SOTL IN THE SOUTH

A journal dedicated to the scholarship of teaching and learning in the 'global South'

Volume 7, Issue 2 August 2023

Pages: 21-45

Perceived life balance, cultural experience, and academic outcomes: A comparative study of first-generation students in South Africa and Canada

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ABSTRACT

Not much is known about how first-generation students' cultural experiences, resourcefulness, resilience and their belief that they are able to balance multiple roles affects their academic success. In this North-South comparative study, we examined the impact of culture and perceived ability to balance multiple academic and non-academic roles (balance belief) on academic outcomes experienced by first-generation and non-first-generation students in Canada and South Africa. We also identified the relationship between culture, balance belief, student resilience and resourcefulness and academic outcomes (grades, adjustment and academic self-efficacy). While academic behaviours were similar across countries and similar between students who are and are not first-generation, some non-academic roles differed. Further, for all students, greater balance belief had a small positive effect on grades, university adjustment and academic self-efficacy. When balance belief was combined with students' academic resourcefulness, predictions of grades, especially for first-generation students from South Africa, were improved. Interventions that improve balance belief may aid students in each country; but understanding cultural experiences related to resourcefulness and resilience is importance since their association with balance belief varies between country and first-generation status.

Submitted: June 9, 2022
Accepted: February 1, 2023

Introduction

One group that has an increased presence on campus globally are first-generation students (students whose parents did not attend university) (Reed, 2016). Lehmann (2007) identifies that university access and completion of university is frequently tied to parental educational attainment. Unlike their peers, first-generation students often have less knowledge of university systems prior to entry. These students are frequently from lower socio-economic groups, have been academically marginalized, have language barriers, and may have considerable responsibilities outside of school (Lohfink & Paulsen, 2005; Pike & Kuh, 2005; Priebe, Ross & Low, 2008; Garrison & Gardiner, 2012; Collis & Reed, 2016). While all students have multiple roles (for example, academic, social, and employment), first-generation students must independently learn the university system, overcome financial and marginalization barriers, and may have family obligations beyond those of traditional students, making their adjustment to university difficult (Zafft, 2008). These obligations and learning needs may increase stress and workload and may impact on their perception and ability to time-manage. On the other hand, as O'Shea (2016) explains, first-generation students have experiences that lead them to have increased desires to achieve, family expectations for success, and community support. These experiences may lead first-generation students to draw from different resources to enable their academic success. Whether the experiences of first-generation students affect their academic outcomes might depend on resourcefulness and resilience as well as the belief that they can balance multiple roles to academically succeed.

Both resilience (ability to come back from disappointment) and academic resourcefulness (ability to cope with academic challenge) are learnt from experience. Resilience and resourcefulness are traits that moderate the negative effect of stress by promoting the ability to adapt and recover from events such as academic failure (Kennett & Keefer, 2006; Li & Nishikawa, 2012). Liu, Reed and Girard (2017) conceptualize resilience as a capacity that evolves based on health-related behaviours, sociocultural experiences, and individual coping skills. Highly resilient people have traits that assist them to recover from stressful events, including the ability to problem solve, attain self-efficacy beliefs, and have positive affect (Huang & Lin, 2013). Students who are academically resourceful set learning goals, plan and evaluate alternatives when faced with a challenge, think of academic challenges as positive, use available resources (for example, student services), structure their studying for the challenge, learn from mistakes and apply consequences (for example, reward) for learning (Kennett & Reed, 2009). Reed and Kennett (2017) asked students to identify how well they could balance academic and non-academic activities, as well as complete an academic

resourcefulness assessment. They showed that students who believe that they can balance their academic and non-academic roles are also those who are most academically resourceful. However, academic resourcefulness, resilience, and belief in one's ability to balance multiple roles likely reflects the students' lived experience.

Considerable data have been published about first-generation students, but the majority are from North America (Spiegler & Bednarek, 2013) and may not fit well in countries where resources are scarce (Hunter, 2017). In a comparative study of South African and Canadian first-generation students, (Reed, Maodzwa-Taruvinga, Ndofirepi & Moosa, 2019) examined the impact of culture on students' resilience, resourcefulness, grades, university adjustment, and academic self-efficacy beliefs. They found important cultural differences that might provide insights into the value of life experiences in mitigating negative academic outcomes. For example, Canadian first-generation students were less resilient than non-first-generation students in either country and struggled more to adjust to university than their Canadian peers, while South African students were more resilient than Canadian students. In addition, South African first-generation students were generally more resourceful than Canadian students and their South African peers. Further, South African first-generation students attribute their academic disappointments less strongly to external factors, while Canadian first-generation students attribute disappointments to external factors more strongly. These examples highlight that life and cultural experiences may influence student resilience and resourcefulness. What was not investigated was how first-generation students' cultural experiences influence their academic and non-academic activities and thus impact on their belief that they can manage their multiple roles. Further, it is not clear how cultural experiences may affect the relationship between balance beliefs and resilience, resourcefulness, and academic outcomes.

Several studies show that students' belief in their ability to balance multiple roles is predictive of academic resourcefulness, university adjustment and academic self-efficacy (Kennett, Reed & Stuart, 2013; van Rhijn & Lero, 2014; Reed & Kennett, 2017). For example, Kennett et al. (2013) identified that student academic resourcefulness was predicted by both an ability to balance multiple roles and the student's reason for attending university in the first place; where a belief that one is capable of balancing roles and one is attending university for internal reasons (for example, a student likes learning, likes challenges) is related to higher resourcefulness. Thus, the ability to do well in school may, in part, be an interaction between the belief that one can balance one's multiple roles and the traits associated with resilience and resourcefulness that allow one to do so. Given that lived and cultural experience influence one's level of resourcefulness and resilience (Reed et al., 2019), it is

likely that the ability of first-generation students to balance their obligations is tied to their cultural experiences.

Not much is known about how first-generation students' cultural experiences, resourcefulness, resilience, and their belief that they are able to balance multiple roles, affects their academic success. One way to understand the influence of cultural experiences on the multiple roles that students play, and on developing levels of resourcefulness and resilience that may mitigate disadvantages, is through comparative studies. North-South comparisons, such as between Canada and South Africa, are desirable since both countries have promoted increased access to higher education for groups previously academically marginalized/non-traditional students (Mdepa & Tshiwula 2012; Reed et al., 2019, Robson, Anisef, Newton & Tecle, 2015). Some research shows that even when government policy promotes access to university for marginalized groups, such as first-generation students, student access to post secondary education remains a challenge (Mdepa & Tshiwala, 2012; Robson et al., 2015). Further, most first-generation research has focused on resource-rich countries such as Canada. Expanding this knowledge to include countries like South Africa, where large numbers of first-generation students attend university (Mdepa & Tshiwula 2012; Seabi, Seedat, Khoza-Shangase & Sullivan, 2012), will allow better insight into the impact of culture on first-generation experiences and their ability to manage their multiple roles. Results of such an investigation could also influence the success of practices in higher education intended to be inclusive of student diversity.

The objective of the current paper was to examine the impact of culture (Canada and South Africa) in three ways: (1) the multiple types of roles that are experienced by first-generation students relative to their peers; (2) the relationship between the perceived ability to balance multiple roles and academic outcomes (academic self-efficacy, university adjustment, and grades) in first-generation and non-first-generation students and; (3) the relationship between the perceived ability to balance multiple roles and psychosocial variables (academic resourcefulness and resilience) in first-generation and non-first-generation students.

Methodology

The current data were part of a larger data set, but data analyses presented here are unique to this manuscript. Participants were undergraduate students recruited from two large urban universities; one in Canada and one in South Africa. At the time of this study, and based on university websites,

both universities had more than 35,000 students enrolled (55-56% female). International students accounted for 4% of enrolments in Canada and 16% of enrolments in South Africa. A minority of students lived on campus (4.7% in Canada and 16% in South Africa). Racial mix was identified at each university, where 48% of students attending the Canadian university were self-identified as racialized (not white) and in South Africa most students attending university were Black South Africans (54%), with 19% identified as white. Both universities require students to be proficient in English prior to acceptance.

Participants

A first-generation student was defined as a student whose parents have not attended higher education (college or university). To determine first-generation status, all students were asked to identify their mother and father's highest level of education attainment. The sample included 844 students, of whom 362 (128 first-generation) were from South Africa and 482 (135 first-generation) were from Canada. The majority were female (63.5% South Africa, 85.5% Canada); likely reflecting the higher proportion of female students at both universities (based on university websites) and that some studies indicate that females are more likely to volunteer when asked (Lee & Brudney, 2012), and to participate in on-line education surveys (Sax et al., 2008; Smith, 2008). The majority were born in the country where they are being educated (89.5% South Africa, 73% Canada). Given the large proportion of students in Canada who were not born in Canada, we compared GPA, university adjustment (ability to adjust to the university environment), and academic self-efficacy between those born in Canada and those born outside Canada. We found no significant difference on any of these variables between the students born in and outside of Canada (all $p>0.05$). We performed the same analysis with students in South Africa and again found no difference on any of these variables for those born in and outside of South Africa (all $p>0.05$; but see discussion) 71% of Canadian students and 42% of South African students were in their first year of study. Mean age was approximately 20 years (Canada non-first-generation M=19.8; Canada first-generation M=20.3; South Africa non-first generation = 20.6) for all groups except the first-generation group in South Africa, where students' age was slightly but significantly higher (22.9 years; C95, $p<.05$). Because age and proportion of those in their first year differed between countries, data for academic outcomes were analyzed with the full sample but also with modified samples where older students and students outside of first year were removed (making both countries comparable in terms of age and year of study). There were no differences between the full sample and the modified samples in terms of academic self-efficacy, university adjustment, and grades, except that when age was similar

across samples, Canadian first-generation students were less adjusted (less able to adapt to the university environment based on the University Adaptation Questionnaire) to university than their peers (see Reed et al., 2019, for details).

Measures

A participant information form collected demographic information including age, year of study, grade point average (GPA), sex, birth country, and parents' highest education.

Balance belief was assessed using a six-point Likert scale where students rated how well they believe they balance their academic and non-academic activities. The scale was anchored, where 1 represented "not well at all" and 6 represented "extremely well." This question was successfully used in past studies (for example, Kennett, et al., 2013; Kennett, Reed & VandenBerg, 2019).

The *Academic Resourcefulness Inventory* assesses academic self-control behaviours, including student engagement in problem-solving strategies ("Inclined to take time each day to review my notes to prepare for future exams/tests"), use of positive self-statements ("inspired to do my best"), and engagement in goal-directed academic behaviours ("successfully meeting deadlines") to manage academic stress. Scale totals range from 23 to 161, where higher scores indicate higher academic resourcefulness. This Inventory has predictive and construct validity and temporal and internal reliability (Kennett, 1994; Kennett & Keefer, 2006).

The *Academic Self-Efficacy Scale* measures a student's belief in their academic ability. Students rate statements (for example, "I think I will receive good grades") from 1 (strongly disagree) to 6 (strongly agree). Higher scores indicate stronger academic self-efficacy. Scores can range from 9 to 54. Validity and reliability have been demonstrated (Kennett, 1994; Kennett & Keefer, 2006).

The *Connor-Davidson Resilience Scale* is a 25-question scale that measures coping and resilience. Students rate how well statements made apply to them on a five-point scale, where 0 indicates not true at all, to 4 which indicates true nearly all the time. Statements relate to five factors: personal competence, strengthening effects of stress, acceptance of change, control, and spiritual influences. Scores range from 0 to 100, where higher numbers represent stronger resilience (Connor-Davidson Manual, 2015). It has internal consistency, test-retest reliability, and construct validity (Windle, Bennett & Noyes, 2011).

The *University Adaptation Questionnaire* assesses adjustment to university (Crombag, 1968) and is a well validated 18-item scale where students indicate whether statements made are characteristic of their university experience (for example, "I feel very much at home here"). Scores range from 18 to 108, with higher scores indicating healthier adjustment. Van Rooijen (1986) has shown internal consistency of items and construct validity.

Procedure

After ethics approval at both institutions in Canada and South Africa, a notice was sent to students via an undergraduate research pool (Canada) and via email through the Centre for Learning and Teaching Development and the Deputy Vice Chancellor's Office (South Africa). In Canada, the research pool participants included students from faculties across the university (arts, business, community services, communication and design, engineering, science). Students participating received a 1% increase in course grade for participation, which is part of the research pool protocol and approved by the university ethics committee. The recruitment continued over three terms for one full academic year. Students were not contacted directly, rather, those who saw the post and were interested contacted the researcher. In South Africa, since no such research participant pool existed, a general email was sent to all students several times over three academic terms and those who saw the email and were interested in participating contacted the researchers. No incentives were used, as per university ethics agreement. Students responding were from all faculties, business, engineering, health, humanities, and science. This method of recruitment did not allow us to determine how many students saw the posting or email (see our limitations in the discussion). The participants filled in the questionnaires electronically and anonymously. A consent form outlining the goals of the study was displayed electronically prior to accessing the questionnaires and had to be approved before beginning the online questionnaires. If a student consented but later closed their browser without completing all questionnaires, it was assumed they were revoked, and their data were deleted. After completing the questionnaires, participants were electronically shown a debriefing page, which contained further information about the study.

Analysis

For descriptive data, comparisons between countries and between generation status (first-generation or not) used 95% confidence. This confidence analysis is typical for studies involving large data sets with questionnaire-based data. Confidence interval comparisons help to identify if

differences exist between countries or first-generation status in issues such as the number of hours students work. Chi-square analysis was used to compare the proportions of students (country and generation status) who participate in various non-academic activities (for example, employment). Chi-square determines whether the proportion of individuals in one group is similar to the proportion of people in another group. For example, it can help to determine whether the proportion of students who work in South Africa is similar to the proportion of students who work in Canada. Correlation and hierarchical multiple regression were used to examine how balance belief was related to academic variables (GPA, University Adjustment, Academic Self-Efficacy) and psychosocial variables (Resilience, Academic Resourcefulness). Correlation provides an estimate of whether students' belief in their ability to balance their academic and non-academic activities can predict items such as their GPA and resilience, among other things (listed above). Hierarchical multiple regression was used to determine whether the students' belief in their ability to balance their academic and non-academic roles impacted items, such as their GPA, differently for students who are and are not first generation. Fisher's Z comparisons for correlation were used to identify differences in correlation strength based on country and first-generation status. Fisher's Z comparisons identify whether the correlation's ability to predict an outcome is similar between South Africa and Canada or between those who are and are not first-generation.

Results

Multiple roles of first-generation and non-first-generation students across countries

Academic Roles

In both countries, attendance was similar between non-first generation and first-generation students, where students report attending more than 88% of their classes (Table 1). Students identified the number of class hours they have each week and the number of hours they study. Because class hours vary between students and programmes, students' reported study hours were divided by class hours. A number greater than 1 indicates that the student studies more hours than they spend in class and a number less than one indicates that they study fewer hours than the hours spent in class. There was no significant difference between countries or generation status in the number of hours students study relative to the class hours (C95; $p>.05$).

Table 1: Academic behaviours of those who are and are not first-generation, by country

	South Africa		Canada	
Source Mean (SD)	First-Generation	Not First-Generation	First-Generation	Not First-Generation
% of classes attended (SD)	89.7(18.5)	88.0(17.5)	93.9(13.9)	93.4(15.1)
Study hours/class hours (SD)	1.4(2.0)	1.2(1.9)	1.2(0.9)	1.3(2.2)

Non-Academic Roles

Students reported non-academic activities fell into four categories: employment, family responsibilities, social activities, and sports (Table 2). Proportionally fewer students in South Africa (26.7%) were employed than in Canada (56.6%; χ_1^2=75.2, p<.001). Those who were employed reported the number of hours per week that they work. No significant difference in the number of hours worked between South African and Canadian students was found (South Africa M= 12.95 (SD=13.94); Canada M = 15.92 (SD=10.03); C95, p>.05). Within both countries about the same proportion of first-generation and non-first-generation students were employed (South Africa; χ_1^2=0.01, p=.93; Canada; χ_1^2=0.045, p=0.83). Further, in Canada, the number of hours worked weekly did not differ between first-generation and non-first-generation students (M=16.13 (SD=10.96) vs. M=15.83 (SD=9.66) hours; respectively) but in South Africa, first-generation students report working more hours per week (M=20.82, SD=17.93) than their peers (M=8.56, SD=8.53; C95, p<.05). Further, the hours worked by South African first-generation students are not significantly different from either group of Canadian students (C95, p>.05).

Table 2: Percentage of first-generation and non-first-generation students identifying categories of time-consuming non-academic activities in South African and Canadian

	South Africa		Canada	
Employment	First-Generation	Not First-Generation	First-Generation	Not First-Generation
% Employed by country	26.7		56.6	
% Employed within generation status	26.8	26.6	57.8	56.2
Mean hours worked overall by students (SD)	12.95(13.94)		15.92(10.03)	
Mean hours worked by generation status (SD)	20.82 (17.93)	8.56 (8.53)	16.13(10.96)	15.83(9.66)
% Family Responsibilities	36.7	29.9	38.5	38.6
% Social Activity	28.1	30.8	23	34.0*
% Sports and Exercise	26.6	41.0**	25.9	27.7
% Entertainment by country	22.9		11.4	
% Entertainment by generation status	25	21.8	9.6	12.1

*p<.05; **p<.01

Family responsibilities included elder care, childcare, pet care, family gatherings, and family chores (for example, cooking, cleaning). There was no significant difference between first-generation and non-first-generation students in either country (in South Africa, 36.7% and 29.9%, and in Canada, 38.5% and 38.6%, respectively) in the percent of individuals listing family responsibilities as a time-consuming non-academic activity.

Social activities included spending time with friends, attending social activities and events, clubs, church, and volunteering. More than one quarter of students in South Africa, regardless of generation status, report social and volunteer activities as time-consuming activities. Proportionally more Canadian non-first-generation students (34%) report social activities as time-consuming activities than do Canadian first-generation students (23%; χ_1^2=5.55, p=.02).

Playing sports and exercising was more frequently listed as a time-consuming activity for non-first-generation South African students (41%) than for first-generation South African students (26.6%; χ_1^2=7.52, p=.006). This was not true of Canadian students, where about one quarter of both first-generation and non-first-generation students (25.9% and 27.7%, respectively) listed playing sports and exercising as time-consuming activities.

Entertainment included watching sporting events, playing video games, watching TV and videos, arts, music, and reading. More South African students (22.9%) listed these activities as time consuming than Canadian students (11.4%; χ_1^2=20.05, p<.001). However, there was no significant difference between first generation and non-first-generation students, within each country, in the percent listing entertainment as a time-consuming activity (in South Africa, 25 and 21.8%, and in Canada, 9.6% and 12.1%, respectively).

Balance belief influence on academic outcomes and psychosocial variables

Balance belief was assessed using a six-point Likert scale where students rated how well they believe they balance their academic and non-academic activities. Canadian non-first-generation students were found to have greater belief (M=3.82; in response to how well they feel they balance academic and non-academic activities, they indicate somewhat well) in their ability to balance their academic and non-academic roles (balance belief) than did South African first-generation (M=3.26; somewhat not well) and non-first-generation students (M= 3.18; somewhat not well C95 p<.05). Canadian first-generation students' balance belief did not differ from their Canadian peers (M= 3.58, midscale C95, p>.05).

Balance belief was correlated with academic outcomes. As indicated in Table 3, small but significant correlations were found between balance belief and student GPA in both countries and for both first-generation and non-first-generation students (varying between 0.26 and 0.50), indicating that a stronger balance belief is associated with a higher GPA. Further, small but significant correlations

also indicated that as the balance belief increased, adjustment to university and academic self-efficacy increased in both countries and for first-generation and non-first-generation students (varying between 0.28 and 0.40 for university adjustment and between 0.32 and 0.49 for academic self-efficacy). Fisher's Z test was used to compare the strength of these relationships between countries and between generation status groups. The results revealed that the strength of these correlations between balance belief and academic outcomes did not differ significantly between country or generation status groups (all p>.05).

Table 3: Correlations between Balance belief and Academic outcomes

	South Africa		Canada	
Academic outcomes	First-Generation	Not First-Generation	First-Generation	Not First-Generation
GPA	.50*	.38*	.42*	.26*
University adjustment	.28*	.38*	.40*	.36*
Academic self-efficacy	.38*	.32*	.49*	.35*

* P<.002

Small but significant correlations were found between student balance belief and student resilience, suggesting that stronger balance beliefs are associated with stronger resiliency (varying between 0.37 and 0.42; Table 4). The strength of these correlations was similar regardless of country or generation status (Fisher's Z, all p>.05). Moderate correlations were found between balance belief and academic resourcefulness (varying between 0.40 and 0.63; Table 4). First-generation students from Canada showed stronger correlations between balance belief and academic resourcefulness (r=.63) than did first-generation South African students (r=.40; Z=2.52; p=.01).

Table 4: Correlations between Balance belief and Psychosocial variables

	South Africa		Canada	
Academic Outcomes	First-Generation	Not First-Generation	First-Generation	Not First-Generation
Resilience	.37*	.39*	.42*	.41*
Academic Resourcefulness	.40*	.56*	.63*	.53*

*P<.001

To determine if balance moderated the relationship between generation status (independent variable) and academic outcomes, hierarchical multiple regression was conducted for each dependent variable (GPA, University Adjustment, Academic Self-efficacy).

In Canada, balance and generation status accounted for 10% of the variance for GPA, 14% of the variance for university adjustment, and 16% of the variance for academic self-efficacy. However, moderation analyses indicated that balance belief did not affect those who are or are not first-generation students differently for GPA, academic self-efficacy, and university adjustment (all p>.05, R^2_{change}=0%). Similarly, in South Africa, balance and generation status accounted for 18% of the variance for GPA, 11% of the variance for university adjustment, and 11% of the variance for academic self-efficacy. Yet moderation analyses showed that balance belief did not affect those who are or are not first-generation students differently for GPA, academic self-efficacy, and university adjustment (all p>.05, R^2_{change}=0%).

Balance was also investigated as a moderator between generation status and resourcefulness and resilience scores. Balance and generation status accounted for 33% of the variance for academic resourcefulness and 18% of the variance for resilience in Canada, and for 26% of the variance for academic resourcefulness and 14% of the variance for resilience in South Africa. Moderation analyses indicated that in both countries balance belief did not affect those who are and are not first-generation differently for resourcefulness or resilience (all p>.05; R^2_{change}≤ 1%).

To determine if balance belief, combined with resourcefulness and resilience (independents), impacted on academic outcomes, we conducted regression analyses which included academic

outcomes as dependents (GPA, University Adjustment, Academic Self-efficacy) and balance belief, resilience, and academic resourcefulness as predictors. For GPA, only academic resourcefulness and balance were significant predictors, suggesting that resilience is not a strong contributor for GPA, and the model of balance, resourcefulness, and resilience accounted for less than 20% of the variance in non-first-generation students (Canada=11.5%; South Africa=19.9%) but more than 20% of the variance for first-generation students (Canada =21.9%; South Africa =27.2%). While the inclusion of balance belief accounted for only a minimal increase in variance for all Canadian students (1%) and in South African non-first-generation students (3%), balance belief increased variance accounted for by 10% for South African first-generation students, indicating that balance belief has a stronger influence on GPA for South African first-generation students relative to other students.
For university adjustment, resourcefulness and resilience were the only significant predictors and the model of resourcefulness, resilience, and balance belief accounted for 27% to 41% of the variance for Canadian and South African first-generation and non-first-generation students. This suggests that university adjustment is influenced by resourcefulness and resilience, but less so by balance belief.

For academic self-efficacy, only academic resourcefulness and resilience were found to be significant predictors for all Canadian students, with the model of resourcefulness, resilience, and balance belief accounting for more than 36% of variance. Only resourcefulness was a significant predictor for non-first-generation South African students, with the model of balance belief, resourcefulness, and resilience accounting for 24% of variance. For South African first-generation students, resourcefulness, resilience, and balance belief were significant predictors of academic self-efficacy, and the model accounted for 31% of the variance, where balance belief's inclusion in the model increased the variance accounted for by 3.7%, over a model containing only resourcefulness and resilience. This suggests that first-generation South African students' academic self-efficacy is assisted by the combination of resourcefulness, resilience, and balance belief.

Discussion

Our previous study (Reed et al., 2019) found that first-generation student outcomes can be predicted by culturally specific levels of resilience and resourcefulness. Further, resilience and resourcefulness are likely affected by the cultural positives that students bring with them to university. The current study expanded on these observations to identify how first-generation students' belief in their ability to balance multiple roles relates to resourcefulness, resilience, and

academic outcomes. Students' belief in their own ability to balance their multiple roles is likely related to their reasons for attending university in the first place. Researchers have identified that the reasons students attend university are related to parental education, and how well the student is prepared for higher education (Bui, 2002; Wang, Chang & Lew, 2009). Further, students attend university for multiple reasons, both internal and external (Reed et al., 2015), and the assortment of reasons reflects their academic and life experiences and their ability to manage their multiple roles. For example, because first-generation students are often of lower socio-economic status (Lohfink & Paulsen, 2005), they state that one of their reasons to attend university is to assist their family financially (Bui, 2002). Bui (2002) found that first-generation students feel pressured to study and this pressure may impact their ability to balance their academic and non-academic roles. The pressure to study for first-generation students could also reflect stress related to their cultural and academic experiences. For example, many South African students feel financial strain to pay tuition and at the same time are less prepared for university education due to poorer tertiary education (Mdepa & Tshiwula, 2012). Such situations set up a role imbalance and considerable stress for the student who needs to work, while at the same time needs to study to catch up. Yet our outcomes show that the impact of these imbalances depends, in part, on student resourcefulness and resilience. This is not surprising, given that the skill of resourcefulness aids in the management of academic challenge, and Akgun and Ciarrochi (2003) have shown that students with lower levels of resourcefulness are less able to control academic stress. Below, our discussion focuses on the interplay between generation status (first-generation vs. non-first generation), culture (South Africa vs. Canada), the ability to balance multiple roles, and student resourcefulness and resilience.

The current study reveals that academic behaviour (for example, class attendance, study hours) was similar across countries and similar between students who are and are not first-generation. However, some non-academic roles differed between students and countries. Specifically, Canadian students identify employment as a time-consuming activity more often than South African students do. Canadian first-generation students report fewer volunteer and social activities than Canadian non-first-generation students. Further, unlike their Canadian counterparts, South African non-first-generation students more often report sports and exercise as time-consuming activities than do first-generation South African students. Finally, more South African students report entertainment as a time-consuming activity than Canadian students do. These differences likely reflect both economic realities and cultural norms and are discussed below.

In Canada, about half of all students worked about 15 hours per week. This is consistent with studies which show that almost half of Canadian full-time postsecondary students are employed for about 15.6 hours per week (Marshall, 2010). In contrast, only about one-quarter of students in South Africa were employed and first-generation students that were employed, did so for about 20 hours a week, while their employed non-first-generation peers worked about eight hours per week. The current data speaks to differences in perceived stresses of financial instability. In Canada, most students work, and it is considered a norm. In South Africa, most do not work (likely due to limited opportunities for student employment), but of those that do, first-generation students work longer hours. This is an inconsistency in South Africa, where employment or lack of it is a double-edged sword that influences the university experience, more so for first-generation students, and this requires further exploration. Wadesango and Machingambi (2011) argue that part-time employment, among other factors, accounts for student absenteeism in South African universities, where some students lost "more than 20 notional hours per week due to work commitments". While absenteeism due to working influences student pass rates and university retention (Wadesango & Machingambi, 2011), the current study suggests that for those who manage to stay on, working experience might provide these students with sources of resilience and resourcefulness, given Reed et al.'s (2019) finding that South African first-generation students are generally more resourceful than their peers.

First-generation students in Canada report less volunteer and social activity than their non-first-generation peers. The first-generation students in South Africa report less sports and exercise activity than their non-first-generation peers. One could argue that playing sports, exercising, volunteering, and socializing are activities that (1) take students away from important study behaviours and (2) could contribute to belief in the inability to balance academic and non-academic roles. Pengpid and Pelzer (2013) found that low physical activity for students in South Africa was associated with a sense of lack of control. First-generation students may reduce non-academic activities to gain a sense of control in their academics. Yet, curiously, the amount of time they study is equivalent to their peers. First-generation students may know they are at a disadvantage (Collier & Morgan, 2008) coming into university and, with this knowledge, they may be reluctant to join non-academic activities. Thus, the lower levels of non-academic activity may be a response to academic stress and challenge. One important area to further examine would be whether these volunteer, social, sport, and exercise activities were conducted on campus. One might argue that such activities on campus could create community for first-generation students. We did not ask the

students in the current study where these non-academic activities take place, but it is possible that on-campus activities assist students to adapt to university and should be the focus of future study.

Canadian non-first-generation students reported a greater belief that they can balance multiple roles than South African students. Further, for all students, greater balance belief had a small positive effect on grades, university adjustment, and academic self-efficacy. When balance belief was combined with academic resourcefulness, it improved predictions of grades, especially for first-generation students from South Africa and, when combined with resourcefulness and resilience, improved the predictions of academic self-efficacy for South African first-generation students. It is not surprising that the ability to balance multiple roles and academic resourcefulness are tied to GPA. Being resourceful means that the student can set learning goals and structure learning. In other words, the student can plan their learning, something that requires the ability to balance multiple roles. Further, Kennett et al. (2019) showed that students who are highly academically resourceful would put in more study hours than less resourceful students. However, students who are low in academic resourcefulness study more if they perceive that they can balance academic and non-academic activities. In other words, a belief that one can manage their multiple roles can influence study behaviours. We previously showed (Reed et al., 2019) that South African first-generation students are more resourceful than other students. We speculated then that resourcefulness for these students is in part culturally specific and due to survival experiences associated with poverty. Here we speculate that first-generation students' lower belief that they can balance their multiple roles may be mitigated by their higher resourcefulness. Resourcefulness is a learned skill and, if taught, could assist students in balancing their multiple roles. Here our data suggest that such learning could benefit first-generation students. Specifically, academic resourcefulness skills (for example, setting learning goals, planning for academic challenges, learning from feedback, structuring studying, using university resources), once taught, assist the student in coping with stress related to academic challenge and help them to better balance their academic and non-academic roles. Importantly, Kennett and Reed (2009) identified that students who are academically resourceful are more likely to persist in university. Persistence at university is a theme that runs throughout literature focusing on first- generation students.

Further, our data show that resourcefulness and resilience are positively associated with balance belief for all students and that Canadian first-generation students have stronger relationships between balance belief and academic resourcefulness than do South African first-generation students. Yet, in South African first-generation students, the combination of balance belief with

resilience and resourcefulness improves predictions of grades. Specifically, students who are resourceful and resilient also believe that they can balance their multiple roles, and this may be most important for first-generation students. Kennett et al. (2019) found that the total number of hours one studies was mildly predictive of grades. This relationship was moderated by academic resourcefulness. As noted above, students who are academically resourceful set learning goals, plan, and evaluate alternatives when faced with academic challenge, think of academic challenges as positive, use available resources (for example, library, writing centre), and structure their studying for the challenge. Thus, it is not time studying that leads to success, it is what the students do with that time that matters. Reed, Kennett, Lewis and Lund-Lucas (2011) have previously shown that course-based interventions can improve academic resourcefulness. Extending this finding, the current study shows that higher resourcefulness skills (as listed above) also lead to a stronger belief of the ability to balance commitments and these factors are tied to positive academic outcomes. Thus, one way to better include all students in developing academic skill, is to offer course-based interventions that focus on both balance belief and resourcefulness. Such interventions would teach students ways to better balance their multiple roles (for example, teach study scheduling, effective higher education study methods, etc.) and train resourcefulness (for example, problem solving, planning, and evaluating alternatives when meeting academic challenge).

Limitations to this study include the use of only one university from each country and that these universities are large urban institutions. While we believe that the two institutions reflect experiences of urban university students, urban institutions offer students many opportunities for non-academic activity and afford them opportunities to live at home while studying. These opportunities may affect the level of their involvement in outside activity (Reed et al., 2019) and thus affect their balance belief. Comparisons to more rural institutions are needed to better understand a wider student experience in both countries. Further, cross-cultural comparisons of rural institutions between countries would help to identify culturally related experiences and balance beliefs of students attending and how these experiences link to academic outcomes and compare with urban experience. A second limitation was our recruitment method. We recognize that our recruitment methods differed between institutions. While both institutions allowed the students to read about the study and contact the researcher in order to participate, the Canadian institution recruitment involved an already established undergraduate participant pool, while the South African institution used email recruitment. Given that the Canadian students were already members of a participant pool, it is possible that their motivation to participate differed from the South African students, and that this participant self-selection process tapped students who were

already interested in study issues. Given the many similarities in outcomes between South Africa and Canada, we believe the recruitment method likely only had a minimal impact. However, future studies should work towards similar recruitment methods across participating institutions. A third limitation was that there are many variables that impact students' ability to succeed in university that were not studied here. For example, student first language, emphasis on research vs. teaching at the institution, living in residences vs. commuting to school, class size, professor- to-student ratios; all these impact student learning but were not directly studied. Understanding how these variables relate to the students' ability to manage their multiple roles should be a focus of further study. A fourth limitation in this study was that we did not differentiate between students who are international, immigrants, or domestic. Our intention was to focus specifically on the general university population and first-generation students, which includes these groups. We did assess whether students born in Canada or born outside Canada had differences in their GPA, academic self-efficacy, or their ability to adjust to the university environment. We found that these two groups did not differ on any of these variables. However, we recognize that differentiating between international students and students who are immigrants, in terms of their ability to balance their multiple roles, would be a valuable contribution. One further limitation is that we studied the student's belief that they can balance, not their actual ability. There is likely considerable variability in belief and behaviour between study participants. However, a growing number of studies cited here and including the current study have shown that this belief in one's ability to balance academic and non-academic roles has an impact on academic behaviour and that the impact depends on both the student's resourcefulness and resilience. Kennett et al. (2019) asked students to identify the number of hours they spend in academic and non-academic activities. They found that the hours spent on academic activities was influenced by both balance belief and academic resourcefulness. That is, highly academically resourceful students spend more hours on academic activity than do lower academically resourceful students. However, as noted above, students with low academic resourcefulness will spend more hours on academic activity if they believe they can balance their academic and non-academic roles. This suggests that students may not be using hours spent on academic and non-academic activity to decide if they can balance but, rather, they are using their ability to meet and cope with academic requirements as a measure of their ability to balance their multiple roles. This relationship between academic outputs and balance needs further study. In addition, using national data (for example, South Africa SASSE; Canada NSSE survey) around hours spent in co-curricular activities and student perceptions of their study behaviours could further assist in understanding student multiple roles, beyond individual institutions. Finally, in the current study, students were not asked why they are attending university, nor asked about the reasons they

chose to participate (or not) in non-academic activities. There are likely cultural differences for these reasons, and they may well interact with balance belief. For example, obligations to work to support oneself may have a different impact on students' balance belief than choosing to work for the experience. Identifying these differences within culture and its relationship with balance belief and academic outcomes should be a future direction.

In summary, data revealed that balance belief was a positive contributor to GPA, and to the ability of students to adapt to the university environment (university adjustment). Further, balance belief was tied to academic resourcefulness, in predicting GPA and university adjustment, especially for first-generation students. Our study also revealed that South African students were more challenged by their multiple roles than were Canadian non-first-generation students. The differences in perceived ability to balance multiple roles might relate to different cultural expectations. In South Africa, Mdepa and Tshiwula (2012) and Seabi et al. (2012) speculate that high drop-out rates in South Africa are related to poorer primary and tertiary education and insufficient student funding. All of this leaves families to struggle and creates high expectations for students to achieve to reduce family poverty (Reed et al., 2019). Here we also find that, in South Africa, having parents who did not attend university also means having to work outside of school more hours each week than one's peers and participating less often in enjoyable non-academic activities. In contrast, dropout rates in Canada are related to poor university preparation, poor study strategies, and stress (Freeman, 2009). Our data suggest that these students may try to overcome their academic disadvantage by focusing on academic activities over non-academic activities (for example, social activities). Yet, for both South African and Canadian first-generation students, limiting non-academic activities may further reduce their ability to feel that they fit into university and thus increase their desire to drop out.

We believe that our finding that balance belief is tied to resourcefulness offers insight into the development of interventions to assist both first-generation and non-first-generation students in both countries. To improve GPA and the ability of students to adjust to the university environment, training must include methods to balance multiple roles and methods to become resourceful. Above we suggest areas of training, but, importantly, we argue that training should be course based. Courses, over individual intervention, have the advantage of allowing students to model other students and are of lower cost. Reed et al. (2011) have shown that course-based interventions which have a psychosocial component (resourcefulness, self-efficacy) in addition to academic skill, help students to increase confidence in their own abilities. Here we add that teaching skills around

balancing multiple roles could alleviate stress and improve focus on academic skill, but that training in these skills should also consider the culturally specific reasons students may be having difficulty in balancing their multiple roles (for example, family expectation, lack of knowledge of the university system, poor tertiary education, etc.).

One of the unique and valuable contributions of this study is that it is comparative. Here we show many similarities between South Africa and Canada in terms of student multiple roles and the effect of their beliefs that they can balance them. For example, in both countries balance belief was related to GPA, university adjustment, academic self-efficacy, resilience, and resourcefulness. Further, balance belief, when combined with resourcefulness and resilience, impacted first generation GPA more than non-first-generation GPA. These similarities allow for university planning. They suggest that balance belief is an important contributor to university success. Failing to believe could result in stress and decisions to leave university, especially for first-generation students. There were also some differences between countries which likely reflect culture. For example, students in South Africa were less often employed than in Canada. But, importantly, first-generation students in South Africa worked more hours each week than did their peers. This may reflect that many first-generation South African students, because of their financial situation, have little choice but to contribute to their education and the welfare of their families. In contrast, employment is a norm for all students in Canada. While many students may contribute to their own education, for many, working is a choice rather than a necessity. Further, Canadian non-first-generation students had a stronger belief that they could balance their academic and non-academic activity, than did South African first-generation and non-first-generation students. The difference in the strength of belief between Canadian and South African students offers insight into the context of university education in each country. Canadian university education is largely middle class in perspective, and this perspective impacts expectations placed on students. Unlike their South African peers, there is little expectation that university students will graduate to assist their family out of poverty. Such expectations likely impact participation in academic and non-academic activities and should be considered when providing interventions, as mentioned above.

In conclusion we found that culture impacts balance belief and that this belief, along with resourcefulness and resilience, can affect student grades, and student adjustment to the university environment, especially in first-generation students.

Acknowledgements

The authors would like to thank Ron Collis of Empirical Assessment Solutions, Ontario, Canada for his technical assistance.

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