Contributors to academic failure in postsecondary education: A review and a Canadian context

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ABSTRACT
Postsecondary enrollment has been rising globally over the past years, but poor performance and drop-out have also been increasing and have become an academic concern. Most drop-outs tend not to return, which significantly affects their future prospects. Postsecondary student populations are a diverse mix of local, immigrant, and international students but it is unclear if reasons for academic failure differ between groups. The aim of this review was to examine the published literature for contributors to postsecondary academic failure, including drop-out, among local, immigrant, and international students. A search of the literature was conducted using PubMed, ProQuest, EBSCOHOST, and PsycINFO on the topic for all articles published in English up to March 2016. The results showed that almost all data come from the Western countries. Several personal, sociocultural, and academic factors appear to be associated with postsecondary failure among all students. These include gender, low academic engagement, stress, psychological difficulties, low social support, and poor coping abilities. Immigrant and international students face additional challenges, such as loss of social networks, discrimination, acculturation, and language challenges. Limitations of the data include the relatively small body of literature (particularly from low- and middle-income countries), and lack of subgroup comparisons, such as of local, immigrant and international students. Clarification of the relative contribution of these factors to academic failure will facilitate the development of effective retention strategies, particularly those that focus on addressing psychological distress and building resilience.

Key Words: Academic failure, contributors, immigrant students, international students, postsecondary students

Introduction
The period of late adolescence and early adulthood (18–25 years), also referred to as emerging adulthood, is a time of significant transition, of identity consolidation, changes in focal influences, and growing self-determination in life choices, including postsecondary pursuits.\[1,2\] Universities and colleges aid this period of development by providing emerging adults with opportunities for exposure to new ideas, new life experiences and greater independence.\[3\] However, transitional stressors are also present, such as increased responsibilities, adjustment to independent living, and achieving academic goals.\[1,2\] This combination of privileges and demands during this phase of life can have both positive and negative effects, in particular on academic performance.

Student academic failure, which includes drop-out, is a major issue globally. Though postsecondary participation has risen over the past 30 years, the drop-out rate has also increased in parallel (ranging from 20 to 40% across developed countries), and those who drop out tend not to return.\[3-5\] Consequences include long-term adverse impact on the individual's occupational, financial and...
personal well-being,[6] and loss to society of a talented, productive workforce.[5]

The influences on postsecondary academic failure have been debated in both civic and educational circles but have yet to be fully clarified. In addition, immigrant and international postsecondary students, who form a sizeable group in developed countries,[5,7] often face migration-specific stressors and challenges that add to their burden of coping, but whose impact on academic performance is also relatively unexplored.

The purpose of this narrative review was to examine the published literature for factors contributing to academic failure among postsecondary students. Influences particularly relevant to immigrant and international students were also investigated.

**Methods**

A search of the literature was conducted using PubMed, ProQuest, EBSCOHOST, and PsycINFO for all articles containing the terms “contributor,” “risk factor,” “postsecondary,” “drop-out,” “academic failure,” “academic performance,” “student,” “immigrant,” and “international student” and published in English up to March 2016. Additional references were obtained from the secondary search engines like Google Scholar and the citation lists of sourced articles. Of the 1016 publications found, 81 articles (reviews, surveys, controlled/uncontrolled trials, and qualitative studies) were found appropriate for inclusion. Articles were excluded if they merely duplicated findings in earlier or more seminal publications without any new or supplementary information.

**Results**

The overall body of literature on postsecondary academic failure is small. The proportion of data on immigrant postsecondary students is even smaller and that on international students is further limited. It is also of note that the literature found was almost exclusively from developed countries in the West, with little to no available data from low- and middle-income countries or other world regions.

**General factors associated with postsecondary academic failure**

Academic engagement (e.g., sense of belonging, meeting goals, and participation in campus activities) and motivation may be key factors influencing decisions about academic (dis) continuation.[3] Indeed, feeling ill-suited to the program of study (and doubtful of future occupational success) has been reported as a chief reason for drop-out.[8,9] Not surprisingly, highest drop-out occurs in the 1st year of postsecondary education[14,8] and is most often associated with perceived lack of fit, weak academic performance and poor study discipline,[10,11] as well as poor academic performance or drop-out in high school.[8] Conversely, perceived fit with the academic environment correlates with better academic engagement, lower drop-out, and to a lesser extent, better grades.[9,10]

Psychosocial factors often contribute to academic failure, with psychological distress (a common response to life stress) a major influence.[12,13] This is not unexpected since many mental illnesses have onset in adolescence and early adulthood.[14] Depression, anxiety, and stress-related conditions are highly prevalent among postsecondary students, particularly those in 1st and 2nd year[15] and are commonly associated with impaired social engagement and poorer academic focus and performance.[16,17] Cognitive difficulties (e.g., information processing, attention, learning and retrieval), whether due to a state/trait effect or as a result of psychological distress, can also negatively affect academic performance.[18,19] Illicit substance use is also endemic on postsecondary campuses, for recreation, as a means of coping, or to improve academic performance, but with usually adverse effects on academic and personal functioning.[20,21]

Several other demographic and psychosocial factors, including gender, role modeling, and social support, also appear to impact academic performance significantly. Postsecondary participation is lower and drop-out is higher among male postsecondary students than among females, though the reasons for this are still unclear.[5,11] Having parents who did not complete or value postsecondary education and not coming from a two-parent family (which can reflect reduced support and/or financial constraints) are other key risk factors for drop-out.[5,8] Interestingly, males with divorced parents demonstrate better academic adjustment than females with divorced parents or males or females with intact families,[22] but the underlying reasons for these differences also remain to be elucidated. Postsecondary adjustment is also adversely affected by negative relationships with parents[17] and perceived lack of social support on campus.[9,8] On the other hand, social support (from parents, teachers, and/or peers) correlates with lower psychological distress, better coping and better academic performance in postsecondary students.[23,24]
The relationship between perceived life stressors and academic failure appears to be complex, with some counterintuitive findings reported. Financial pressures, unexpected bad grades and interpersonal difficulties (e.g., conflicts with roommates), among others, increase the likelihood of drop-out. However, several other negative events, such as failure to obtain the desired degree, experience of addiction or significant injury or bereavement, or loss of a job needed to pay tuition, appear to have less deleterious effect on academic performance than might be expected.

The impact of life stressors on academic performance may be moderated at least in part by individual resilience, i.e., ability to cope with stress. Maladaptive (emotion-focused) coping style predicts depression, anxiety and stress among postsecondary students, and correlates with weaker academic performance. Adaptive (problem-focused) coping, on the other hand, is linked to better motivation and postsecondary success through impact on sense of control, self-esteem and optimism. Such qualities also improve resilience, which is associated with better postsecondary academic achievement and personal functioning.

Immigrant students and postsecondary academic performance

Immigration is associated with considerable psychosocial stress, due to the demands placed by adjustment to a new way of life and culture. Preimmigration stressors such as war, torture, political violence and persecution, and postimmigration inequities in employment, housing, nutrition, access to health care, social support, language, and discrimination, can increase immigrant vulnerability to psychological distress compared to the general population. Indeed, compared to locally-born groups, psychological distress is greater among younger (e.g., 15–24 years) and more recent immigrants and in certain ethnic groups, with low income further increasing this vulnerability. Unfortunately, it often goes undetected due to cultural influences on problem recognition (including stigma or denial), symptom presentation and help-seeking. Psychological difficulties are linked to lower academic performance in immigrant early adolescents, and though such data are unavailable for immigrant postsecondary students, similar impact is likely.

The greater susceptibility of immigrant youth to psychological distress (compared to immigrant adults) is attributed to the additional challenges they often face, both those of emerging adulthood and those of immigration. The latter include balancing adaptation to a new culture while maintaining links to one’s own (acculturative stress) and managing the stressors of the transition (acculturative stress). Acculturative stressors, such as cultural adaptation, language difficulties, family or in-group conflicts (due to differences in acculturation), and discrimination, correlate with increased psychological distress and weaker high school and postsecondary academic performance in immigrant youth. In contrast, successful acculturation is associated with decreased psychopathology and better postsecondary engagement and performance in this population. Furthermore, while it is intuitive to think that differences in gender roles and expectations may influence acculturation for immigrant youth (e.g., some cultures may support greater independence for females and thus, less “culture clash”), there is no published research in this area.

Language proficiency is an aspect of acculturation that has particular significance for academic performance. Poor language skills are linked to higher rates of drop-out from high school among those who immigrated in adolescence than in childhood, as a factor of age-related challenges in learning a new language. They also contribute to lower academic achievement among immigrant postsecondary students. Decrease in social support, due to loss of established social networks upon immigration, and the challenge of creating new ones are other adverse influences on immigrant youth. They are often associated with increased psychological distress, acculturative stress, and decreased high school engagement and performance in immigrant adolescents. Low social support has also been linked to psychological difficulties in immigrant emerging and young adults. Its effect on the academic performance of immigrant postsecondary students lacks published data but is likely to be similarly negative.

Stress research has shown that resilience leads to better functioning. Thus, it is not unexpected that the use of adaptive coping strategies is linked to lower psychological distress and stress reactivity, as well as lower acculturative stress among adult immigrants. Although adaptive coping is speculated to have similar benefits for immigrant youth, including for academic performance, this has been little explored.

Not surprisingly, age at immigration may be a significant modulator of outcomes among immigrant youth. For example, those who immigrate in childhood have shown
increased risk of psychological distress and family conflicts (and decreased family support) compared to those who immigrate at later ages.[56,57] However, paradoxically, the former exhibit better acculturation and academic performance than the latter.[47,58]

**International students and postsecondary academic performance**

The literature notes that international postsecondary students share many of the challenges experienced by immigrant students, with similar adverse impact. Besides the difficulties of emerging adulthood,[1] they also face acculturative stressors, including loneliness, discrimination, language differences, financial stress, and cultural adaptation.[59] There is also pressure to fulfill personal and family expectations of academic success despite the challenges of a new culture and educational system.[60,61] Such stressors are associated with[62,63] and also predictive of[64] psychological distress among these students, but as with immigrant youth, denial or nonrecognition of symptoms and stigma can be barriers to help-seeking.[59] Psychological distress and acculturative stress also correlate with worse academic performance in this group.[65,66]

Adding to the pressure to succeed, international postsecondary students often have to adapt to the processes, standards, and teaching style of a new academic system (academic adjustment).[59] Difficulties with academic adjustment predict lower academic success among these students.[67,68] as well as greater psychological and life stress.[69,70]

As with immigrant students, language skills influence the social and academic functioning of international postsecondary students. While poor language skills are particularly linked to academic failure in this group,[71,72] they also predict the greater degree of both psychological distress[64,73] and acculturative stress.[64,74] Language difficulties also inhibit their ability to develop new social networks, thus exacerbating the lower social support they also experience.[60,61]

Reduction in social support may be more profound for international than immigrant postsecondary students as the former are often separated at a greater distance from family and friends than the latter.[59] Low social support is both associated with[74] and predictive of[64] higher acculturative stress in international postsecondary students, and also predicts greater psychological distress among them.[64] Data on its impact on their academic functioning are unavailable, but as in the general literature, it is likely to be adverse.

As may be expected, resilience and coping approach also influence functioning among international postsecondary students. Maladaptive coping predicts higher acculturative stress[73] and psychological distress in this group.[63,76] Its influence on their academic success currently lacks data but is likely to be negative, as found with postsecondary students in general.

Comparable to findings with immigrant youth, studies evaluating the impact of age at arrival of international students in the host country have reported conflicting results, with younger international students reporting both higher psychological distress[77] but, paradoxically, better acculturation than older students.[64] There is no published research on the association of age at arrival and subsequent postsecondary academic performance by international students, but it is speculated to be similar to that of immigrant students.

**The Canadian context**

Immigration contributes significantly to population growth across Western countries,[78,79] and in Canada, accounts for two-thirds of annual population growth (i.e., about 250,000 people per year), with about one in five persons now foreign-born and/or a visible minority.[79] However, the immigrant experience in Canada is thought to differ substantially from that in other countries.[7,78] Canada tends to recruit skilled, professional immigrants, who come primarily from Asia, value education, and integrate well both socially and economically into Canadian society.[71] In contrast, Europe has historically attracted lower-skilled workers from within the continent or abroad, and immigrants to the United States come mainly from Latin America;[7,78] education is often not a priority for these groups, which can affect economic prospects and adaptation. These differences are reflected in postsecondary participation, which is higher among immigrants than nonimmigrants in Canada than in Western Europe or the United States,[7,78] even if high school academic performance was not strong.[7] Another distinction is in drop-out rates, which are similar between immigrants and nonimmigrants in Canada,[5] but higher for immigrants in the United States.[70]

As mentioned, while a proportion of immigrants to Canada come from Latin America, the Caribbean, Africa, and Europe,[79] the majority (two-thirds) have origins in Asia where postsecondary education is highly prized.[7] Since about one-third of immigrants are under age 24 years at arrival,[79] they enter the educational system almost immediately, with a standard progression from elementary to secondary and (frequently) postsecondary studies.[7]
Canada’s emphasis on selecting highly educated immigrants also results in almost 50% of immigrant youth having parents with postsecondary degrees who encourage them to achieve the same.\textsuperscript{[7]} All these factors contribute to the high postsecondary participation rates of immigrant youth, with one in seven postsecondary students in Canada now being an immigrant.\textsuperscript{[80,81]} A major result is better financial outcomes long-term. Immigrant employment rates and incomes are generally lower than for local Canadians;\textsuperscript{[49,82]} but rise to comparable levels for those who complete postsecondary education in Canada.\textsuperscript{[83]}

International students comprise about one in 12 postsecondary students in Canada\textsuperscript{[84]} and similar to immigrants, come mostly from Asia, but also from Latin America, the Caribbean, Africa, and the Middle East.\textsuperscript{[85]} Over the past 20 years, international student enrollment has increased four-fold to about 100,000 per year.\textsuperscript{[86]} Enhanced by Canadian qualifications and experience, a significant proportion eventually settles in Canada, benefitting Canadian society; in 2013, about 10,000 foreign students and workers received permanent residency visas, a 300% increase since 2009.\textsuperscript{[87,88]} Indeed, positive educational, career, and immigration expectations, as well as a desire for new experiences, are major reasons cited by the international students for choosing to study in Canada.\textsuperscript{[85]}

In the past few decades, postsecondary enrollment in Canada has risen from 53% to 79%, but the drop-out rate has also increased in parallel from 9% to 21%.\textsuperscript{[5]} Immigrant and international students share proportionally in this drop-out. Despite higher postsecondary participation rates, drop-out among immigrants is as high as or even higher than for Canadian-born students.\textsuperscript{[9]} The reasons for this are unknown because Canadian literature on risk factors for postsecondary academic failure lacks comparative data based on ethnicity or citizenship status. Similar information on international students in Canada is also sparse, as no data have been published on their academic continuance or drop-out, and there is little published research from Canada on the factors that may affect their functioning.

To fill this knowledge gap, the authors recently conducted a retrospective analysis of 3 years of academic data of a cohort of the 1st year students at a large Canadian university (currently unpublished). The data were obtained from the Registrar’s office after due institutional ethics approval. Chi-squares and univariate ANOVAs were used to examine similarities and differences between student groups based on academic performance and on gender, citizenship status, and mother tongue, which were the only demographic variables included in the Registrar’s database. Linear regression was used to identify predictors of academic performance and logistic regression was used to identify predictors of drop-out. The results showed that from a total sample of 2466 students, about one-third dropped out over the 3 years and half of this drop-out occurred in the 1st year. Less than a quarter of drop-outs ever returned. Gender and the interaction of gender and citizenship status showed utility as predictors of academic performance. Male gender predicted poorer academic performance than female gender across student groups ($P<0.05$). However, at the subgroup level, male immigrants obtained better academic scores than female immigrants ($P=0.03$). Citizenship status, academic performance, mother tongue and the interaction of citizenship status and academic performance appeared to be useful as predictors of drop-out. Canadian-born students had a lower risk of drop-out than immigrant or international students ($P \leq 0.001$). Poor academic performance ($P < 0.0001$) and non-English mother tongue ($P < 0.05$) were associated with higher risk of drop-out across student groups. Interestingly, although high-achieving Canadian and immigrant students had a lower risk of drop-out, high-performing international students were at greater risk ($P < 0.0001$). However, effect sizes of the predictors of both regression analyses were small ($d = 0.002–0.22$). This suggests that other variables might also influence academic performance and drop-out in this cohort, particularly among males or international students. Likely contributors are other common student challenges (e.g., psychological distress and poor coping) or migration-specific factors (e.g., acculturative stress, English language difficulties), as noted in the literature. A larger prospective investigation of the influence of such additional contributing factors is now underway.

**Discussion and Conclusions**

Postsecondary academic failure, including drop-out, is a significant issue for academic institutions globally, with implications for both individuals and broader society. However, it has been suggested that concerns about drop-out and its consequences may be overstated, as institutions rarely collect information on students’ reasons for leaving.\textsuperscript{[89,90]} Poor fit with the program of study or institution and desire/need to work are more often reported reasons for drop-out than academic difficulties.\textsuperscript{[8,9]} Further, up to 60% of students who leave one institution enroll at another\textsuperscript{[90]} and a significant proportion of these complete studies there.\textsuperscript{[9,90]} Thus, it is possible that rates of academic failure may be overestimated.\textsuperscript{[89,90]}
Nonetheless, the available data (though not extensive) indicate that academic performance and drop-out are complex phenomena that are significantly affected by multiple and interactive factors.

The published evidence suggests that several psychosociocultural factors may contribute to postsecondary academic failure across all student populations. However, the existing literature does not provide a complete picture. The effect of these factors is often evaluated individually, with little exploration of interactive effects. Though it is intuitive to think that multiple stressors will have a cumulative effect on academic performance, this has yet to be confirmed. Moreover, while many risk factors are common to all students, other risks may be more relevant to specific subgroups, but comparative evaluations are scarce. For example, male gender and nonparticipation in campus activities may be weaker risk factors for immigrant or international students than locally-born cohorts, due to different cultural influences. It is also well known that some immigrant groups may be less supportive of higher education for females, which may contribute to higher rates of drop-out among female students from those cultures. However, both these premises lack substantiating data. Similarly, while it has been speculated that the impact of certain factors, such as psychological distress, low social support, etc., is likely to be greater on immigrant and international students than local students, this has not been systematically studied or verified. Also of note, findings from the current literature come primarily from research in developed countries in the West and may have limited generalizability in low- and middle-income countries or other world regions. Collectively, these knowledge gaps hinder the development of effective preventive strategies that could have global applicability.

The factors that may influence the decision to return to postsecondary studies after drop-out also need systematic evaluation and confirmation. Although it may seem logical that resolution of financial difficulties or amelioration of emotional distress may increase the likelihood of return, published data are lacking. As well, the role played by extraneous factors, such as the availability of specific retention support services on campus, has been little examined. More research in this area would be valuable to supplement the literature and to inform retention plans.

The potentially positive consequences of cultural differences may also be worth exploring. For example, while acculturative difficulties often have an adverse impact on immigrant youth functioning, paradoxically, it may shield them from high-risk behaviors. The use of illicit substances to cope with psychological distress or stress is a common practice among students, but new immigrant youth are far less likely to engage in such behavior than local youth or youth with immigrant parents or grandparents, even though newcomer youth may experience higher psychological distress than these other groups. There are no published comparisons of substance use practices between local and international students. However, the shared attributes and cultural norms of many immigrant and international student groups have led to the speculation that exploitation of such “protective” cultural differences may have a role in intervention strategies for these groups.

Recently, there has been increasing interest in wellness education initiatives to improve mental health and resilience among students, and thus improve retention. School-directed interventions, frequently based on cognitive-behavior therapy (CBT) approaches and often delivered online, have been found to enhance mental health, help-seeking, coping skills and resistance to negative coping behaviors, such as substance abuse, among youth. These usually have a duration of 4–8 weeks but relatively brief 1-day CBT psychoeducation workshops have been reported to be similarly effective and particularly attractive to those who delay help-seeking due to stigma, such as those with lower incomes or from ethnic communities. Such considerations would be very pertinent for promoting wellness both among postsecondary students in general, who tend to prefer short and/or web-based initiatives, and especially among immigrant and international students, for whom stigma may be a major obstacle to help-seeking.

In summary, while a range of factors influences postsecondary academic performance and drop-out among all students to varying degrees, psychosocial factors, particularly psychological distress and poor coping skills, appear to have the most adverse impact. Immigrant and international students face many additional challenges that often exacerbate the stress they experience, and thereby affect their academic outcomes. In general, the published literature on this important topic is rather sparse and Western hemisphere centric, with few subgroup comparisons. Systematic evaluations using well-designed investigations are needed to examine individual and interactive influences on the academic functioning of local, immigrant and international students in both developed and developing countries. The resulting data would help
to develop appropriate and effective preventive and intervention strategies to reduce postsecondary academic failure and improve student retention globally.

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