


Examining the importance of academic-specific self-compassion in the academic self-control model

Rebecca D. Martin, Deborah J. Kennett & Nicholas M. Hopewell

To cite this article: Rebecca D. Martin, Deborah J. Kennett & Nicholas M. Hopewell (2019): Examining the importance of academic-specific self-compassion in the academic self-control model, The Journal of Social Psychology, DOI: [10.1080/00224545.2018.1555128](https://doi.org/10.1080/00224545.2018.1555128)

To link to this article: <https://doi.org/10.1080/00224545.2018.1555128>



View supplementary material 



Published online: 01 Jan 2019.



Submit your article to this journal 



Article views: 303



View Crossmark data 



Examining the importance of academic-specific self-compassion in the academic self-control model

Rebecca D. Martin^a, Deborah J. Kennett^a, and Nicholas M. Hopewell^a

^aTrent University

ABSTRACT

The aim of this investigation was to determine whether an academic-specific self-compassion scale would share stronger bivariate relationships with academic-focused variables, act as a stronger unique predictor of university adaptation than a general measure of self-compassion, and moderate the relationship between general and academic resourcefulness. A convenience sample of 422 undergraduates completed measures assessing general learned resourcefulness, academic self-efficacy, failure attributions, academic goal focus, academic resourcefulness, academic self-compassion, and university adaptation. As hypothesized, academic self-compassion shared a stronger relationship with academic resourcefulness than a general measure of self-compassion; academic self-compassion independently predicted university adaptation along with academic resourcefulness and expected GPA; and, unlike general self-compassion, academic self-compassion did not moderate the relationship between general and academic resourcefulness, providing support for academic self-compassion being a type of academic self-control that is “emotion-oriented.” The value of using academic-specific versus global constructs when assessing academic outcomes is discussed.

ARTICLE HISTORY

Received 11 May 2018

Accepted 5 November 2018

KEYWORDS

Academic resourcefulness;
academic self-compassion;
learned resourcefulness;
process regulating
cognitions; self-control;
university adaptation

Why do only some students handle academic setbacks with ease, enjoy being challenged, and adapt to the university environment? Rosenbaum (1980a, 1990, 2000) believes that one key reason is because of their general resourcefulness skills, which he defines as behaviors for coping with everyday life stress. According to his model, when particular setbacks and challenges arise during academic goal attainment, having a plentiful repertoire of general resourcefulness skills allows one to generalize these skills to the academic setting and engage in academic self-control behaviors, also referred to as academic resourcefulness by Kennett (1994). These academic self-control behaviors are “action-oriented” in that they involve persevering and applying oneself to work hard, delaying immediate gratification, effectively managing time, and using planning and problem-solving strategies and positive self-talk to effectively manage academic challenges and stress. Utilizing these academic self-control strategies has been shown to lead to better university adaptation, performance, and satisfaction (Kennett & Keefer, 2006).

Research supports that people with larger repertoires of general resourcefulness skills for dealing with everyday life setbacks tend to be more successful at implementing and maintaining behavioral changes, such as quitting smoking (Katz & Singh, 1986; Kennett, Morris, & Bangs, 2006), exercising more regularly (Fast & Kennett, 2015; Lévesque, Gauvin, & Desharnais, 2003), and adhering to a diet (Kennett & Ackerman, 1995), and experience greater adjustment across a variety of health-related

CONTACT Deborah J. Kennett  dkennett@trentu.ca  Trent University, 2140 East Bank Drive, Peterborough, ON K9L 1Z8, Canada

Author Note

Rebecca D. Martin, Deborah J. Kennett, and Nicholas M. Hopewell, Psychology, Trent University, Peterborough, ON, Canada
Color versions of one or more of the figures in the article can be found online at www.tandfonline.com/vsoc.

 Supplementary data can be accessed [here](#)

© 2018 Taylor & Francis

conditions, including acute and chronic pain (Kennett, O'Hagan, & Cezer, 2008; Rosenbaum, 1980b), depressive symptoms associated with diabetes mellitus (Huang et al., 2007), epilepsy (Rosenbaum & Palmon, 1984), seasickness (Rosenbaum & Rolnick, 1983), and fatigue following chemotherapy (Menshadi, Bar-Tal, & Barnoy, 2013), despite enduring similar levels of challenges as their less resourceful equivalents. With respect to academia, Akgun and Ciarrochi (2003) found that more generally resourceful Australian undergraduates received significantly higher grades than less resourceful students during times of high stress.

As evidenced by these studies, people can draw upon their general resourcefulness skills in a variety of situations and adapt them to particular contexts, including the academic setting. Kennett (1994) developed the Academic Resourcefulness Inventory to measure academic-specific self-control, because, although individuals may be able to successfully draw upon their general repertoire of skills in some domains, they may have difficulties or no interest in doing so within the academic context. In fact, studies consistently report that academic resourcefulness is a unique predictor of better university adaptation, higher grades, and greater retention, and shares stronger relationships with these academic outcomes than general resourcefulness (e.g., Kennett, 1994; Kennett & Keefer, 2006; Kennett & Reed, 2009; Xuereb, 2015). Moreover, as posited by Rosenbaum's (1990) self-control model, in addition to general resourcefulness, process-regulating cognitions are also important in predicting academic resourcefulness. Specifically, students who do not believe in their ability to succeed academically (i.e., have low academic self-efficacy) and attribute academic disappointments to a lack of ability and effort (i.e., have a negative explanatory style) are less likely to engage in academic self-control behaviors, instead tending to think "why bother trying, I'm just going to fail anyways" (Kennett & Keefer, 2006; Kennett & Reed, 2009).

Recently, a general measure of self-compassion was examined as another predictor variable within the academic self-control model framework (Martin & Kennett, 2018). Neff (2003a, 2003b) defines self-compassion as recognizing and responding to personal setbacks with kindness and compassion, just as one would act toward a good friend going through a difficult time, and proposes that being self-compassionate directs healthy coping and positive outcomes. More specifically, self-compassion involves self-kindness rather than harsh self-criticism, being mindful of thoughts and feelings without over-identifying with them, and recognizing that failure is part of being human instead of viewing disappointing experiences as unique to the self (Neff, 2003a, 2003b), with these components included in Neff's (2003b) self-compassion scale. Given self-control behaviors are, by definition, strategies people use to reduce stress and cope with challenges, self-compassion can be viewed as a form of self-control in that being self-compassionate helps to soothe negative emotions and threats to personal self-worth, whereas adopting an overly critical and self-blaming response to failure, allowing negative thoughts and emotions to consume and overwhelm oneself, and feeling alone in failure exacerbates stress and threats to one's ego (Johnson & O'Brien, 2013). Although both general resourcefulness and general self-compassion may be thought of as forms of general self-control, the focus of the coping strategies in the general self-compassion scale are more "emotion-oriented" (e.g., *"When something upsets me, I try to keep my emotions in balance."*), whereas the focus of the coping strategies in the general resourcefulness scale are more "action-oriented" (e.g., *"Facing the need to make a decision, I find out all the alternatives instead of deciding quickly and spontaneously."*). Similar to general resourcefulness, though, the Self-Compassion Scale (assessing general self-compassion) is not focused on a single domain; however, many items of the Self-Control Scale (assessing general resourcefulness) showcase a particular difficult situation or context, such as being late for an appointment or quitting a bad habit, whereas the Self-Compassion Scale items are unspecified/non-context-specific examples of difficult situations (e.g., *"When I'm going through a very hard time, I give myself the caring and tenderness I need."*). Not surprisingly, studies find general self-compassion more strongly correlates with global compared to academic-specific measures (Breines & Chen, 2012; Kyeong, 2013; Leary, Tate, Allen, Adams, & Hancock, 2007; Martin & Kennett, 2018; Neff, 2003a). Indeed, Martin and Kennett (2018) found the bivariate correlations between self-compassion and the academic-focused measures of the academic self-control model—that is,

academic self-efficacy, explanatory style for academic disappointments, academic resourcefulness, and year-end GPA—were weaker and in some cases non-significant compared to self-compassion's correlations with more global measures, including general resourcefulness and university adaptation.

Given the improvements in predicting academic outcomes with academic resourcefulness over general resourcefulness, this study sought to examine whether the same would be true for an academic-specific version of the self-compassion scale. By altering the wording in the self-compassion scale to focus on academic disappointments and academic stress, and comparing the present investigation's findings to those of general self-compassion in Martin and Kennett's (2018) study, the usefulness of an "academic self-compassion" measure in the context of the academic self-control model was assessed. Specifically, we hypothesized that the strength of correlations between academic self-compassion and other academic-related variables in the academic self-control model would be stronger than the correlations that were observed in the Martin and Kennett (2018) study. Whether academic self-compassion would share a stronger bivariate relationship with university adaptation than general self-compassion is unclear, because the University Adaptation Questionnaire focuses on social adjustment and academic satisfaction. Nevertheless, we hypothesized that academic self-compassion would share a stronger relationship with university adaptation than general self-compassion, given the former measure's specificity to the university context. Thus, a second aim of this study was to see whether the role of general self-compassion as a unique predictor of university adaptation observed in Martin and Kennett's (2018) study would be replicated with academic-specific self-compassion in the current investigation and whether an academic-specific version of the self-compassion scale provided a greater unique prediction of university adaptation over the general version of the scale.

Lastly, a third aim of this study was to assess whether academic self-compassion would moderate the positive relationship between general and academic resourcefulness similar to general self-compassion in Martin and Kennett's (2018) study. Martin and Kennett (2018) observed that, among less generally resourceful students, higher self-compassion predicted more academically resourceful behaviors than lower self-compassion, whereas the opposite was true for more generally resourceful students. The authors reasoned that more generally resourceful students engage in greater academic resourcefulness when they have a tendency to react to life stress in a less self-compassionate manner because less self-compassion is associated with increased threat (Johnson & O'Brien, 2013), and threat triggers self-control behaviors (Rosenbaum, 1990). However, among less generally resourceful students who already have a more limited skillset for coping with stress, too much threat may be overwhelming. For these students, self-compassion may help to soothe everyday stressful encounters that interfere with attempts to academically self-control. Importantly, this finding suggests that general self-compassion acts as a precursor to academic resourcefulness (i.e., academic self-control behaviors), but that the way in which it acts as a precursor differs for less versus highly generally resourceful students.

Given the specificity of academic self-compassion, in contrast to Martin and Kennett's (2018) finding, we did not expect academic self-compassion to moderate the relationship between general and academic resourcefulness. The academic version of the scale now grounds a participant's self-compassionate responses toward an academic-specific situation (e.g., failing an exam) and, thus, we argue, reflects self-compassion-focused coping strategies students employ specifically when dealing with academic stress and setbacks. Hence, academic self-compassion is not viewed as a precursor of academic self-control behaviors, but rather as a form of "emotion-oriented" academic self-control.

Traditionally, the academic self-control model has acknowledged academic resourcefulness as the sole academic self-control variable. To help theoretically differentiate academic resourcefulness and academic self-compassion as two distinct forms of academic self-control behaviors, we refer to academic resourcefulness as "action-oriented" or "problem-focused" academic self-control and academic self-compassion as "emotion-oriented" academic self-control, analogous to the aforementioned distinction between general resourcefulness and general self-compassion as "action-oriented" and

“emotion-oriented” forms of general self-control. The idea of emotion-oriented and action-oriented/problem-focused coping strategies is not new and has been proposed by several authors. For example, Folkman and Lazarus' (1985) revised Ways of Coping Checklist identifies coping strategies employed by university students and includes problem-oriented coping (e.g., “*I know what has to be done, so I am doubling my efforts to make things work*”) and six emotion-oriented coping strategies: self-blame (e.g., “*Criticize or lecture myself*”), wishful thinking (e.g., “*Hope a miracle will happen*”), detachment (e.g., “*Try to forget the whole thing*”), focusing on the positive (e.g., “*Look for the silver lining/try to look on the bright side of things*”), tension reduction (e.g., “*Got away from it for a while/tried to rest or take a vacation*”), and self-isolation (e.g., “*I try to keep my feelings to myself*”). The problem-oriented coping items reflect academically resourceful behavior, whereas the emotion-oriented coping examples—particularly the self-blame and detachment items—reflect self-compassionate thoughts and behaviors (or lack thereof) related to a particular academic situation; thus, we believed that the terms “action/problem-oriented” and “emotion-oriented” are appropriate labels in the current study. Figure 1 provides a theoretical overview of this investigation and represents the two types of academic self-control skillsets.

To empirically help differentiate academic resourcefulness and academic self-compassion as two distinct academic self-control variables, we examined these variables' bivariate relationships with academic goal focus; conducted multiple standard regression analyses predicting academic resourcefulness and academic self-compassion; and ran a factor analysis on the combined items from the academic resourcefulness and academic self-compassion scales. Given the academic goal focus scale items are more “action-oriented” than “emotion-oriented” (e.g., “*When doing academic tasks, I focus on: When to read sections of the textbook*”), a stronger relationship between this variable and academic resourcefulness over academic self-compassion would provide evidence for the discriminant validity of these scales. Similarly, if academic resourcefulness and academic self-compassion are measuring two distinct constructs, we would not expect them to overly strongly predict each other in multiple regression analyses. Finally, and perhaps most tellingly, if these variables measure distinct forms of academic self-control then a two-factor principal axis factoring solution should reveal the academic resourcefulness items loading onto one factor (representing “action-oriented” items) and the academic self-compassion items loading onto the other factor (representing “emotion-oriented” items).

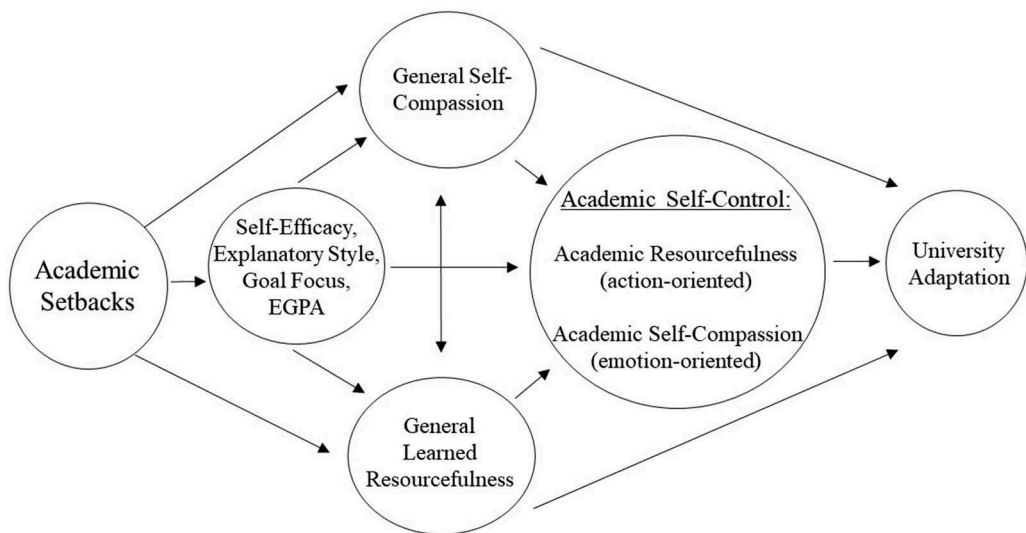


Figure 1. The theoretical framework of the current study.

Method

Participants

Participants were 422 undergraduate students with an average age of 21.30 years ($SD = 6.06$). The majority were female (83%), Canadian citizens (95%), attending classes full-time (92%), single without dependents (71%), and in their first (46%) or second (34%) year of studies. The sample represented students from a wide array of disciplines in the Social Sciences, Sciences, and Humanities.

Procedure

This convenience sample was recruited through an online research participant management system (SONA). Interested students were redirected to an external online survey Web site (Qualtrics). After consenting to participate, they completed a demographic section followed by the questionnaires, which were presented in a random order. At the end of the survey, they received an overview of the study, information about the student resources available on campus, and a bonus credit toward an introductory psychology course. This study received ethics approval from the university's Research Ethics Board.

Measures

The demographics section assessed age, sex, year of study, ethnicity, citizenship, marital status, enrolment status, university major, grade average received the previous term, and expected year-end grade.

Students' general repertoire of learned resourcefulness skills was measured using Rosenbaum's (1980a) 36-item *Self-Control Schedule* (SCS), where items are rated on a 6-point Likert scale, ranging from $-3 = \text{very uncharacteristic of me}$ to $+3 = \text{very characteristic of me}$. The inventory assesses the use of positive self-statements to cope with negative emotions and thoughts interfering with goal attainment (e.g., "*To overcome bad feelings that accompany failure, I tell myself that it is not catastrophic and I can do something about it*"), the ability to delay immediate gratification (e.g., "*Usually, I first do the things I really like to do even if there are more urgent things to do*" – reversed-scored), the use of problem-solving skills to overcome obstacles (e.g., "*If I find it difficult to concentrate on a task, I divide it into smaller segments*"), and the understanding that self-control behavior requires personal willingness and effort (e.g., "*If I carried the pills with me, I would take a tranquilizer whenever I felt tense and nervous*" – reversed-scored). Scores can range from -108 to 108 , with higher scores indicating a broader repertoire of general resourcefulness skills. Evidence for the construct-related validity and reliability of the SCS have been well documented (e.g., Boonpongmanee, Zauszniewski, & Boonpongmanee, 2002; Ngai, Chan, & Holroyd, 2008; Redden, Tucker, & Leslie, 1983; Rosenbaum, 1980a, 1980b). Cronbach's alpha for the 36 SCS items in the current study was .86.

The Academic Resourcefulness Inventory (ARI) was used to measure academic self-control behaviors (Kennett, 1994). The inventory consists of 23 items defined by pairs of opposing phrases that are rated on a 7-point Likert 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 the understanding that academic self-control behavior takes personal effort (e.g., "*Lazy/Industrious*"). Total scores can range from 23 to 161, with higher scores representing a greater use of academic self-control behaviors. 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. Cronbach's alpha was high in the current study (23 items; $\alpha = .86$).

The 9-item Academic Self-Efficacy Scale (Kennett, 1994) was used to measure students' belief in their ability to succeed academically. Using a 6-point Likert scale, participants indicate to what extent they believe they will achieve good grades, have the ability to learn and understand the course material, and, compared with other students, have good study skills and academic grades. Total scores can range from 9 to 54 points, with higher scores indicating greater academic self-efficacy. Kennett (1994) demonstrated internal reliability, construct validity, and a 7-month test-retest reliability of .75. In the present study, Cronbach's alpha was excellent (9 items; $\alpha = .91$).

The 18-item Explanatory Style for Failure Questionnaire (Kennett & Keefer, 2006) assesses the types of reasons students perceive as responsible for their academic disappointments. Using a 7-point Likert scale, students are asked to think of a recent academic disappointment and to indicate to what extent it happened because of: Lack of Effort, Task Difficulty, Bad Luck, and Lack of Ability (reversed-scored). Higher scores on each subscale reflect an optimistic explanatory style as proposed by Seligman (1991), whereby academic failure is attributed to the difficulty of the task at hand, bad luck, not putting forth the effort, and not because of lack of personal ability. Cronbach's alphas in our study reflected those values observed by others (e.g., Martin & Kennett, 2018): Bad Luck (3 items; $\alpha = .61$), Lack of Effort (6 items; $\alpha = .77$), Task Difficulty (5 items; $\alpha = .74$), and Not Lack of Ability (3 items; $\alpha = .74$).

The 18-item University Adaptation Questionnaire (Crombag, 1968) measures students' adjustment to university, particularly their social adjustment and satisfaction with university life. Using a 6-point Likert scale, students indicate to what extent they feel at home, are happy with their decision to attend university, are satisfied with the course of their studies, and have made close friends. Scores can range from 18 to 108, with higher scores indicating better overall university adaptation/adjustment. Van Rooijen's (1986) study supported internal consistency of the items (18 items; $\alpha = .83$). In the current study, Cronbach's alpha was .88.

Neff's (2003a) 26-item Self-Compassion Scale was modified to reflect the academic context. Namely, the Academic Self-Compassion Scale measures participants' emotion-oriented self-control responses when experiencing a difficult academic situation or feelings of academic failure and inadequacy. Using a 5-point Likert scale, total scores can range from 5–130, with higher scores indicating greater academic self-compassion. Components of the scale include: Self-Kindness (e.g., *"When my courses become overwhelming, I give myself the caring and tenderness I need"*), Mindfulness (e.g., *"When I fail at something academically important to me, I try to keep things in perspective"*), Common Humanity (e.g., *"I try to see my academic failings as part of the university experience"*), Self-Criticism (e.g., *"During difficult times in the semester, I am tough on myself"* reversed-scored), Over-Identification (e.g., *"When I fail at something important to me academically, I become consumed by feelings of inadequacy"* reversed-scored), and Isolation (e.g., *"When I think about my academic inadequacies, it tends to make me feel more separate and cut off from other students"* reversed-scored). Total scores for the general version of the self-compassion scale are generally used in the literature, although mean item responses are often reported, ranging from 1–5 (e.g., Neff, 2003a; Neff, Kirkpatrick, & Rude, 2007; Zessin, Dickhauser, & Garbade, 2015). In the current study, Cronbach's alpha was .94 for the 26 items of the academic self-compassion scale.

The 19-item Academic Goal Focus Scale was developed to tap various aspects of goal focus during academic task completion. Using a 5-point Likert scale, 9 items assess one's attention on the product (e.g., *"When doing academic tasks, I FOCUS on: Increasing my overall GPA; Finishing the course; Graduating"*) and 10 items assess one's attention on the process (e.g., *"When doing academic tasks, I FOCUS on: When to do practice questions; Making a study plan; Planning my time to complete tasks"*). Principal Component analysis supported a unidimensional scale, with a Cronbach's alpha of .89. Total scores can range from 19 to 95, with higher scores representing a greater goal focus when completing academic tasks.

Results

The amount of missing data for each individual item ranged from 0% to 2.6%, with a total of 0.4% missing across all data points (i.e., number of items multiplied by number of participants). Missing data was assumed to be missing at least at random. Item-level multiple imputation was performed (Gottschall, West, & Enders, 2012; Sterne et al., 2009), and the pooled results are reported. Expected GPA was a single item measure and not imputed (1.9% missing).

Descriptive statistics and standard multiple regression analyses were conducted in IBM SPSS Statistics Version 23. The assumptions of normality, linearity, and homoscedasticity were checked using residual scatterplots for each linear regression analysis. Data points were assumed to be independent, since participants were not matched or nested in any way, and each participant only completed the survey once. Only variables that were significantly related to the dependent variable at the bivariate level were included in the standard regression analyses. Tests for whether the correlations between the academic self-control model variables and academic self-compassion were significantly stronger than these correlations with general self-compassion were performed using Preacher's (2002) online calculator. Testing the difference between the correlation of goal focus and academic resourcefulness versus the correlation of goal focus and academic self-compassion was done using Lee and Preacher's (2013) online calculator. A two-tailed alpha of .05 was used for all analyses.

Descriptive statistics are shown in Table 1. The bivariate correlations between the traditional academic self-control variables replicated those observed in previous studies (e.g., Kennett, 1994; Kennett, Reed, & Stuart, 2013; Martin & Kennett, 2018). Specifically, students who were more academically resourceful tended to be more generally resourceful and academically self-efficacious, less likely to attribute academic disappointments to bad luck or a lack of effort or ability, and more inclined to expect higher GPAs and report greater university adaptation. The non-significant point-biserial correlation between general/academic self-compassion scores and study (i.e., Martin & Kennett, 2018 vs. current study) of $r = -.02$ suggests there was no significant difference between the mean general self-compassion score in Martin and Kennett's (2018) study ($M = 71.19$, $SD = 16.79$) and the mean academic self-compassion score in the current investigation ($M = 70.57$, $SD = 17.09$).

Table 1. Correlations, Means (M), and Standard Deviations (SD) of the Study Variables ($N = 422$).

Measure	Gen Res	Aca Res	ASC	GSC ^a	ASE	Effort	Luck	Diff	Ability	EGPA ^c	Focus	Adjust
Gen Res			.57***	.46***								
Aca Res	.59***		.40***	.24**								
ASC	.57***	.40***		-.02 ^b								
ASE	.45***	.60***	.33***	.22**								
Effort	-.13**	-.32***	-.12*	-.06	-.16**							
Luck	-.16**	-.27***	-.27***	-.12	-.23***	.35***						
Diff	-.05	-.09	-.08	-.06	-.05	-.00	.26***					
Ability	.16**	.28***	.14**	.12	.32***	-.45***	-.31***	-.35***				
EGPA ^c	.21***	.36***	.15**	.02 ^d	.45***	-.13*	-.23***	-.11*	.28***			
Focus	.40***	.47***	.09	NA	.39***	-.20***	-.06	.05	.16**	.24***		
Adjust	.43***	.46***	.40***	.43***	.35***	-.14**	-.20***	-.14**	.22***	.12*	.23***	
<i>M</i>	15.00	109.51	70.57	71.19	40.05	22.90	11.34	21.09	14.61	9.79	86.08	71.50
<i>SD</i>	25.82	19.50	17.09	16.79	7.65	7.69	4.23	6.75	4.36	1.72	13.93	15.60

Note. Gen Res = general learned resourcefulness; Aca Res = academic resourcefulness; ASC = academic self-compassion; GSC = general self-compassion; ASE = 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; Expect GPA = expected year-end GPA; Focus = academic goal focus; Adjust = adjustment to university.

^aCorrelations with general self-compassion taken from Table 1 of Martin and Kennett (2018).

^bPoint-biserial correlation between general self-compassion measured in Martin and Kennett (2018) and academic self-compassion measured in the current study. The non-significant finding suggests mean general/academic self-compassion scores were comparable in both studies. Specifically, the mean academic self-compassion score of 70.57 in the current study is not significantly different from the mean general self-compassion score of 71.19 in Martin and Kennett (2018).

^cMissing expected GPA was not imputed because this was a single item. $N = 414$ for this variable.

^dRepresents the correlation between obtained year-end GPA and general self-compassion in Martin and Kennett (2018).

* $p < .05$. ** $p < .01$. *** $p < .001$.

Main research questions

Are the academic-focused variables in the self-control model more strongly correlated with academic self-compassion than general self-compassion?

In Table 1, the correlations observed by Martin and Kennett (2018) between general self-compassion and the variables can be compared to those observed by us for academic self-compassion. In both studies, higher general/academic self-compassion was related to higher academic resourcefulness, general resourcefulness, and university adaptation, with academic resourcefulness sharing a statistically stronger correlation with academic self-compassion than with general self-compassion, $z = 2.06$, $p < .05$, as hypothesized. No significant differences were observed between the correlations for general resourcefulness, $z = 1.73$, *ns*, or university adaptation, $z = -.42$, *ns*.

Regarding the explanatory style variables, students who were more academically self-compassionate were less likely to explain academic disappointments as a result of bad luck or a lack of effort or ability, whereas in Martin and Kennett's (2018) study, none of the correlations between general self-compassion and the academic explanatory style variables were significant. However, only the difference between the correlations for bad luck approached significance, $z = -1.80$, $p = .07$. Moreover, the positive correlations between academic self-efficacy and general vs. academic self-compassion in the two studies were not statistically different, $z = 1.37$, *ns*.

Martin and Kennett (2018) also included year-end GPA as an outcome variable, finding its correlation with general self-compassion to be non-significant. In the current study, expected GPA was assessed, and a significant and positive correlation between expected GPA and academic self-compassion was observed; however, this correlation was not significantly larger than the correlation in Martin and Kennett's study, $z = 1.49$, *ns*.

Goal focus was not examined in the Martin and Kennett (2018) study. As shown in Table 1, the bivariate correlation between academic goal focus and academic resourcefulness was significant and positive, whereas the correlation between academic goal focus and academic self-compassion was non-significant. Moreover, these two correlations significantly differed from one another, $z = 7.73$, $p < .001$, providing evidence for the discriminant validity of these two scales.

Is academic self-compassion a stronger unique predictor of university adaptation than general self-compassion?

In order to examine the unique predictors of university adaptation, a standard multiple regression analysis was conducted with university adaptation as the outcome variable and general resourcefulness, academic resourcefulness, academic self-compassion, academic self-efficacy, lack of effort, not lack of ability, bad luck, expected GPA, and academic goal focus as the independent variables (see Table 2). Together, the variables accounted for 29% of the variability in university adaptation scores, with 22% of the variability being shared and 7% being unique. Noteworthy, academic self-compassion and academic resourcefulness were the strongest unique predictors of university adaptation, each accounting for 3% of the variability. Expected GPA was also a unique predictor of university adaptation, accounting for 1% of the variability. Comparing these results to those of Martin and Kennett (2018), academic self-compassion was not a stronger unique predictor of university adaptation; in their study, general self-compassion uniquely accounted for 7% of the variability in university adaptation.

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

In order to test the hypothesis that academic self-compassion does *not* moderate the positive relationship between general resourcefulness (independent variable) and academic resourcefulness (outcome variable), a hierarchical multiple regression was conducted with general resourcefulness and academic self-compassion entered into the model as independent variables at step 1, and the interaction between these two variables entered into the model as an independent variable at step 2 (see Table 3). The independent variables were centered to reduce multicollinearity (see Howell,

Table 2. Summary of standard multiple regression for adjustment to university (Y) with general resourcefulness, academic resourcefulness, academic self-compassion, academic self-efficacy, lack of effort, bad luck, task difficulty, not lack of ability, expected GPA, and academic focus as independent variables ($N = 414$).

Variable	r	B	SE	β	sr	sr^2
Gen Resourceful	.43***	.06	.04	.10	.07	.00
Aca Resourceful	.46***	.21***	.05	.26	.17	.03***
Aca Self-Comp	.40***	.19***	.05	.21	.16	.03***
Self-Efficacy	.35***	.17	.12	.08	.06	.00
Lack Effort	-.14**	.10	.11	.05	.04	.00
Bad Luck	-.20***	-.14	.18	-.04	-.03	.00
Task Difficulty	-.14**	-.13	.11	-.06	-.05	.00
Not Lack Ability	.22***	.30	.19	.08	.07	.00
Expected GPA	.12*	-.97*	.44	-.11	-.09	.01*
Focus	.23***	.04	.06	.04	.03	.00
Intercept		31.86				
		$R = .54***$			Unique variability = .07	
		$R^2 = .29$			Shared variability = .22	
		Adj. $R^2 = .28$				

Note. Gen Resourceful = general learned resourcefulness; Aca Resourceful = academic resourcefulness; Aca Self-Comp = academic self-compassion; Self-Efficacy = academic self-efficacy; Lack Effort = attributing disappointment to a lack of effort; Bad Luck = attributing disappointment to bad luck/misfortune; Task Difficulty = attributing disappointment to a difficult task; Not Lack Ability = not attributing disappointment to a lack of ability; Expected GPA = expected year-end GPA; Focus = academic goal focus.

* $p < .05$. ** $p < .01$. *** $p < .001$.

2013). General resourcefulness was a positive and unique predictor in both step 1 and step 2 ($sr = .45$, $p < .001$, at both steps). Academic self-compassion was not a unique predictor of academic resourcefulness at either step ($sr = .07$, ns , at both steps). Similarly, the interaction between general resourcefulness and academic self-compassion was non-significant ($sr = .06$, ns), providing support for the hypothesis that academic self-compassion plays a different role than general self-compassion and acts as a form of emotion-oriented academic self-control rather than a precursor to action-oriented academic self-control and, thus, would not moderate the positive relationship between general and academic resourcefulness.

Multiple regression predicting academic resourcefulness (action-oriented academic self-control)

A standard multiple regression analysis was conducted using academic resourcefulness as the dependent variable and general resourcefulness, academic self-compassion, academic self-efficacy, lack of effort, not lack of ability, bad luck, expected GPA, and academic goal focus as the independent variables (see Table 4). Together, the independent variables predicted 56% of the variability in academic resourcefulness scores, with 41% of the variance being shared and 15% being unique to general resourcefulness (5%), academic self-efficacy (5%), lack of effort (2%), academic goal focus (2%), and expected GPA (1%). In summary,

Table 3. Summary of hierarchical multiple regression predicting academic resourcefulness (Y) with general resourcefulness and academic self-compassion entered as independent variables in Step 1, and the moderation variable entered in Step 2 ($N = 422$).

Variable	Academic Resourcefulness (Y)							
	Step 1		Step 2		Step 1		Step 2	
	B	SE	β	sr^2	B	SE	β	sr^2
Gen Res	.41***	.04	.54***	.20***	.42***	.04	.55***	.20***
ASC	.10	.06	.09	.01	.09	.06	.08	.00
Moderation					.00	.00	.06	.00
Intercept	109.51				108.89			
R^2	.36***				.36***			
F	116.96				79.12			
ΔR^2					.00			
ΔF					2.56			

Note. Gen Res = general learned resourcefulness; ASC = academic self-compassion; Moderation = the interaction between general learned resourcefulness and academic self-compassion.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4. Summary of standard multiple regression for academic resourcefulness (Y) with general resourcefulness, academic self-efficacy, lack of effort, bad luck, not lack of ability, expected GPA, academic self-compassion, and goal focus as independent variables ($N = 414$).

Variable	r	B	SE	β	sr	sr^2
Gen Resourceful	.59***	.24***	.04	.31	.22	.05***
Self-Efficacy	.60***	.76***	.11	.30	.23	.05***
Lack Effort	-.32***	-.45***	.10	-.18	-.15	.02***
Bad Luck	-.27***	-.20	.17	-.04	-.04	.00
Not Lack Ability	.28***	-.08	.18	-.02	-.02	.00
Expected GPA	.36***	.94*	.43	.08	.07	.01*
Focus	.47***	.24***	.05	.17	.15	.02***
Aca Self-Comp	.40***	.08	.05	.07	.06	.00
Intercept		53.62				
$R = .75***$				Unique variability = .15		
$R^2 = .56$				Shared variability = .41		
Adj. $R^2 = .55$						

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; Expected GPA = expected year-end GPA; Focus = academic goal focus; Aca Self-Comp = academic self-compassion.

* $p < .05$. ** $p < .01$. *** $p < .001$.

higher general resourcefulness, academic self-efficacy, expected GPA, and academic goal focus, and a reduced tendency to attribute academic failures to a lack of effort, uniquely predicted greater academic resourcefulness. Interestingly, academic self-compassion did not uniquely predict academic resourcefulness, providing evidence that this is a different form of academic self-control.

Multiple regression predicting academic self-compassion (emotion-oriented academic self-control)

Academic self-compassion was entered into a standard multiple regression analysis as the dependent variable with general resourcefulness, academic resourcefulness, academic self-efficacy, lack of effort, not lack of ability, bad luck, and expected GPA as the independent variables (see Table 5). Together, the independent variables predicted 37% of the variability in academic self-compassion scores, with approximately half of this variability being shared (19%) and half being unique (18%). General resourcefulness was the strongest unique predictor, accounting for 15% of the variability and bad luck uniquely accounted for 3% of the variability. Academic resourcefulness was not a unique predictor of academic self-compassion, supporting that this is a different type of academic self-control. Hence, students with

Table 5. Summary of standard multiple regression for academic self-compassion (Y) with general resourcefulness, academic resourcefulness, academic self-efficacy, lack of effort, bad luck, not lack of ability, and expected GPA as independent variables ($N = 414$).

Y	r	B	SE	β	sr	sr^2
Gen Resourceful	.57***	.33***	.03	.50	.39***	.15***
Aca Resourceful	.40***	.04	.05	.04	.03	.00
Self-Efficacy	.33***	.14	.12	.06	.05	.00
Lack Effort	-.12*	.05	.11	.02	.02	.00
Bad Luck	-.27***	-.80***	.18	-.20	-.18***	.03***
Not Lack Ability	.14**	-.05	.18	-.01	-.01	.00
Expected GPA	.15**	-.42	.45	-.04	-.04	.00
Intercept		68.34				
$R = .61***$				Unique variability = .18		
$R^2 = .37$				Shared variability = .19		
Adj. $R^2 = .36$						

Note. Gen Resourceful = general learned resourcefulness; Aca Resourceful = academic 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; Expected GPA = expected year-end GPA.

* $p < .05$. ** $p < .01$. *** $p < .001$.

larger repertoires of general self-control skills and who did not attribute academic disappointments to bad luck tended to have greater emotion-oriented academic self-control skills (academic self-compassion).

Factor analysis of the academic resourcefulness scale and academic self-compassion scale items

A factor analysis using principal axis factoring with varimax rotation and a request for a two-factor solution was performed on the 23 items from the Academic Resourcefulness Inventory and the 26 items from the Academic Self-Compassion Scale to explore whether each scale's items loaded onto their own unique factor. Factors 1 and 2 had eigenvalues of 12.40 and 5.04 and accounted for 21.48% and 11.63% of the variance, respectively. Overall, the academic self-compassion items loaded onto Factor 1, whereas the academic resourcefulness items loaded onto Factor 2, supporting the notion that academic self-compassion represents "emotion-oriented" academic self-control skills, whereas academic resourcefulness represents "action-oriented" academic self-control skills (see online Supplement Table 1). However, some of the academic resourcefulness items loaded onto Factor 1 or loaded equally onto both factors; but, consistent with our "emotion-oriented" and "action-oriented" labels, these items reflected emotion-oriented content (e.g., *"Fearful/unafraid about being wrong in class"*; *"Timid/fearless about expressing my views in class"*).

Discussion

The current investigation hypothesized that the correlations between academic self-compassion and other academic-related variables in the academic self-control model would be stronger than the correlations observed in the Martin and Kennett (2018) study between general self-compassion and these same variables; that academic self-compassion would act independently of academic resourcefulness in predicting university adaptation, although it was expected that these two variables would be related at the bivariate level; and, lastly, that academic self-compassion would not moderate the relationship between general and academic resourcefulness, given academic self-compassion is depicted as a form of academic self-control (specifically, emotion-oriented academic self-control) rather than its precursor. In summary, most of these predictions were supported.

Regarding the first hypothesis, students who were more academically self-compassionate were more likely to be academically self-efficacious and resourceful, expect higher year-end grades, and have an explanatory style that did not attribute academic disappointments to bad luck, lack of effort, or ability, whereas, in Martin and Kennett's (2018) study, general self-compassion was related only to higher academic self-efficacy and resourcefulness. However, significant differences between the two independent sets of correlations were observed only for academic resourcefulness, with bad luck approaching significance.

Interestingly, the correlation with general resourcefulness was higher for academic self-compassion than general self-compassion, although not statistically significantly so. As discussed in the introduction, we argue that the constructs of general/academic self-compassion represent a form of self-control (specifically, emotion-oriented general/academic self-control) in that responding to general/student life difficulties with self-compassion is a way of coping with stress and soothing perceived threats (Johnson & O'Brien, 2013; Rosenbaum, 1980a, 1990, 2000). It is possible the more concrete nature of the Academic Self-Compassion Scale in terms of providing specific examples of (academically) disappointing experiences clarifies the construct of self-compassion as a form of (academic) self-control, whereas the unspecified nature of the general Self-Compassion Scale items do not fully capture self-compassion as a concrete form of self-control, perhaps instead placing general self-compassion somewhere between a process-regulating cognition and a form of self-control, at least within the context of the academic self-control model. Noteworthy, further research is needed to check whether the pattern of correlations changes or remains consistent when general and academic self-compassion and the traditional academic self-control model variables are all measured within the same study.

In contrast to our second hypothesis, academic self-compassion (emotion-oriented academic self-control) was not a stronger predictor of university adaptation than the general self-compassion measure in Martin and Kennett (2018) study (emotion-oriented general self-control). This finding is particularly intriguing given academic resourcefulness (action-oriented academic self-control) was a unique predictor of university adaptation, whereas general resourcefulness (action-oriented general self-control) was not. Correlating academic resourcefulness and academic self-compassion scores with each of the items of the University Adaptation Scale, we found that academic resourcefulness was more strongly correlated with adaptation items focused on satisfaction with and interest in one's academic studies (i.e., behavioral adjustment items, such as *"I am very satisfied with the course of my studies."*) compared to academic self-compassion, whereas academic self-compassion comparably was more strongly correlated with adaptation items focusing on loneliness, isolating oneself, and making friends (i.e., social/emotional adjustment items, such as *"Sometimes I feel rather lonely."*), emphasizing why both academic resourcefulness and academic self-compassion bivariately and uniquely predicted university adaptation (see online Supplement Table 2). One possible reason for why academic self-compassion was not a stronger unique predictor of university adaptation than general self-compassion is that the emotion-oriented items on the adaptation scale have a more general focus, assessing feelings of "belonging," "loneliness," and "making friends" that may permeate beyond academic life for some students, whereas the behavioral items maintain a focus on satisfaction with academic studies. Thus, it makes sense that both general and academic self-compassion acted as a unique predictor of university adaptation when representing the only self-compassion measure in a multiple regression analysis of university adaptation. Possibly had both general and academic self-compassion been measured in our study and simultaneously entered into the same multiple regression analysis, academic self-compassion would supersede the role of general self-compassion and be the only self-compassion variable to make a unique contribution to academic adaptation, further showcasing the importance of specificity and warranting further research.

Importantly, given that the University Adaptation Scale contains both behavioral and social/emotional adaptation items and that both emotion-oriented academic self-control (academic self-compassion) and action-oriented academic self-control (academic resourcefulness) uniquely predicted university adaptation in the current study, highlights the need for both types of academic self-control. In short, the findings support that academic resourcefulness and academic self-compassion work independently to facilitate emotion-based and behavior-based self-regulation when dealing with the demands at university that could potentially hamper one's adaptation. The addition of a higher expected year-end grade making a unique contribution to university adaptation was not surprising.

In line with our third hypothesis, academic self-compassion did not moderate the positive relationship between general and academic resourcefulness. This provides evidence for academic self-compassion as a direct measure of academic self-control, whereas the significant moderating effect of general self-compassion in Martin and Kennett's (2018) study suggested general self-compassion was a precursor to academic self-control. Specifically, we suggest academic self-compassion is a direct measure of emotion-oriented academic self-control, with academic resourcefulness being a direct measure of action-oriented academic self-control. Supporting that academic self-compassion is a different form of academic self-control from academic resourcefulness, are the stronger bivariate relationships between higher scores of the latter variable and greater goal focus, expected grades, and academic self-efficacy and a reduced tendency to attribute failures to a lack of effort and a lack of ability. These predictor variables have a stronger behavioral emphasis than an emotional one, possibly accounting for the smaller associations of these variables with academic self-compassion. Perhaps because attributing failure to bad luck can be thought of as a more emotionally based response compared to the other explanatory style components serves to explain why this variable was similarly related to both academic resourcefulness and academic self-compassion. Additional evidence for these measures representing two different forms of academic self-control is that academic self-compassion was not a unique predictor of academic resourcefulness, and vice versa. Moreover, a principle axis factor analysis revealed that most of the academic resourcefulness items loaded onto one factor

whereas the academic self-compassion items and the small number of emotion-laden academic resourcefulness items (e.g., *“Timid/fearless about expressing my views in class.”*) loaded onto another factor, providing further evidence for the distinction of academic self-compassion as emotion-oriented academic self-control and academic resourcefulness as action-oriented academic self-control.

Further research is needed assessing the validity of academic self-compassion. It is anticipated, given general self-compassion has been positively and strongly linked with a variety of favorable emotionally based outcomes, including life satisfaction and well-being, and negatively and strongly related with maladaptive emotionally based outcomes, including depression, anxiety, and rumination, with over 80% of effect sizes ranging from .40 to .65 (Neff, 2003b; Neff et al., 2007; Zessin et al., 2015), that the same would be true for academic self-compassion, with stronger effect sizes observed between it and more academically based emotional responses, such as exam anxiety and fear of academic failure.

A limitation of the current study is that different participants were asked to report on academic versus general self-compassion, given the similarities of the two scales, and to draw upon Martin and Kennett's (2018) findings on general self-compassion. Unlike the Self-Control Scale (assessing general resourcefulness) and the Academic Resourcefulness Scale which have different specific items, the wording of items and overall format of the general and academic self-compassion scales is quite similar. Researchers considering the use of both scales should keep this in mind, as participants may not carefully read through or complete the second self-compassion scale items if they mistakenly think they are answering the same questionnaire twice. Subsequent investigations may, therefore, want to consider combining both self-compassion scales by asking participants whether how they treat themselves during times of stress is different generally than academically. Alternatively, participants could be randomly assigned to complete either the general or academic self-compassion measure, offering an advantage over this study of having the same participants complete the other academic self-control model variables and at the same point in time. However, the same disadvantage of having two independent samples with respect to the general versus academic self-compassion measures would still exist. Secondly, the test-retest reliability of the academic self-compassion scale is unknown and needs to be assessed. Thirdly, the correlational nature of the study does not allow for statements about causality. Fourthly, the sample in the current investigation was relatively homogenous with respect to age, gender, Canadian citizenship, full-time student status, year of study, and marital/family status, and all students in the sample came from a single, small liberal arts university in Ontario, Canada. Thus, caution should be taken if generalizing the current findings to other universities and student populations, especially ones whose student demographics or university features/culture are different from the current sample's characteristics. Nonetheless, a strength of the homogeneity of the current sample is that Martin and Kennett's (2018) sample was homogeneous in a similar way and taken from a small liberal arts university, allowing for a clearer comparison of results across the two studies. Lastly, several studies have found moderate-to-strong negative relationships between general self-compassion and trait anxiety and depression (e.g., Neff, 2003a; Neff, Hsieh, & Dejjitterat, 2005; Neff et al., 2007) as well as academically oriented emotion variables like fear of failure (e.g., Neff et al., 2005), and it would be interesting for future research to examine whether academic-related anxiety and depression, and other academic emotion variables, share stronger relationships with academic self-compassion compared to its general measure and to academic resourcefulness. Given the traditional academic self-control model focuses on behaviorally based constructs rather than emotionally based ones, this type of investigation was beyond the scope of the present study.

In summary, most, but not all, of our hypotheses were supported. As anticipated, academic self-compassion was more strongly and positively correlated with academic resourcefulness and negatively correlated with attributing academic failures to bad luck than general self-compassion. The absolute values of the correlations between academic self-compassion and the other academic-related variables in the academic self-control model, namely, academic self-efficacy and

the remaining three attributions for academic failures (lack of effort, task difficulty, and not lack of ability), were larger than those correlations with general self-compassion, however, not significantly so. In contrast to our second hypothesis, academic self-compassion was not a stronger predictor of university adaptation than general self-compassion. Nonetheless, academic self-compassion was a unique predictor of university adaptation, along with academic resourcefulness and expected GPA, reinforcing that both emotion-oriented academic self-control and action-oriented academic self-control are independently important in students' academic and social/emotional adjustment at university. In line with our third hypothesis, academic self-compassion did not moderate the positive relationship between general and academic resourcefulness, providing evidence to our claim that academic self-compassion is a direct measure of emotion-oriented academic self-control, whereas general self-compassion is its precursor.

Thus, the use of an academic-specific measure of self-compassion appears to offer some empirical and theoretical benefits over a general measure, at least within the context of the academic self-control model, although further research examining general and academic self-compassion in the same sample would be beneficial. This over-arching finding fits with the “research stories” of other constructs, such as resourcefulness and self-efficacy, whereby the use of a domain-specific measure—whether it be for diet and exercise, relationship-building, or academia—is a better predictor of outcome compared to a general or holistic trait measure (e.g., Bandura, 2006; Fast & Kennett, 2015; Kennett, 1994).



Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Rebecca D. Martin, M.A., is a research assistant with the Health, Environment and Indigenous Communities Research Group at Trent University, Peterborough, Ontario, Canada. Her research interests include food security, self-compassion, and program evaluation.

Deborah J. Kennett, Ph.D., is professor emeritus at Trent University, Peterborough, Ontario, Canada. Her professional interests focus on coping strategies, school and work transitions, and health promotion; with special emphasis on program development to promote personal achievement and well-being.

Nicholas M. Hopewell, B.Sc., is a M.Sc. candidate in Big Data Analytics: Applied Modelling and Quantitative methods. Part of his B.Sc. thesis was based on this data.

References

- Akgun, S., & Ciarrochi, J. (2003). Learned resourcefulness moderates the relationship between academic stress and academic performance. *Educational Psychology*, 23(3), 287–294. doi:10.1080/0144341032000060129
- Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (pp. 307–337). Greenwich, CT, USA: Information Age Publishing.
- Boonpongmanee, C., Zauszniewski, J. A., & Boonpongmanee, S. (2002). Psychometric properties of the self-control schedule: Thai version. *Research in Nursing and Health*, 25, 471–478. doi:10.1002/nur.10058

- Breines, J. G., & Chen, S. (2012). Self-compassion increases self-improvement motivation. *Personality and Social Psychology Bulletin*, 1–11. doi:10.1177/0146167212445599
- Crombag, H. F. M. (1968). *Study motivation and study attitude: Membership of various organizations and its effect on study motivation and study attitude in freshman students*. Groningen, Netherlands: Wolters.
- Fast, H. V., & Kennett, D. J. (2015). Development and practical implications of the exercise resourcefulness inventory. *Patient Education & Counseling*, 98, 627–632. doi:10.1016/j.pec.2015.02.004
- Folkman, S., & Lazarus, R. S. (1985). If it changes it must be a process: Study of emotion and coping during three stages of college examination. *Journal of Personality and Social Psychology*, 48, 150–170.
- Gottschall, A. C., West, S. G., & Enders, C. K. (2012). A comparison of item-level and scale-level multiple imputation for questionnaire batteries. *Multivariate Behavioral Research*, 47, 1–25. doi:10.1080/00273171.2012.640589
- Howell, D. C. (2013). *Statistical methods for psychology* (8th ed.). Belmont, CA: Wadsworth, Cengage Learning.
- Huang, C., Sousa, V. D., Chen, H., Tu, S., Change, C., & Pan, I. (2007). Stressors, depressive symptoms, and learned resourcefulness among Taiwanese adults with Diabetes Mellitus. *Research and Theory for Nursing Practice: an International Journal*, 21, 83–97. doi:10.1111/j.1365-2702.2009.02810.x
- Johnson, E. A., & O'Brien, K. A. (2013). Self-compassion soothes the savage ego-threat system: Effects on negative affect, shame, rumination, and depressive symptoms. *Journal of Social and Clinical Psychology*, 32, 939–963. doi:10.1521/jscp.2013.32.9.939
- Katz, R., & Singh, N. (1986). A comparison of current smokers and self-cured quitters on Rosenbaum's self-control schedule. *Addictive Behaviors*, 11, 63–65. doi:10.1016/0306-4603(86)90011-0
- Kennett, D. J. (1994). Academic self-management counseling: Preliminary evidence for the importance of learned resourcefulness on program success. *Studies in Higher Education*, 19, 295–307. doi:10.1080/03075079412331381890
- Kennett, D. J., & Ackerman, M. (1995). Importance of learned resourcefulness to weight loss and early success during maintenance: Preliminary evidence. *Patient Education and Counseling*, 25, 197–203. doi:10.1016/0738-3991(95)00713-A
- Kennett, D. J., & Keefer, K. (2006). Impact of learned resourcefulness and theories of intelligence on academic achievement of university students: An integrated 215 approach. *Educational Psychology*, 26, 441–457. doi:10.1080/01443410500342062
- Kennett, D. J., Morris, E., & Bangs, A. M. (2006). Learned resourcefulness and smoking cessation revisited. *Patient Education and Counseling*, 60, 206–211. doi:10.1016/j.pec.2005.01.005
- Kennett, D. J., O'Hagan, F. T., & Cezer, D. (2008). Learned resourcefulness and the long-term benefits of a chronic pain management program. *Journal of Mixed Methods Research*, 2, 317–339. doi:10.1177/1558689808319732
- Kennett, D. J., & Reed, M. J. (2009). Factors influencing academic success and retention following a 1st-year post-secondary success course. *Educational Research and Evaluation*, 15, 153–166. doi:10.1080/13803610902804382
- Kennett, D. J., Reed, M. J., & Stuart, A. S. (2013). The impact of reasons for attending university on academic resourcefulness and adjustment. *Active Learning in Higher Education*, 14, 123–133. doi:10.1177/1469787413481130
- Kyeong, L. W. (2013). Self-compassion as a moderator of the relationship between academic burn-out and psychological health in Korean cyber university students. *Personality and Individual Differences*, 54, 899–902. doi:10.1016/j.paid.2013.01.001
- Leary, M. R., Tate, E. B., Allen, A. B., Adams, C. E., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. *Journal of Personality and Social Psychology*, 92, 887–904. doi:10.1037/0022-3514.92.5.887
- Lee, I. A., & Preacher, K. J. (2013, September). *Calculation for the test of the difference between two dependent correlations with one variable in common [Computer software]*. Retrieved from <http://quantpsy.org>.
- Lévesque, L., Gauvin, L., & Desharnais, R. (2003). Maintaining exercise involvement: The role of learned resourcefulness in process of change use. *Psychology Of Sport and Exercise*, 3, 237–253. doi: 10.1016/S1469-0292(02)00007-9
- Martin, R. D., & Kennett, D. J. (2018). 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
- Menshadi, N., Bar-Tal, Y., & Barnoy, S. (2013). The relationship between learned resourcefulness and cancer-related fatigue in patients with non-Hodgkin lymphoma. *Oncology Nursing Forum*, 40, 133–138. doi:10.1188/13.ONF.133-138
- Neff, K., Hsieh, Y., & Dejjterat, K. (2005). Self-compassion, achievement goals, and coping with academic failure. *Self and Identity*, 4, 263–287. doi:10.1080/13576500444000317
- Neff, K. D. (2003a). The development and validation of a scale to measure self-compassion. *Self and Identity*, 2(3), 223–250. doi:10.1080/15298860309027
- Neff, K. D. (2003b). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, 2(2), 85–101. doi:10.1080/15298860309032
- Neff, K. D., Kirkpatrick, K., & Rude, S. S. (2007). Self-compassion and its adaptive psychological functioning. *Journal of Research in Personality*, 41, 139–154. doi:10.1016/j.jrp.2006.03.004
- Ngai, F., Chan, S. W., & Holroyd, E. (2008). Translation and validation of a Chinese version of the self-control schedule in Chinese childbearing women. *Journal of Clinical Nursing*, 17, 323–332. doi:10.1111/j.1365-2702.2006.01882.x
- Preacher, K. J. (2002, May). *Calculation for the test of the difference between two independent correlation coefficients [Computer software]*. Retrieved from <http://quantpsy.org>.

- Redden, E. M., Tucker, R. K., & Leslie, Y. (1983). Psychometric properties of the Rosenbaum schedule for assessing self-control. *The Psychological Record*, 33, 77–86. doi:10.1007/BF03394824
- Reed, M. J., & Kennett, D. J. (2017). The importance of university students' perceived ability to balance multiple roles: A comparison of students with and without disabilities. *Canadian Journal of Higher Education*, 47, 71–86.
- Rosenbaum, M. (1980a). A schedule for assessing self-control behaviors: Preliminary findings. *Behavior Therapy*, 11 (1), 109–121. Retrieved from <http://search.proquest.com/docview/616379083?accountid=14391>
- Rosenbaum, M. (1980b). Individual differences in self-control behaviors and tolerance of painful stimulation. *Journal of Abnormal Psychology*, 89, 581–590. doi:10.1037/0021-843X.89.4.581
- Rosenbaum, M. (1990). The role of learned resourcefulness in the self-control of health behavior. In M. Rosenbaum (Ed.), *Learned resourcefulness: On coping skills, self-control, and adaptive behavior* (pp. 3–30). New York, NY: Springer Publishing Co.
- Rosenbaum, M. (2000). The self-regulation of experience: Openness and construction. In P. Dewe, A. M. Leiter, & T. Cox (Eds.), *Coping and health in organizations* (pp. 51–67). London, England: Taylor and Francis.
- Rosenbaum, M., & Palmon, N. (1984). Helplessness and resourcefulness in coping with epilepsy. *Journal of Consulting and Clinical Psychology*, 52, 244–253. doi:10.1037/0022-006X.52.2.244
- Rosenbaum, M., & Rolnick, A. (1983). Self-control behaviors and coping with seasickness. *Cognitive Therapy and Research*, 7, 93–97. doi:10.1007/BF01173427
- Seligman, M. E. P. (1991). *Learned optimism*. New York, NY, USA: Alfred A. Knopf, Inc.
- Sterne, J. A. C., White, I. R., Carlin, J. B., Spratt, M., Royston, P., Kenward, M. G., ... Carpenter, J. R. (2009). Multiple imputation for missing data in epidemiological and clinical research: Potential and pitfalls. *The British Medical Journal*, 338, b2393. doi:10.1136/bmj.b2393
- Van Rooijen, L. (1986). Advanced students' adaptation to college. *Higher Education*, 15, 197–209. doi:10.1007/BF00129211
- Xuereb, S. (2015). Academic resourcefulness, coping strategies and doubting in university undergraduates. *Journal of Further and Higher Education*, 39(2), 205–222. doi:10.1080/0309877X.2013.817004
- Zessin, U., Dickhauser, O., & Garbade, S. (2015). The relationship between self-compassion and well-being: A meta-analysis. *Applied Psychology: Health and Well-Being*, 7, 349–364. doi:10.1111/aphw.12051