

SELF-EFFICACY BELIEFS AND STUDENT PARENTS

The influence of self-efficacy beliefs for student parents attending university

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Abstract

Student parents (i.e., students who have their own dependent children) are a specific sub-population of adult learners. This study investigated the impact of self-efficacy beliefs on student parents' perceived capacity to manage multiple roles and their satisfaction with family, school, and life. Survey data collected from 398 student parents enrolled at four Canadian universities were analysed. Latent variable analysis was conducted using maximum likelihood estimation with robust standard errors (MLR) using Mplus. Self-efficacy beliefs were found to influence student parents' perceptions of satisfaction at school, in the family, and with life in general. Perceptions of one's capacity to manage multiple roles (i.e., school-family balance) were found to mediate the relationship between academic self-efficacy and school satisfaction as well as parental self-efficacy and family satisfaction. Furthermore, preliminary evidence is provided of unique subgroups within the student parent population based on children's ages, partner status, and enrolment status (i.e., full/part-time studies).

Introduction

For adult learners returning to formal, post-secondary education, self-efficacy beliefs may be a key factor influencing academic success. Self-efficacy, broadly defined, refers to a person's belief in their ability to accomplish particular tasks or goals (Bandura, 1986). Self-efficacy beliefs are the foundation of human agency and play a key role in influencing behavioural choices. Bandura, Caprara, Barbaranelli, Regalia and Scabini underscore the importance of efficacy beliefs, stating that:

Whatever other factors may serve as guides and motivators, they are rooted in the core belief that one can produce effects by one's actions. Otherwise, there is little incentive to undertake activities or to persevere in the face of difficulties. In this view, people are significant contributors to their life circumstances, not just products of them. (2011, p. 422)

Previous research supports the relationship between self-efficacy beliefs and positive outcomes for individuals such as life satisfaction and perceived quality of family functioning (Bandura et al., 2011; Pajares, 2008; Quimby & O'Brien, 2006). Furthermore, Bandura and colleagues (2011) demonstrate that perceived parenting efficacy predicts the quality of both child and marital relationships.

Perceived satisfaction may be domain specific (e.g., at school or in the family) or broader (e.g., general life satisfaction). Among non-traditional students such as adult learners and student parents (those with dependent children) who face unique challenges (Schlossberg et al., 1989), there is some recognition of the link between self-efficacy beliefs and academic success in that self-efficacy beliefs have been found to be a strong predictor of academic success (Zajacova et al., 2005). Carney-Crompton and Tan (2002) suggest that adult learners may have high self-efficacy beliefs and intrinsic motivation to learn that affected their decision to return to school later in life. Yet mature students and student parents are more likely to withdraw from study than traditional-aged and circumstanced students (Holmes, 2005; MacFadgen, 2008; Scott, Burns, & Cooney, 1996). Attrition may not only be related to academic self-efficacy beliefs, but also to one's belief in the ability to succeed in other important roles as well. As the ability to be a good parent to their child(ren) is vital and student parents define success as being connected to *both* their student and their parental roles (van Rhijn, 2012), parental self-efficacy beliefs also likely play a key role. The purpose of the current study was to investigate the relationship between self-efficacy beliefs and school, family and life satisfaction, as well as participants' perceived capacity to manage multiple roles (i.e., school-family balance) to determine the influence of self-efficacy beliefs on student parents' experiences while attending university.

Theoretical Framework

Social Cognitive Theory (Bandura, 1986) proposes that a triadic perspective is required to understand human functioning: that behaviour, personal factors (cognitive and other internal psychological factors), and environmental events operate in a dynamic fashion to affect a variety of outcomes. Bandura referred to this triadic interaction as 'reciprocal determinism'. Humans are seen to be agentic in that they are able to exercise control over their feelings, thoughts, and

actions. Individuals' beliefs in their capability to achieve their goals and accomplish specific tasks, termed *self-efficacy*, are the foundation of human agency; in other words, people will make choices, expend energy, and persist in tasks that they believe they can achieve. The reciprocal ways in which personal factors, environmental events, and behaviours impact one another are of particular interest for understanding student parents, especially when considering them through a multiple roles perspective.

Academic self-efficacy beliefs likely play a very important role for mature students who may have less confidence in their ability to succeed academically based on their absence from formal education (as opposed to traditional students who are more likely to have moved from high school directly to post-secondary study). We suggest that consideration of the impact of self-efficacy beliefs on students' experiences and sense of agency is useful, not only in the academic domain, but also in the family setting (i.e., self-efficacy beliefs with regards to parenting that may be affected by experiences of conflict and challenge when dealing with the additional role demands associated with being a student). Student parents are required to deal with multiple role demands; as parents, as students, and often as workers as well. Related research on employed parents demonstrates that work-family role conflict results in negative behavioural and emotional outcomes including dissatisfaction with work and family, reduced role performance, and psychological strain (Carlson, Kacmar, & Williams, 2000; Frone, Yardley, & Markel, 1997).

Family and school roles are both recognized as being highly demanding; hence combining the two can be very problematic (Home, 1997). Sweet and Moen (2007) demonstrated that women returning to school have been found to experience increased levels of role conflict, especially when they have children. Accordingly, consideration of how student parents deal with the demands from their multiple roles is warranted. Turning to the work-family literature, the concept of work-family balance is useful. Grzywacz and Carlson (2007) define work-family balance as the "accomplishment of role-related expectations that are negotiated and shared between an individual and his/her role-related partners in the work and family domains" (p. 458). Work-family balance includes lower levels of work-family strain and better perceived work-family fit and relates to a variety of work and family-related outcomes such as job satisfaction, organizational commitment, family satisfaction, and family functioning (Carlson, Grzywacz, & Zivnuska, 2009) as well as indicators of physical and mental well-being (Frone et al., 1997). Adapting the concept of work-family balance to school-family balance, we suggest that school-family balance should relate to both school and family outcomes (e.g., school satisfaction and family satisfaction).

Research Questions

Four specific research questions were investigated in this study:

1. In what ways do domain-specific self-efficacy beliefs influence experiences of school, family, and life satisfaction?
2. How are perceptions of school-family balance related to domain-specific self-efficacy and satisfaction?

3. Do school-family balance, school satisfaction, and family satisfaction act to mediate the relationship between self-efficacy beliefs and general life satisfaction?
4. Do unique subgroups exist with regards to self-efficacy beliefs and perceptions of satisfaction within the student parent population based on gender, partner status, enrollment status, and age of their youngest child?

In order to investigate the research questions, a conceptual model was created that included the relevant latent variables: academic self-efficacy, parental self-efficacy, school-family balance, family satisfaction, school satisfaction, and general life satisfaction (figure 1). The model was built based on previously documented relationships: (1) Academic self-efficacy as a direct predictor of school satisfaction and parental self-efficacy as a direct predictor of family satisfaction (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Bandura et al., 2011), and (2) family satisfaction and school satisfaction as direct predictors of life satisfaction (Carlson et al., 2009).

In addition, school-family balance was added to the model as a potential mediator between academic self-efficacy and school satisfaction and between parental self-efficacy and family satisfaction. Although there was no previous work to guide the placement of this construct in the model, this placement was hypothesized based on considering school-family balance as a form of self-efficacy in managing role demands in and across two domains.

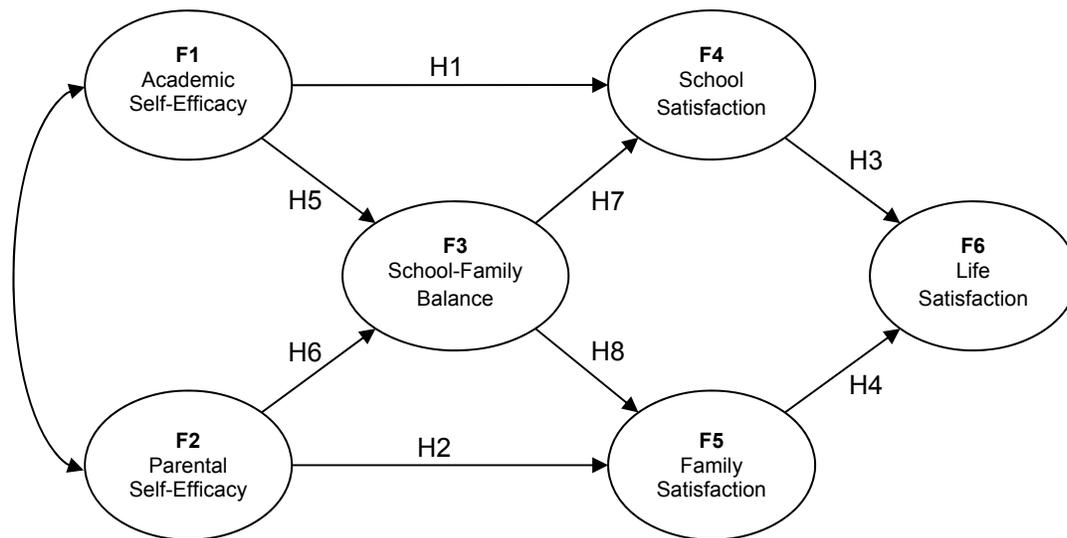


Figure 1. Impact of Efficacy Beliefs – Conceptual Model

Analysis was conducted to first investigate the conceptual model and was guided by the research questions. For the first question (In what ways do domain-specific self-efficacy beliefs influence experiences of school, family, and life satisfaction?), we hypothesized a positive relationship between academic self-efficacy and school satisfaction (H1) and between parental self-efficacy and family satisfaction (H2). We also hypothesized a positive relationship between

school satisfaction and general life satisfaction (H3) and between family satisfaction and general life satisfaction (H4).

For the second research question (How are perceptions of school-family balance related to domain-specific self-efficacy and satisfaction?), we hypothesized a positive relationship between academic self-efficacy and school-family balance (H5) and between parental self-efficacy and school-family balance (H6). We also hypothesized a positive relationship between school-family balance and school satisfaction (H7) and between school-family balance and family satisfaction (H8).

To address the third research question (Do school-family balance, school satisfaction, and family satisfaction act to mediate the relationship between self-efficacy beliefs and general life satisfaction?), we investigated mediation pathways in the conceptual model; mediation pathways being cases where an independent variable affects a dependent variable indirectly through an intervening variable (Baron & Kenny, 1986). Four mediation pathways were evaluated from the model: (1) Academic self-efficacy (F1) → School-family balance (F3) → School satisfaction (F4), (2) Parental self-efficacy (F2) → School-family balance (F3) → Family satisfaction (F5), (3) School-family balance (F3) → School satisfaction (F4) → Life satisfaction (F6), and (4) School-family balance (F3) → Family satisfaction (F5) → Life satisfaction (F6).

The fourth research question (Do unique subgroups exist with regards to self-efficacy beliefs and perceptions of satisfaction within the student parent population based on gender, partner status, enrolment status, and/or age of youngest child?), was addressed through exploratory analyses based on previous work that provide initial evidence of subgroup differences based on the life circumstances of subpopulations among student parents (van Rhijn, Smit Quosai, & Lero, 2011).

Methodology

Data were collected during the fall 2011 phase of a three-year study of mature students, the Mature Student Experience Survey (MSES). With assistance from Registrars' offices at four universities in southern Ontario, mature students (undergraduate students aged 25+) were invited to participate in this research. Recruitment occurred via email and data were collected using an online survey instrument with a mix of open- and closed-ended questions. A sample of 398 mature student parents with one or more dependent children under the age of 18 (25.3% of the 1,571 mature student respondents) was obtained for the current study.

Measures

In addition to demographic variables, six measures were utilized for this study: Academic Self-Efficacy Scale (Zajacova et al., 2005); Parental Self-Efficacy Scale (Caprara, Regalia, Scabini, Barbaranelli, & Bandura, 2004); School, family, and general life satisfaction subscales of the Extended Satisfaction with Life Scale (Alfonso, Allison, Rader, & Gorman, 1996); and the Work-Family Balance Scale (Carlson et al., 2009) adapted to assess school-family balance. Details on each of the measures are provided below.

Self-efficacy. Self-efficacy beliefs reflect what individuals believe they can accomplish, and these beliefs regulate thought processes, motivation, and affective and physiological states (Bandura, 1997). Self-efficacy beliefs are also domain-specific in that they vary across domains of functioning rather than being a type of a global trait (Caprara, et al., 2004). For this study, two specific efficacy domains were measured: academic self-efficacy and parental self-efficacy.

Academic self-efficacy is defined as a self-evaluation of competence to complete academic tasks such as studying, writing papers, and preparing for examinations. This construct was measured using the Performance in Class subscale of the Academic Self-Efficacy Scale developed by Zajacovoa and colleagues (2005). The Academic Self-Efficacy Scale was constructed for use with nontraditional undergraduate students (including mature students) and the Performance in Class subscale reflects participants' level of confidence in their ability to successfully complete four academic tasks. Ratings are made on an 11-point scale that ranges from 0 (not at all confident) to 10 (extremely confident). A sample item is "Doing well in my toughest class".

Parental self-efficacy is defined as a parent's belief in their efficacy in handling their relationship and interactions with their child(ren). This construct was measured using one scale from a set of family efficacy scales developed by Caprara, Regalia, Scabini, Barbaranelli and Bandura (2004). The 12 items are rated according to the respondent's perceived efficacy to manage various aspects of the parent-child relationships using a 7-point scale from 1 (not well at all) to 7 (very well). A sample item is "Get your son/daughter to confide in you about his/her worries".

Satisfaction with specific aspects of life. Life satisfaction is defined as the self-perception of one's own global quality of life. This construct was measured using three subscales of the Extended Satisfaction with Life Scale: general life, family, and school satisfaction (ESWLS; Alfonso, Allison, Rader, & Gorman, 1996). Each subscale consists of five items measured on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree) with higher scores indicating higher levels of satisfaction. A sample item from the general life satisfaction subscale is "I am satisfied with my life". A sample item from the family subscale is "In most ways my family life is ideal". A sample item from the school subscale is "The education I get at school is great".

School-family balance. School-family balance is defined as an individual's perceived ability to manage both school and family role responsibilities. This construct was assessed using an adapted version of the Work-Family Balance Scale (Carlson, et al., 2009). Adopting Gryzwacz and Carlson's (2007) definition of work-family balance, the measure is grounded in an individual's lived experience of the work-family interface and moves beyond individual experiences of conflict and enrichment between roles. This focus is more holistic and global in that the emphasis is on an individual's perceived ability to meet the demands of their multiple roles. To measure school-family balance, work-related wording was changed to school-related (i.e., work to school and supervisor to instructor). The six items comprising the School-Family Balance Scale were rated using a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly

agree). A sample item is “I am able to negotiate and accomplish what is expected of me at school and in my family”.

Analytic Strategy

The research questions were investigated using latent variable structural equation modelling analyses. Previous work demonstrated the adequacy of the fit of the data to each of the measurement constructs (van Rhijn, 2012). Significant Kolmogorov-Smirnov test results for all of the items indicated that these data were not normally distributed and a majority of the items were skewed and/or kurtotic. Consequently, the latent variable analysis was conducted using maximum likelihood estimation with robust standard errors (MLR using Mplus Version 6.11; Muthén & Muthén, 1998-2011).

Multiple goodness-of-fit indices were reviewed to assess model fit including chi-square (χ^2 ; Bollen, 1989), the root mean square error of approximation (RMSEA; Steiger, 1990), and the comparative fit index (CFI; Bentler, 1990). Although good fitting models have non-significant ($p < .05$) chi-square values, models with large sample sizes are almost always statistically significant (Kline, 2005); therefore, the other measures of model fit were also used including RMSEA values of .06 or less and CFI values greater than .95 (Hu & Bentler, 1999).

As these data were cross-sectional, an alternative model was tested that varied from the conceptual model only in the placement of school-family balance. Testing of this alternative model was included for two specific purposes. First, researchers have demonstrated that the original work-family balance measure contributes to the explanation of both work and family outcomes such as job satisfaction and family satisfaction (Carlson, et al., 2009); however, there was no previous work that guided the specific placement of this variable in the conceptual model. In the alternative model, the domain-specific efficacy measures affect domain-specific satisfaction. In turn, domain-specific satisfaction affects school-family balance and school-family balance affects general life satisfaction. Second, by testing this alternative model in comparison to the main conceptual model for the study, we were able to determine whether the relationships among the variables hypothesized in the main conceptual model were spurious. Results supporting the better fit of the main conceptual model provide further validation that the results were not simply a spurious effect related to multicollinearity of these cross-sectional data. In order to compare the main and alternative models, the fit indices previously described were reviewed. Additionally, as these models are not nested, Akaike’s Information Criterion (AIC) was used as a parsimonious fit measure that can be used to compare the fit of competing (i.e., non-nested) models where lower values indicate better fit in addition to the other goodness-of-fit indicators (West, Taylor, & Wu, 2012).

In order to evaluate the mediation effects, the direct and indirect effects of the paths and standard errors of the indirect effects were simultaneously estimated using a bias-corrected, bootstrapped standard error with 1000 draws. This approach was selected as other methods for testing for mediation (e.g., Baron & Kenny, 1986) have been shown to be statistically underpowered compared to this method (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; MacKinnon, Lockwood, & Williams, 2004).

Results

The sample consisted of 398 student parents. Participants were primarily women (75.8%), partnered (79.4%), with an average age of 38.2 years. Participants had an average of 1.8 children (range: 1-6) and the mean age of their youngest child was 7.1 years (range: 0-18). Table 1 presents a breakdown of the sample characteristics by gender and tests for differences between the groups. Men and women student parents were not significantly different in terms of their enrolment or employment status; however, compared to women, men were significantly older, more likely to be partnered, their youngest child was younger, and they were less likely to be born in Canada. In addition, among student parents who were employed, men reported working significantly more hours per week.

Table 1. Sample Characteristics

	Total (<i>N</i> = 398)			Men (<i>n</i> = 96)			Women (<i>n</i> = 302)		
	<i>n</i>	Mean/ %	SD	<i>n</i>	Mean/ %	SD	<i>n</i>	Mean/ %	SD
Enrolment status									
Full-time ^a	175	44.0		36	37.5		139	46.0	
Part-time	223	56.0		60	62.5		163	54.0	
Age		38.2	7.5		39.8	7.5		37.7*	7.4
Partner status									
Single	81	20.6		2	2.1		79	26.6***	
Partnered	312	79.4		94	97.9		218	73.4	
Age of youngest child		7.1	5.2		5.8	5.3		7.5**	5.2
Number of children		1.8	0.8		1.8	0.9		1.8	0.8
Born in Canada	210	61.8		40	48.2		170	66.1**	
Employment status									
Employed	263	67.8	66		71.0		197	66.8	
Not employed	125	32.2	27		29.0		98	33.2	
Work hours/week		33.6	13.2		38.7	11.0		31.9***	13.4

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

Note. Significance tests conducted as follows: Independent samples t-tests used for continuous variables and Pearson chi-square difference tests used for categorical variables.

^a Full-time status defined according to Canada Student Loans Program requirements of 60% or greater of a full course load.

Means, standard deviations, and Cronbach alpha reliability estimates for the measures are presented in table 2. Examination of the bivariate correlations revealed significant correlations ($p < .01$) among all six study variables.

Table 2. Mean, Standard Deviation, and Cronbach Alpha Reliability Estimates for Study Scales

Scale	<i>n</i>	Number of items	Response Range	<i>M</i>	<i>SD</i>	<i>Cronbach α</i>
Academic self-efficacy	398	4	1 – 11	8.18	1.94	.89
Parental self-efficacy	398	12	2 – 7	5.95	0.81	.92
School-family balance	398	6	1 – 5	3.80	0.79	.93
School satisfaction	398	5	2 – 7	5.62	0.98	.87
Family satisfaction	398	5	1 – 7	5.21	1.52	.95
General life satisfaction	398	5	1 – 7	5.06	1.50	.96

Analyses provided evidence of the influence of self-efficacy beliefs on student parents’ experiences in university study. Overall, the structural model demonstrated adequate fit to these data based on the following fit indices: $S-B\chi^2 (df) = 1011.30 (605), p < .001$; $RMSEA = 0.04$, $CFI = 0.96$. The model accounted for the following amounts of variance in the endogenous variables: 41% of school-family balance, 29% of family satisfaction, 16% of school satisfaction, and 75% of life satisfaction (all significant at the $p < .001$ level). In addition, the eight specific hypotheses regarding the structural relationships in the model were all supported based on significant and positive path estimates (figure 2).

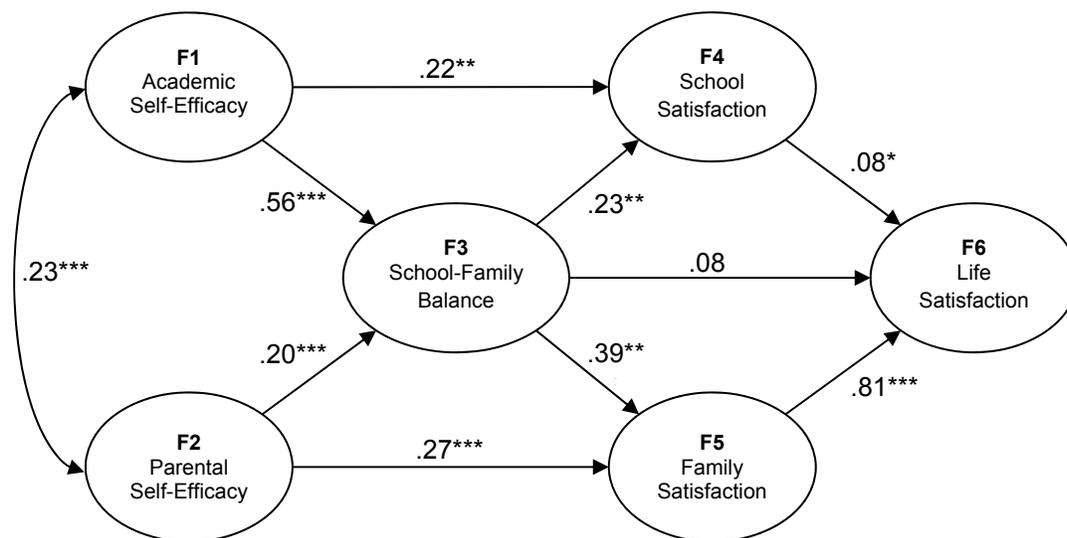


Figure 2. Impact of Efficacy Beliefs (with standardized estimates)

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

Testing of the alternative model in comparison to the main conceptual model provided support that the main model represented the best fitting and most parsimonious model based on better fit indices and a lower AIC estimate (table 3).

Table 3. Fit Statistics for Competing Models

Models	$S-B\chi^2$ (df)	RMSEA	CFI	AIC
Conceptual Model	1011.30 (605)***	.04	.96	37604.29
Alternative Model	1116.18 (607)***	.05	.95	37727.00

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

As previously mentioned, four mediation pathways were evaluated from the model. School-family balance was tested as the mediator for the first two pathways: (1) Academic self-efficacy (F1) → School-family balance (F3) → School satisfaction (F4), and (2) Parental self-efficacy (F2) → School-family balance (F3) → Family satisfaction (F5). For the other two mediation pathways, school satisfaction was tested as the mediator for the first pathway and family satisfaction was tested as the mediator for the second pathway: (3) School-family balance (F3) → School satisfaction (F4) → Life satisfaction (F6), and (4) School-family balance (F3) → Family satisfaction (F5) → Life satisfaction (F6). In order to test for mediation, the indirect effects of the mediation paths were estimated. The mediation results are presented in table 4.

Table 4. Unstandardized Estimates of the Direct and Indirect Effects of the Four Mediation Pathways

Mediation pathways	Estimate	SE	95% CI ^a
Academic self-efficacy → School satisfaction (direct)	.11**	.04	
Academic self-efficacy → School-family balance	.21***	.02	
School-family balance → School satisfaction	.33**	.11	
Academic self-efficacy → School-family balance → School satisfaction (indirect)	.07**	.03	[.03, .13]
Parental self-efficacy → Family satisfaction (direct)	.50***	.11	
Parental self-efficacy → School-family balance	.20***	.06	
School-family balance → Family satisfaction	.74***	.12	
Parental self-efficacy → School-family balance → Family satisfaction (indirect)	.15**	.05	[.07, .25]
School-family balance → Life satisfaction (direct)	.16	.09	
School-family balance → School satisfaction	.33**	.11	
School satisfaction → Life satisfaction	.11*	.05	
School-family balance → School satisfaction → Life satisfaction (indirect)	.04	.02	[.01, .09]
School-family balance → Family satisfaction	.74***	.12	
Family satisfaction → Life satisfaction	.82***	.06	
School-family balance → Family satisfaction → Life satisfaction (indirect)	.61***	.11	[.42, .81]

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

^a Bias corrected bootstrapped confidence intervals of the standard errors for the indirect effects

Partial mediation was supported for the first two mediation pathways. The total effect of academic self-efficacy (F1) on school satisfaction (F4) ($b = .18$) was separated into a significant direct effect ($b = .11, t = 2.79$) and a significant indirect effect through the mediator, school-family balance ($b = .07, t = 2.78$). In addition, the total effect of parental self-efficacy (F2) on family satisfaction (F5) ($b = .65$) was separated into a significant direct effect ($b = .50, t = 4.75$) and a significant indirect effect through the mediator, school-family balance ($b = .15, t = 3.19$). The models accounted for 16% and 29% of the total variance in school satisfaction and family satisfaction, respectively. These results demonstrate that school-family balance acts as a partial mediator of the relationship between academic self-efficacy and school satisfaction and also between parental self-efficacy and family satisfaction.

The non-significant path from school-family balance to life satisfaction suggests that school satisfaction and family satisfaction do act to mediate this relationship; however, this finding does not provide adequate evidence for mediation nor does it adequately identify which variable was acting as the mediator. The total effect of school-family balance (F3) on life satisfaction (F6) ($b = .81$) separated into a non-significant direct effect ($b = .16, SE = .09$) and the two hypothesized mediation pathways: (1) a significant indirect effect through the mediator, family satisfaction (F5) ($b = .61, SE = .11$); and (2) a non-significant indirect effect through the other mediator, school satisfaction (F4) ($b = .04, SE = .02$). These results demonstrate that family satisfaction acts to fully mediate the path between school-family balance and life satisfaction with 75% of the variance in life satisfaction accounted for by the model.

The analysis also provided some preliminary evidence of unique subgroups within the student parent population based on gender, partner status, enrolment status, and age of youngest child. The four covariates (gender, partner status, enrolment status, age of youngest child) were added to the structural model in order to test whether they were significantly associated with the six study variables. None of the covariates were found to be significantly related to academic self-efficacy, school-family balance, or life satisfaction. However, being partnered was found to be positively associated with school satisfaction ($.11, t = 2.33, p = .02$) suggesting that the presence of a partner has a positive impact on school satisfaction. Both partner status ($.14, t = 3.36, p = .001$) and enrolment status ($.13, t = 3.01, p = .003$) were positively associated with family satisfaction. These findings suggest that both the presence of a partner and attending school on a part-time basis have a positive impact on family satisfaction. Finally, the age of the youngest child was inversely associated with parental self-efficacy ($-.13, t = -2.64, p = .008$), suggesting that parents of older children experience lower levels of parental self-efficacy.

Discussion

This study focused on student parents attending university and investigated the influence of self-efficacy beliefs on family, school, and life satisfaction, as well as the capacity to manage multiple roles. Student parents' beliefs in their own abilities have both direct and indirect impacts on satisfaction with their roles as students and family members (e.g., spouse/partner and parent). In addition, student parents' beliefs in their ability to function effectively in their school

and parental roles predicted their perceived ability to meet the demands of their multiple roles (i.e., school-family balance).

The model provided support for the hypothesis that self-efficacy beliefs are related to perceptions of satisfaction with school, family, and life in general. Structural model testing demonstrated that self-efficacy beliefs influence domain-specific satisfaction (e.g., academic self-efficacy and school satisfaction; parental self-efficacy and family satisfaction). Student parents with higher self-efficacy beliefs regarding their academic skills and performance reported feeling more satisfied with school. Beginning post-secondary study after an extended period of absence from the formal school environment may negatively impact student parents' self-efficacy beliefs with regards to their capacity to do well in school. If that is true, student parents might benefit from institutional support in upgrading their skills and navigating the post-secondary environment in order to increase self-efficacy beliefs and reduce attrition. Similarly, student parents with higher self-efficacy beliefs regarding their ability to parent reported feeling more satisfied with their family.

The model testing also demonstrated that school-family balance, a form of self-efficacy in managing multiple roles, was found to be predicted by both academic self-efficacy and parental self-efficacy. In turn, school-family balance also predicted both school and family satisfaction. School-family balance partially mediated the relationship between the domain-specific self-efficacy and satisfaction variables (i.e., academic self-efficacy and school satisfaction; parental self-efficacy and family satisfaction). In addition, family satisfaction fully mediated the relationship between school-family balance and life satisfaction.

Finally, this study provides preliminary evidence of unique subgroups within the student parent population with regards to self-efficacy beliefs and perceptions of satisfaction. Partner status was positively related to both school satisfaction and family satisfaction. It is likely that partnered student parents receive more emotional social support (e.g., encouragement) and instrumental support (e.g., help with parenting and household duties). Enrolment status was also positively related to family satisfaction. Student parents who were enrolled on a part-time basis had higher family satisfaction scores, potentially indicating that the choice to reduce or limit school-related demands (despite other costs) leads to a more satisfactory allocation of time and energy across school and family roles. In addition, student parents with younger children had higher parental self-efficacy scores, which may indicate that parents of older children, who are more autonomous, experience more challenges as a parent. Interestingly, gender was not significantly related to any of the self-efficacy or satisfaction variables; however, this may not be indicative of a lack of influence related to gender; rather it could be related to the unequal sample sizes with less than one-quarter of the sample being men.

Limitations

It is very likely that there was voluntary selection bias in the sample; in particular, that student parents who volunteered their time to complete the lengthy online survey may have been under less stress or time constraints than non-participants. Additionally, it is possible that student parents who self-selected to participate place more value on their student role or are more

engaged with their schooling. While the lack of a sampling frame (due to non-collection of information regarding parental status at the institutional level) restricted the potential to use this approach, ideally future research with this population would use random sampling procedures to address this limitation. In addition, this research was conducted with student parents who are still studying and research is recommended that follows student parents who withdraw from their studies in order to explicitly investigate predictors of, and reasons for attrition.

Finally, the use of cross-sectional data to evaluate the structural model did not test for causal relationships even though causal relationships are implied by the structure of the model and the inclusion of directional structural paths. Causal relationships can only be tested using longitudinal data, which was beyond the scope of the current work. Nevertheless, testing of the alternative model provided support for the validity of the structural model despite the use of cross-sectional data.

Future Directions

Longitudinal research is required to investigate the causal mechanisms related to attrition among student parents including the influence of self-efficacy beliefs over time, challenges related to balancing school and family roles, and further investigation of school-family balance. Ultimately, the concept of school-family balance may also provide some explanation for school-related attrition. It is likely that student parents who feel unable to handle the demands in their lives or are getting feedback from important others that they are not meeting their role-related expectations ultimately choose to reduce their demands. The student role is voluntary and typically related to future-oriented goals and is thus easier to withdraw from than either family or work roles. This underscores why research focusing only on school-related factors is insufficient to understand the behavioural choices and experiences of student parents, in particular attrition (i.e., stopping out or dropping out from school) or perseverance.

Longitudinal work is also required to test the causal relationships implied in the structural model. Finally, further investigation is also recommended to explore subgroup differences, in particular those related to gender. Invariance testing of the measurement models and structural model also is recommended to determine whether the conceptual model we have proposed works similarly for the different subgroups.

Contributions to the Literature

Study findings contribute to the adult education literature by emphasizing the importance of self-efficacy beliefs and the challenges some students may experience combining school and family roles. Consideration of individual perceptions of both the school and family domains is an important contribution as it moves beyond the limited explorations of student parents' experiences based solely on a focus on the school context and school-related outcomes. Student parents place value on their other important roles as well, such those in their families and at work and define success as encompassing multiple aspects (van Rhijn, 2012). This more holistic approach is necessary to understand complex experiences and may allow for a more complete understanding of attrition in this population. Indeed, this broader approach may challenge the use

of traditional definitions of student success (e.g., completion in terms of typical programme length and retention numbers). The current study also contributes to the work-family literature by demonstrating the successful adaptation of Carlson and colleagues' work-family balance measure (Carlson et al., 2009) for use in the school and family domains with student parents. This study provides initial evidence of the utility of the adapted measure of school-family balance with this population including demonstrating adequate internal reliability and factorial validity. In addition, school-family balance is demonstrated to be a mediator of the relationship between domain-specific self-efficacy beliefs and satisfaction.

Implications for Adult Education Theory & Practice

In general, student parents are not identified as a unique population among post-secondary students. Instead, they are typically subsumed within the larger population of mature or non-traditional learners. This occurs both at the institutional level and within research on adult learners. Yet, current statistics suggest that student parents account for 13% of post-secondary students in Canada (van Rhijn, 2012). Given the unique circumstances and challenges faced by student parents, even when compared to the broader adult learner population, examination of the experiences of student parents is vital in order to understand their success in their roles both as students and as parents. Previous work has demonstrated the impact of academic self-efficacy beliefs on academic success. Exploration of the influence of other forms of self-efficacy on experiences in both academic and family roles for student parents is a unique contribution of this work.

References

- Alfonso, V. C., Allison, D. B., Rader, D. E., & Gorman, B. S. (1996). The extended satisfaction with life scale: Development and psychometric properties. *Social Indicators Research*, 38(3), 275-301.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Development*, 67(3), 1206-1222.
- Bandura, A., Caprara, G. V., Barbaranelli, C., Regalia, C., & Scabini, E. (2011). Impact of family efficacy beliefs on quality of family functioning and satisfaction with family life. *Applied Psychology: An International Review*, 60(3), 421-448.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Bentler, P. M. (1990). Fit indices, LaGrange multipliers, constraint changes, and incomplete data in structural models. *Multivariate Behavioral Research*, 25(2), 163-172.
- Bollen, K. A. (1989). *Structural equations with latent variables*. New York: John Wiley & Sons.
- Caprara, G. V., Regalia, C., Scabini, E., Barbaranelli, C., & Bandura, A. (2004). Assessment of filial, parental, marital, and collective family efficacy beliefs. *European Journal of Psychological Assessment*, 20(4), 247-261.
- Carlson, D. S., Grzywacz, J. G., & Zivnuska, S. (2009). Is work-family balance more than conflict and enrichment? *Human Relations*, 62(10), 1459-1486.
- Carlson, D. S., Kacmar, K. M., & Williams, L. J. (2000). Construction and validation of a multidimensional measure of work-family conflict. *Journal of Vocational Behavior*, 56, 249-276.
- Carney-Crompton, S., & Tan, J. (2002). Support systems, psychological functioning, and academic performance of nontraditional female students. *Adult Education Quarterly*, 52(2), 140-154.
- Frone, M. R., Yardley, J. K., & Markel, K. S. (1997). Developing and testing an integrative model of the work-family interface. *Journal of Vocational Behaviour*, 50, 145-167.
- Grzywacz, J. G., & Carlson, D. S. (2007). Conceptualizing work-family balance: Implications for practice and research. *Advances in Developing Human Resources*, 9(4), 455-471.
- Holmes, D. (2005). *Embracing differences: Post-secondary education among aboriginal students, students with children and students with disabilities*. Retrieved from Canada

- Millennium Scholarship Foundation website:
http://www.millenniumscholarships.ca/images/Publications/embracing_en.pdf
- Home, A. M. (1997). Learning the hard way: Role strain, stress, role demands, and support in multiple-role women students. *Journal of Social Work Education, 33*(2), 335-347.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1-55.
- Kline, R. B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York: Guilford.
- MacFadgen, L. (2008). *Mature students in the persistence puzzle: An exploration of the factors that contribute to mature students' health, learning, and retention in post-secondary education*. Retrieved from Canadian Council on Learning website: <http://www.ccl-cca.ca/NR/rdonlyres/65C42165-C7AA-431F-841F-1B1513BF272A/0/MacFadgenFinalAL2006.pdf>
- MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. J., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods, 7*(1), 83-104.
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research, 39*, 99-128.
- Muthén, L., & Muthén, B. (1998-2011). *Mplus users guide. Sixth Edition*. Los Angeles, CA: Muthén & Muthén.
- Pajares, F. (2008). Motivational role of self-efficacy beliefs in self-regulated learning. In B. H. Schunk & B. J. Zimmerman (Eds.), *Motivation and self-regulated learning: (re)theory, research, and applications* (pp. 111-139). New York, NY: Lawrence Erlbaum Associates.
- Quimby, J. L., & O'Brien, K. M. (2006). Predictors of well-being among nontraditional female students with children. *Journal of Counseling and Development, 84*(4), 451-460.
- Schlossberg, N. K., Lynch, A. Q., & Chickering, A. W. (1989). *Improving higher education environments for adults: Responsive programs and services from entry to departure*. San Francisco, CA: Jossey-Bass Publishers.
- Scott, C., Burns, A., & Cooney, G. (1996). Reasons for discontinuing study: The case of mature female students with children. *Higher Education, 31*, 233-253.
- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research, 25*(2), 173-180.
- Sweet, S., & Moen, P. (2007). Integrating educational careers in work and family: Women's return to school and family life quality. *Community, Work & Family, 10*(2), 231-250.

- van Rhijn, T. M. (2012). *Post-secondary students with children: An investigation of motivation and the experiences of "student parents"*. (Doctoral dissertation). University of Guelph, Guelph, ON. Retrieved from <https://atrium.lib.uoguelph.ca/xmlui/handle/10214/3968>
- van Rhijn, T. M., Smit Quosai, T., & Lero, D. S. (2011). A profile of undergraduate student parents in Canada. *Canadian Journal of Higher Education*, 41(3), 59-80.
- West, S. G., Taylor, A. B., & Wu, W. (2012). Model fit and model selection in structural equation modeling. In R. H. Hoyle (Ed.), *Handbook of Structural Equation Modeling* (pp. 209-246). New York, NY: The Guilford Press.
- Zajacova, A., Lynch, S. M., & Espenshade, T. J. (2005). Self-efficacy, stress, and academic success in college. *Research in Higher Education*, 46(6), 677-706.