcefulness, at least with respect to greater academic self-regulation.

References


