



Promotive and risk factors as concurrent predictors of educational outcomes in supported transitional living: Extended care and maintenance in Ontario, Canada

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ABSTRACT

We tested selected promotive and risk factors as concurrent predictors of educational attainment, educational aspirations, and participation in education, training, or employment among young people enrolled in extended care and maintenance (ECM) in Ontario, Canada. ECM is a legislatively established transitional living program that provides financial, instrumental, and emotional support to former youths in care in the province who have had their individualized plans for education, training, or work accepted by their local Children's Aid Societies. The 406 participants in the research were 18–20 years of age and included 230 females (56.7%) and 176 males (43.3%). The data were collected by the youths' child welfare workers in interviews conducted by means of the second Canadian adaptation of the Assessment and Action Record from Looking After Children (AAR-C2-2006; Flynn, Vincent, & Legault, 2009). Cross-sectional hierarchical regression and sequential logistic regression analyses showed that the youth's total number of developmental assets was the most consistent promotive factor, predicting more favorable levels of all three educational outcomes. Cognitive impairments and soft-drug use were the most consistent risk factors, each predicting lower levels of two of the three outcomes. The practice and policy implications of the findings, as well as the limitations of the research, were discussed.

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1. Introduction

In 2009, there were 17,844 children and adolescents in out-of-home care provided or supervised by the 53 local Children's Aid Societies (CASs) in the province of Ontario, Canada (OACAS, 2010; Stapleton & Tweddle, 2010), a rate of 1 out of every 167 (or 6 per 1000) young people in the general population. Of the young people in care, 2443 (13.7%) were between their 18th and 21st birthdays and had signed extended care and maintenance (ECM) agreements with their local CASs. Such agreements are intended to support the early phase of youths' transition from public care to young adulthood, with a focus on completion of secondary school requirements, enrolment in post-secondary education (including university, community college, and training or apprenticeships in skilled trades), or entry into appropriate employment.

ECM is used in several Canadian provinces, including Ontario, Manitoba, and Alberta. Similar transitional living programs are also common in the United States and other countries to prolong services beyond the age of majority, usually up to the age of 20 or 21 (Knoke, 2009). The ECM agreement is a contract that stipulates the kinds of support that the child welfare agency will furnish and the goals that the youth will pursue in return for the extended support. Youths in ECM typically receive funds towards rent, food, and clothing, and may also continue to receive medical and dental coverage (Knoke,

2009). Depending on the jurisdiction and agency, other services may also be provided, such as life-skills training.

In Ontario, the Ministry of Children and Youth Services (MCYS) currently pays an ECM stipend of \$663 per month, which is supplemented by most local CASs. On average, youths in ECM receive approximately \$830 per month, with the actual amounts varying between \$700 and \$1000 (Stapleton & Tweddle, 2010). Youths may see a decrease in their ECM payments if their employment earnings exceed certain levels. Many local CASs in Ontario provide additional support to ECM youths, including a transportation allowance, an annual clothing allowance (an average of \$575, where available), post-secondary scholarships and allowances (\$2260 per year on average, where available), books, travel costs to post-secondary institutions, the first and last month's rent, one-time set up costs, and health and dental coverage.

The need for supported transitional living programs such as ECM is based on evidence from a number of countries that young people leaving the public care system are often ill prepared for the transition to young adulthood. In their systematic review of independent living programs, Dunkoh, Underhill, and Montgomery (2006), for example, noted that the 20,000 American and 6000–8000 English young people leaving public care each year typically do so at an earlier age and without the financial, social, or emotional support experienced by many of their age peers in the general population. Care leavers are more likely than youths in the general population to be homeless, unemployed, or dependent on public assistance, and also more likely to have physical or mental health problems, participate in risky behaviors, or experience involvement with the criminal justice system.

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Despite the widely acknowledged need for supported transitional living programs, there is little systematic empirical evidence that such interventions are beneficial. Dunkoh et al. (2006) concluded, from their systematic review of independent living programs (of which supported transitional living programs may be seen as a sub-type), that the exclusively non-randomized studies that they located suggested that some independent living programs may improve care leavers' educational, employment, and housing outcomes, but that the evidence was insufficient to draw conclusions for policy or practice.

In a natural experiment conducted as part of their Midwest study of former foster care youth, Courtney, Dworsky, and Pollack (2007) furnished quasi-experimental evidence in favor of the educational benefits of supported transitional living. They reported on the longitudinal outcomes of an original sample of 732 youths in three US states, Illinois, Iowa, and Wisconsin. The former foster youths were 17 or 18 years of age when first interviewed in 2002–2003, before leaving care. Eighty-two percent were re-interviewed in 2004, when most were 19 years of age, and 81% were re-interviewed again in 2006–2007, when nearly all were 21 years of age. Courtney, Dworsky, and Pollack (2007) took advantage of very different policies in the three states regarding the age at which youths must leave care. In Iowa and Wisconsin, young people are usually discharged from care at age 18 and never after their 19th birthday. In Illinois, on the other hand, foster youth can remain in care until age 21. In the Illinois Midwest sample, two-thirds were still in care after they had reached age 20, and more than half remained until they turned 21. In analyses that controlled statistically for pre-existing differences between the foster youths in the three states, Courtney, Dworsky, and Pollack (2007) found that the youths in Illinois were 4 times as likely to have attended college and 3.5 times as likely to have completed at least one year of college than their age peers in Iowa and Wisconsin. The Illinois youths were also considerably more likely than those in Iowa or Wisconsin, between the ages of 19 and 21, to receive independent living services related to education, financial management, housing, and health education. Finally, the researchers found somewhat more qualified evidence that the extension of care to age 21 in Illinois was also related to more positive earnings and delayed-pregnancy outcomes.

In another report from the Midwest study, Courtney, Dworsky, Cusick, et al. (2007) suggested that it would be useful to know more about the predictors of transition outcomes for youths who leave public care. More specifically, what are the protective factors that predict more promising pathways to adulthood and, conversely, what are the risk factors that predict more difficult trajectories? Also, what are the internal or external resources that enable some youths to overcome serious threats to their development and to experience resilience? In the spirit of the questions posed by Courtney, Dworsky, Cusick, et al. (2007), we sought in the present study to identify several *promotive factors* (a broad term used by Masten (2006) and others to include assets, resources, adaptive factors, and protective factors) as well as a number of *risk factors* that, together, would permit the prediction (and ultimately the improvement) of selected educational outcomes among youths in ECM, a program that has been the object of virtually no research to date. We addressed two specific research questions. First, what are some important educational outcomes experienced by 18 to 20 year-old ECM youths? Second, in light of the transitions literature (e.g., Courtney, Dworsky, Cusick, et al., 2007; Stein, 2006; Stein & Munro, 2008), what are some key promotive and risk factors that would enable us to predict more successful educational outcomes in ECM?

In this initial ECM study, we chose to focus on three educational outcomes of former youths in care: the highest level of education attained, the highest level of education aspired to, and the youth's non-NEET versus NEET status (*NEET* means *not in education, employment, or training*). Based on the transitions literature, we hypothesized that four factors would prove to be promotive in predicting more positive educational outcomes. First, we anticipated that being female would be

associated with better educational accomplishments, as we have found in previous research on youth in care (e.g., Miller, Vincent, & Flynn, 2009). Although gender was thus of interest in its own right, we also looked upon it as an essential control variable. Second, with regard to age, we anticipated that older students would, on average, have achieved a higher level of educational attainment, simply from having had more time to have done so. We also viewed age as an important control variable. Third, we expected that young people with a greater number of developmental assets would have better educational outcomes. Scales, Benson, Roehlkepartain, Sesma, and van Dulmen (2006) defined *developmental assets* as follows:

"Assets are defined as important relationships, skills, opportunities and values that help guide adolescents away from risk behaviors, foster resilience, and promote thriving. ...40 developmental assets have been identified, arrayed across eight conceptually coherent categories. External assets comprise a set of experiences and relationships across multiple contexts of the youth's life that adults (and peers) provide for young people: support; empowerment; boundaries and expectations; and constructive use of time. Internal assets comprise a set of individual qualities—values, skills, and self-perceptions—thought to help the young person become effectively self-regulating: commitment to learning; positive values; social competencies; and positive identity."

Fourth, we expected that having a greater number of *self-care skills and resources* would be helpful in the educational aspects of the transition process. These skills and resources were directly related to taking care of oneself, which we saw as facilitating the transition process. They consisted of knowledge competencies (e.g., knowing how to apply for a particular educational program) and selected useful material resources (e.g., possession of a driver's license).

We hypothesized that several *risk factors* would be related to less favorable educational outcomes among ECM youth. First, we expected that having a *health-related disability* would impose greater than average obstacles to the young person's successful pursuit of educational goals and aspirations. Second, we thought that a greater number of *cognitive impairments* would lead to a lower level of educational performance and aspirations. This variable was of interest in its own right because of the prevalence of cognitive difficulties among young people in care, but, like gender and age, it also functioned as an important control variable. Third, we hypothesized that a higher level of *soft-drug use* (i.e., cigarettes, alcohol, or marijuana) would be associated with less educational effort and lower accomplishment.

2. Method

2.1. Participants

We began with an initial sample of 418 unduplicated ECM youths who were in the data base of the Ontario Looking After Children (OnLAC) project (Flynn, Dudding, & Barber, 2006) in 2006–2007, 2007–2008, or 2008–2009. From this initial sample, we selected the 406 ECM youths who had complete data on three outcomes of interest (described below): educational attainment, educational aspirations, and non-NEET/NEET status. The OnLAC project has been mandated by the government of Ontario since 2006 to assess the ongoing service needs and to monitor the developmental outcomes of children and youth who have been in care for a year or more. The 406 young people in ECM were either 18 (45.5%), 19 (33.5%), or 20 (21.1%) years of age ($M = 18.76$, $SD = 0.78$) at the time of data collection. Two hundred and thirty were female (56.7%), and 176 (43.3%) were male. Most of the youths resided in "independent living" (70.6%), with smaller proportions living with relatives (9.2%) or in a range of "other" types of settings (18.7%). Most (53.7%) were living in cities of 100,000 or more, compared with 33.5% in smaller cities and only 12.9% in rural areas.

The youths had signed ECM agreements with a total of 32 different local CASSs, although 90.4% had signed agreements with just 16 of the CASSs. This concentration of agreements within less than one-third of the 53 CASSs in Ontario was related to the fact that care formally ends on a youth's 18th birthday in the province. ECM youths are technically no longer in care, and their participation in the OnLAC project thus becomes voluntary (it is mandatory for children and adolescents aged 0–17 years). As a result, only a minority of local CASSs collect OnLAC data from most (or at least many) of the ECM youths for whom they provide ongoing support. Also as a result of the voluntary nature of the data-collection process with ECM youths, OnLAC data had been collected on more than a single occasion only in the case of 15% of the participants. Thus, the present study was necessarily cross-sectional rather than longitudinal in nature.

2.2. Instrument

The predictor and outcome data were collected at the same time by child welfare workers, using the second Canadian adaptation of the Assessment and Action Record from Looking after Children (AAR-C2-2006; Flynn, Vincent, & Legault, 2009). The AAR-C2-2006 is the key data-collection tool of the OnLAC project. The instrument comprises a set of eight age-appropriate forms and is a family of instruments, covering the age range of 0 to 20 years and including many single items and multi-item scales (Flynn et al., 2009). The AAR-C2-2006 includes the following sections: background information on the young person in care, his or her caregivers (e.g., foster parents), and his or her child welfare worker; the seven Looking After Children developmental domains, namely, health, education, identity, social and family relationships, social presentation, emotional and behavioral development, and self-care skills; and, finally, a profile of 40 developmental assets derived from the work of the Search Institute (Scales, Benson, Leffert, & Blyth, 2000). As noted, the AAR-C2-2006 is used to assess the young person's service needs and to monitor his or her developmental progress. The tool is administered as a structured conversational interview in which the young person (if aged 10 or over) participates, together with the caregiver and child welfare worker.

2.3. Measures

2.3.1. Educational outcomes

From the AAR-C2-2006, we took the measures of the three educational outcomes of interest. Regarding the highest level of education that the ECM youth had currently attained or to which he or she had aspired, we assigned to each level of education (e.g., *high school diploma* or *university degree*) the specific number of years of formal schooling in Ontario to which the level most closely corresponded. Thus, for example, *high school diploma* was assigned the value of 12 years of formal schooling, whereas *university degree* was assigned the value of 16 years. Concerning the categories of non-NEET versus NEET status (NEET = *not in education, employment, or training*), ECM Youths who were in education, employment, or training, or some combination thereof, were seen as making a more successful transition. They were classified as *non-NEET* and assigned the value of 1, whereas those who were in none of these categories were seen as making a less successful transition and categorized as *NEET*, which took on the value of 0.

2.3.2. Promotive-factor predictors

The measures for the promotive predictor variables were taken from the AAR-C2-2006. *Female gender* was assigned the value of 1 and male gender the value of 0. *Age* was measured in years. *Developmental assets* was the total number of assets, out of a maximum of 33 (16 external and 17 internal), that the child welfare worker had rated the ECM youth as possessing. As mentioned previously, the external assets include the categories of support, empowerment, boundaries

and expectations, and constructive use of time, whereas the internal assets include the categories of commitment to learning, positive values, social competencies, and positive identity. Seven of the 40 developmental assets in the AAR-C2-2006 were excluded from the total number of assets to avoid creating a spurious positive correlation between the number of developmental assets and educational outcomes. That is, the seven assets that we excluded (e.g., does homework regularly) all assumed that the youth was currently enrolled in education. Their inclusion would have penalized those who were employed or in training and unfairly rewarded those in education.

The measure of *self-care skills and resources* was composed of a total of 23 items. The first 18 items were of a cognitive nature, in which the youths were asked whether they knew how to do a number of things, such as research information, meet project deadlines, search for a suitable apartment, apply for post-secondary education, or utilize public transportation. The last 5 items consisted of socially useful material resources that each of the youths said they did or did not possess, namely, a valid driver's license, Ontario health card, social insurance card, birth certificate, or passport. The score on this measure consisted of the number of cognitive skills or socially useful material resources that the young person claimed to possess.

2.3.3. Risk-factor predictors

As was the case with the other variables, the risk measures were also taken from the AAR-C2-2006. The presence of a *health-related disability* (1 = yes, 0 = no) was assessed by the ECM youth when asked whether he or she had any long-term conditions or health problems that prevented or limited participation in school, play, sports, or any other activity typical for someone of the same age. *Cognitive impairments* was calculated as the number of long-term health conditions, diagnosed by a health professional and attributed by the ECM youth to himself or herself from among the following three: learning disability, developmental disability, or attention-deficit/hyperactivity disorder. *Soft-drug use*, finally, was calculated from three AAR-C2-2006 items: the youth's cigarette smoking (*not at all*, *occasionally*, or *daily*); his or her use of alcohol to get drunk in the last 12 months (from *never* to *6–7 days a week*); and his or her marijuana smoking (*in the last 12 months*, or *not*). Because these items all had different response options, we standardized them on the initial sample of 418 ECM youths by converting them to z-scores, summing them to form a single z-score, expressing this sum as a new z-score, and finally converting this z-score to a T-score, with $M = 50$ and $SD = 10$.

2.4. Data analysis

The two outcomes expressed in terms of years of formal schooling, namely, the highest level of education attained and the highest level of education aspired to, were regressed on the four promotive and three risk predictors in separate hierarchical regression models. The third outcome, the Non-NEET versus NEET dichotomy, was regressed on the same promotive and risk predictors, in a sequential logistic regression model. For the predictors on which there were missing data (i.e., developmental assets, self-care skills, and soft-drug use, on which the missing data rate was never higher than 2%), we imputed missing values with the EM (Expectation–Maximization) algorithm that forms part of the missing values routine on SPSS/PASW (Schafer & Graham, 2002).

3. Results

3.1. Descriptive and psychometric results

Table 1 presents descriptive and psychometric information on the three outcomes, the four promotive predictors, and the three risk predictors. The ECM youths' educational aspirations were higher than their attainments. The average number of developmental assets was relatively high, about 22 out of a maximum of 33, as was the average

Table 1

Mean or percentage, standard deviation, Cronbach's alpha, range, and skewness for each study variable.

Variable	Mean or %	SD	Cronbach's alpha	Range		Skew
				Potential	Actual	
Outcomes						
Highest education attained	11.12	1.33	–	8–16	8–16	–0.33
Highest education aspired to	14.14	1.63	–	11–18	11–18	0.65
Non-NEET status (1 = non-NEET, 0 = NEET)	86.95%	–	–	0–1	0–1	–
Promotive factors						
Gender (1 = female, 0 = male)	56.65%	–	–	0–1	0–1	–
Age (in years)	18.77	0.78	–	18–20	18–20	0.43
Developmental assets	22.14	6.14	.88	0–33	1–33	–0.72
Self-care skills	17.78	3.37	.82	0–23	2–21	–1.90
Risk factors						
Health-related disability (1 = yes, 0 = no)	9.61%	–	–	0–1	0–1	–
Cognitive impairments	0.42	0.73	.51	0–3	0–3	1.66
Soft-drug use	50.11	9.90	.68	20–80	36–76	0.11

Note. $N = 406$ for all variables, including Cronbach's alpha. T-score measure of soft-drug use was standardized on initial sample of 418.

number of self-care skills, almost 18 out of a maximum of 23. Regarding the youths' cognitively impairing conditions, 70.4% had none, and a further 18.7% had only one. Transformations to correct for the skewness of these three variables did not improve the regression models, such that we used the raw data. Although the internal consistency of the measure of health-related cognitive impairments was lower than desirable (Cronbach's $\alpha = .51$), the measure displayed good concurrent and predictive validity, in terms, respectively, of its inter-correlations with other variables (see Table 3) and its beta coefficients in the two hierarchical regressions (see Table 4).

3.2. Educational outcomes

Table 2 provides information related to our first research question, namely, what educational outcomes were experienced by former youths in care when they were enrolled in ECM and aged 18 to 20. In Ontario, where children begin primary school (i.e., in grade 1) at age 6 and the curriculum includes 8 years of primary and 4 years of secondary schooling, the ECM youths could have reasonably been expected to have completed at least grade 11 (or higher). Panel A of Table 2 shows that 76.1% of the male youths and 78.7% of the female youths had completed at least grade 11, and 35.2% and 44.8%, respectively, had attained their secondary school diploma or higher. On the other hand, 23.9% of the males and 21.3% of the females had completed only grade 10 or lower and were thus two or more years behind where one might have expected them to be. A comparison of the genders showed that there was a trend towards higher educational attainment on the part of the females ($\chi^2(7, 406) = 13.25, p = .07$).

Regarding the youths' highest educational aspirations, Panel B of Table 2 indicates that virtually all the ECM youths aspired to at least a high school diploma. Only 52.2% of the males, however, compared with 79.5% of the females, hoped to obtain a community college, apprenticeship, or university qualification ($\chi^2(5, 407) = 38.62, p < .001$).

With regard to the youths' non-NEET versus NEET status (Panel C, Table 2), 71.6% of the males and 74.4% of the females were engaged in education or training, with or without concurrent employment. Approximately one in eight of both genders was NEET (i.e., not involved in education, employment, or training), with no gender difference found ($\chi^2(3, 406) = 0.94, p = .82$).

3.3. Predictors of educational outcomes

Our second research question was the following: what are some key promotive and risk factors that would enable the prediction of more successful educational outcomes in ECM? Tables 3, 4 and 5 display the results of these analyses.

3.3.1. Intercorrelations

Table 3 shows that all three educational outcomes were positively and significantly intercorrelated. Also, as expected, most of the relationships between the promotive factors and the outcomes (i.e., 9 out of 12) were positive and statistically significant. Similarly, the majority of the associations between the risk factors and the outcomes were negative and statistically significant (i.e., 7 out of 9).

3.3.2. Hierarchical regressions

Table 4 displays the two hierarchical regression models. The bulk of the overall variance accounted for in the total number of years of education that the youths had attained ($R^2 = .26$) was explained by the promotive factors ($\Delta R^2 = .23$), to which the risk factors added only a small increment ($\Delta R^2 = .03$). When all seven predictors were in the model, at Step 2, only gender and health-related disability were not significantly predictive of educational attainment, and developmental assets was the single best predictor.

Table 2

Educational outcomes for males, females, and combined genders.

	Male		Female		Combined	
	n	%	n	%	n	%
A. Highest education attained						
Less than grade 9	18	10.2	10	4.3	28	6.9
Grade 9	4	2.3	12	5.2	16	3.9
Grade 10	20	11.4	27	11.7	47	11.6
Grade 11	72	40.9	78	33.9	150	36.9
High school diploma	56	31.8	85	37.0	141	34.7
Technical or trade school	2	1.1	4	1.7	6	1.5
Comm. college or apprenticeship	4	2.3	12	5.2	16	3.9
University degree	0	0.0	2	0.9	2	0.5
Total	176	100.0	230	100.0	406	100.0
B. Highest education aspired to						
Less than high school diploma	3	1.7	7	3.0	10	2.5
High school diploma	30	17.0	18	7.8	48	11.8
Technical or trade school	51	29.0	23	10.0	74	18.2
Comm. college or apprenticeship	60	34.1	112	48.7	172	42.4
One university degree	24	13.6	51	22.2	75	18.5
More than one university degree	8	4.5	19	8.3	27	6.7
Total	176	100.0	230	100.0	406	100.0
C. Non-NEET (versus NEET) status						
Non-NEET						
In education or training	71	40.3	89	38.7	160	39.4
In employment	26	14.8	30	13.0	56	13.8
In employment and in education or training	55	31.3	82	35.7	137	33.7
NEET						
Total	24	13.6	29	12.6	53	13.1
Total	176	100.0	230	100.0	406	100.0

Note. NEET = not in education, employment, or training.

Table 3
Intercorrelation matrix ($N = 406$).

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Highest education attained	–									
2. Highest education aspired to	.35***	–								
3. Non-NEET status	.17***	.17***	–							
4. Gender (1 = female, 0 = male)	.12*	.20***	.02	–						
5. Age (in years)	.20***	.01	–.02	.13*	–					
6. Developmental assets	.40***	.22***	.24***	.12*	.10*	–				
7. Self-care skills	.32***	.34***	.10*	.10*	.16***	.28***	–			
8. Health-related disability	–.17***	–.14**	–.12*	–.07	–.07	–.19***	–.30***	–		
9. Cognitive impairments	–.25***	–.28***	–.07	–.05	–.03	–.14**	–.43***	.27***	–	
10. Soft-drug use	–.22***	–.08	–.16**	–.09	.02	–.30***	.03	–.02	.02	–

Note. NEET = not in education, employment, or training.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Regarding the overall variance accounted for in the total number of years of education to which the youths aspired ($R^2 = .20$), again the promotive factors accounted for a considerably greater increment in the variance ($\Delta R^2 = .16$) than did the risk factors ($\Delta R^2 = .04$). With all seven of the predictors in the model, age, health-related disability, and soft-drug use were not significantly related to educational aspirations. The best predictors were self-care skills and cognitive impairments. Together with developmental assets, these variables were consistent predictors of both educational attainment and aspirations. Also, gender, but not age, was predictive of educational aspirations, whereas age, but not gender, predicted educational attainment.

3.3.3. Sequential logistic regression

Table 5 shows the results of the logistic regression in which the non-NEET versus NEET dichotomy was the outcome, with the same promotive and risk predictors. Developmental assets was clearly the best predictor, with the odds of being in the more favorable non-NEET category being 9% higher for each additional asset that the youth possessed. The only other significant predictor was soft-drug

use, with the odds of having non-NEET status being 3% lower with each one-point increase on the T-score measure of soft-drug use.

4. Discussion

The findings from the hierarchical regressions provide relatively consistent support for our hypotheses regarding the four promotive factors of gender, age, developmental assets, and self-care skills. These predictors accounted for a substantial portion of the variance in educational attainment and aspirations, compared with the additional amount explained by the risk factors. That they accounted for more variance in educational attainment (23%) than in educational aspirations (16%) may be due to the fact that educational attainment is a more objective outcome than academic aspirations.

Of the individual promotive predictors, developmental assets was particularly impressive. It was the only promotive (or risk) factor that was predictive of all three educational outcomes. The AAR-C2-2006 measure of developmental assets thus appeared to furnish an initial answer to the question posed by Courtney, Dworsky, Cusick, et al. (2007), namely, what are the internal or external resources that enable some youths to overcome serious threats to their development and to experience resilience? The research program of the Search Institute on the 40 developmental assets (e.g., Scales et al., 2000) would be a rich source of suggestions for promoting more positive ECM youth development and more successful transitions to young adulthood.

Table 4
Beta coefficients for hierarchical regressions of highest level of education attained and highest level of education aspired to.

Variables	Highest level of education attained ($N = 404^a$)	Highest level of education aspired to ($N = 406$)
	β	β
<i>Step 1: promotive factors</i>		
Gender (1 = female, 0 = male)	.02 ns	.16***
Age (in years)	.15***	–.08 ns
Developmental assets	.31***	.12*
Self-care skills	.22***	.30***
<i>Step 2: promotive + risk factors</i>		
Gender (1 = female, 0 = male)	.01 ns	.14**
Age (in years)	.16***	–.07 ns
Developmental assets	.26***	.11*
Self-care skills	.18***	.21***
Health-related disability (1 = yes, 0 = no)	–.03 ns	.00 ns
Cognitive impairments	–.12*	–.21***
Soft-drug use	–.14**	–.04 ns

Note. For highest level of education attained: $\Delta R^2 = .23$ for Step 1 ($p < .001$); $\Delta R^2 = .03$ for Step 2 ($p < .01$). For highest level of education aspired to: $\Delta R^2 = .16$ for Step 1 ($p < .001$); $\Delta R^2 = .04$ for Step 2 ($p < .001$).

^a $N = 404$ after removal of two outliers.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 5
Sequential logistic regression predicting non-NEET status ($N = 406$).

Predictor	B	Wald χ^2	p	Odds ratio
<i>Step 1: promotive factors</i>				
Gender (1 = female, 0 = male)	.07	0.06	.81	1.08
Age (in years)	–.19	0.95	.33	.82
Developmental assets	.10	18.55	.001	1.11
Self-care skills	.03	0.63	.43	1.03
<i>Step 2: promotive + risk factors</i>				
Gender (1 = female, 0 = male)	.15	0.21	.65	1.16
Age (in years)	–.20	0.99	.32	.82
Developmental assets	.09	11.47	.001	1.09
Self-care skills	.03	0.45	.50	1.03
Health-related disability (1 = yes, 0 = no)	.61	1.86	.17	1.84
Cognitive impairments	.004	0.00	.99	1.00
Soft-drug use	–.03	4.13	.04	.97

Note. Omnibus tests of model coefficients: for Step 1, $\chi^2 (4) = 22.87$, $p < .001$; for Step 2, $\chi^2 (3) = 5.91$, $p = .12$; for Model as a whole, $\chi^2 (7) = 28.78$, $p < .001$. Hosmer and Lemeshow goodness-of-fit test ($\chi^2 (8) = 9.23$, $p = .32$) showed good fit of model to data.

Among the other promotive factors, self-care skills and resources were an important predictor of both educational attainment and aspirations, although not of non-NEET status. This result suggests that building ECM youths' stock of knowledge and practical resources related to independent living and transition may pay dividends, at least in the area of education. The fact that the 23-item self-care skills scale from the AAR-C2-2006 instrument displayed good internal consistency (Cronbach's $\alpha = .82$) and evidence of concurrent predictive validity in relation to academic attainment and aspirations is promising for use in research on transitions.

The last promotive factors, gender and age, which were also control variables, played a relatively minor role in predicting the three outcomes. Female gender was positively related to higher educational aspirations, but not to academic attainment or non-NEET status. Being older, on the other hand, was related to greater educational attainment, as expected, but not to aspirations or non-NEET status.

In relation to the three risk factors, our findings also provide some, albeit less consistent, support for our hypotheses. As anticipated, the number of cognitive impairments was predictive of lower educational attainment and aspirations, and soft-drug use was predictive of lower academic attainment and the less favorable NEET status. This result supports the need for early assistance with schooling for youths in care who have any of the cognitively impairing conditions examined herein (i.e., learning disability, developmental disability, or attention-deficit/hyperactivity disorder). Also, effective efforts to reduce soft-drug use seem likely to contribute to better educational attainment as well as to non-NEET status.

Health-related disability was not related to any of the outcomes, in either the hierarchical or sequential regression models. This may be due to the primarily physical rather than cognitive nature of this variable, which was defined as having any long-term conditions or health problems that prevented or limited participation in school, play, sports, or any other activity typical for someone of the same age. In future research, additional risk factors that would be worth exploring include financial variables, such as inadequate funds for educational and living expenses, or the level of encouragement received from adults or other youths in the young person's life.

The present study had two important limitations. First, our regression models were cross-sectional in nature, with the predictor and outcome data collected at the same time. Thus, our concurrent predictors should be seen as correlates of our outcomes. Longitudinal analyses would clearly have been preferable, but the voluntary nature of participation in the AAR-C2-2006 interviews by individual CASs and, within CASs, of individual ECM youths resulted in the fact that only 15% of the sample had been assessed on more than one occasion. We are cognizant of the pitfalls of cross-sectional analyses, including the possibility here that some younger ECM youths (e.g., 18 or 19 year olds) may have left the ECM program before having had a chance to participate in the AAR-C2-2006 interviews.

Second, the voluntary use of the AAR-C2-2006 by local CASs with ECM youth also meant that we could not verify the extent to which our sample of 406 youths was truly representative of ECM youths in Ontario in the years in question. We think that our sample was at least roughly representative, for two reasons. Even though 90.4% of the sample came from only 16 of the 53 CASs in the province, this is still a relatively broad range of CASs. Also, between 2006–2007 and 2008–2009 (the same period from which our sample was drawn), 42% to 44% of former Crown Wards aged 19 or 20 in Ontario were known to have been completing or to have already completed high school (Ontario Association of Children's Aid Societies, 2010). Although not reflecting an exact comparison, this figure of 42–44% is roughly similar to the 40.5% of our 18–20 year old ECM youths who had already finished high school (see Table 2).

Despite the foregoing limitations, the present study has made an important contribution to research on supported transitional living, in general, and to the ECM program, in particular. On the general level, our research has shown that an approach to examining transitional living that combines both promotive and risk factors is indeed fruitful, as Courtney, Dworsky, Cusick, et al. (2007) suggested. Moreover, promotive factors may prove more predictive than risk factors. The need, however, to investigate models of educational outcomes that include a wider range of promotive and risk factors is obvious. Still on the general level, the present study has also suggested that further investment in investigating the influence of developmental assets and self-care skills on educational outcomes in supported transitional living programs is likely to prove useful.

In relation to the ECM program in Ontario, the present study is important as one of the first investigations of a longstanding, province-wide program that serves many young people each year. According to our findings, the educational outcomes of the ECM program seem reasonably positive, as the great majority of the present participants were engaged in education, training, or employment, and only 13% were found to be in the NEET category. Further research, especially of a longitudinal nature, could usefully focus on a more comprehensive range of promotive and risk factors that influence youths' access to, retention in, and benefits from the ECM program.

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