Long-term effects of a universal program on child welfare youth's psychosocial outcomes

Alexis Gilmer
gilm3440@mylaurier.ca

Colleen Loomis
Balsillie School of International Affairs, cloomis@WLU.ca

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Long-Term Effects of a Universal Program on Child Welfare Youth’s Psychosocial Outcomes

By
Alexis M. Gilmer

MASTER OF ARTS THESIS
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Wilfrid Laurier University

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Committee Members:
Dr. Colleen Loomis (Advisor)
Dr. Chris Alksnis (Member)
Dr. Abdelfettah Elkchirid (Member)
Dr. Vanessa Oliver (External Examiner)
Abstract

The present project conducted two studies to better understand the impacts of former involvement with the child welfare system on young adults’ psychosocial outcomes at ages 18 and 30. In the first study \((N = 598, \text{M}_{\text{age}} = 18.47 \text{ years})\) participants who were involved with child welfare during youth had higher rates of depression than those not involved in care. Using a quasi-experimental design, we hypothesized that participation in a universal community program would moderate the relationship between child welfare system involvement and negative outcomes; the hypothesis was not supported. The second study explored trends ten years later on the above outcomes as well as educational aspirations, attainment, and income. By age 29, former foster youth \((N = 35)\) met their educational aspirations that they had set in grade 12. Additionally, they reported a slightly lower frequency of being drunk than those who had not been involved with child welfare, and reported lower income than their parent’s household income. Part of these studies adds to our understanding of the impacts of the child welfare system. The non-findings on the question of whether a universal intervention program may moderate the relation between involvement with the child welfare system and negative psychosocial outcomes may have been related to the general nature of the intervention or to methodological errors. Future research should examine the effects of programs that target the complex needs of families and youth involved in child welfare system care.

*Keywords*: early childhood care and education, longitudinal study, community-based child welfare, social services
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Long-Term Effects of a Universal Program on Child Welfare Youth’s Psychosocial Outcomes

Relative to same-aged peers, children involved in child welfare have been shown to experience disparities in short- and long-term developmental effects that extend into early adulthood (Ahmann & Dokken, 2017; Bowen, Courtney, & McMillen, 2015; Jones, 2014). Much research has examined outcomes for youth living under the protection of child welfare services at both adolescence and adulthood; however, limited research has examined the effects that participation in an early childhood care and education (ECCE) program may have on youth in care, particularly within the Canadian context. From resilience theory we reasoned that engagement in an ECCE program may act as a protective factor for youth across the country. As such, this study examined the efficacy of an ECCE program in moderating negative long-term outcomes known to be associated with child welfare involvement in Ontario, Canada; specifically, this study investigated depression, substance use, involvement in criminal activity, education and income.

As an introduction to terminology, in the literature review of this paper, “in care,” “foster children,” and “children/youth involved in child welfare” refer to children and youth who have been apprehended by child welfare service providers. However, when discussing the present study, “children/youth involved with the child welfare system” is used, as the researchers did not know the extent to participants’ involvement with child welfare. Additionally, rather than using traditional “he/him” and “she/her” pronouns, gender-neutral “they/them” pronouns are used.

Literature Review

Child Welfare in Canada
As of March 12, 2013, an estimated 62,428 children lived in out-of-home care across Canada (Jones, Sinha, & Trocme, 2015). According to Statistics Canada (2011a), this figure corresponds to roughly 1.12% of Canada’s estimated population of children. Some families
may experience investigations by child welfare agencies, while others will experience substantiation, that is, the decision that the incident is considered maltreatment (Child, Youth and Family Services Act, 2017). Substantiated cases of maltreatment often lead to apprehension, the process of children being removed from parental care to protect the child (Child, Youth and Family Services Act, 2017). Upon apprehension, there are various types of child welfare placements that could lead to differential immediate and long-term outcomes. For example, children and youth involved in care may be placed in kinship care with relatives, in a group home, or in foster care. For those placed in kinship care, there is a significantly lower risk of placement instability and development of problems compared to youth living in alternative types of placement (Benedict, Zuravin, & Stallings, 1996).

In spite of kinship care providing a closer cultural match for children and families, involvement with child welfare services may reduce the protective factor that culture plays. Although services are aimed at serving the best interest of the child, dominant social services ideology is based on a universal idea of best interests rooted in the Western nuclear family (Gosine & Pon, 2011) and does not necessarily consider different social situations of families across Canada (Bennett, Blackstock, & De La Ronde, 2005). As such, policies for child welfare agencies enforce standards onto both Indigenous and racialized families that may not be culturally relevant and instead maintain the norm of white supremacy (Kline, 1992). Indigenous groups provide an apt example of this systems problem: Although Indigenous peoples make up 4.3% of Canada’s population (Statistics Canada, 2011b), approximately one in two foster children under the age of 14 in Canada is Indigenous (Das McMurtry, n.d.). This disproportion of Indigenous youth involved in care is often attributed in the literature to the history of colonization within Canada (Bennett et al., 2005).
Outcomes in Childhood and Adolescence

Children in care tend to be severely disadvantaged on a variety of developmental outcomes relative to their peers who do not live in care. A Canadian study comparing 43 children living in care to approximately 1600 children from the National Longitudinal Survey of Children and Youth (NLSCY) found that 41% of children in care had repeated a grade and 43% had received special education, compared to only 9% and 7% for the NLSCY cohort, respectively (Flynn & Biro, 1998). Additionally, children in care reported higher rates than the NLSCY sample on five measures of negative behaviour: hyperactivity and inattention, emotional disorders and anxiety, indirect aggression, conduct disorder and physical aggression, and property offences. A recent meta-analysis of 31 studies found similar results, including lower cognitive and adaptive functioning, and more frequent behaviour problems within the sample of foster children compared to the general population (Goemans, van Geel, van Beem, & Vedder, 2016). Such evidence strongly suggests disparities in developmental outcomes for children involved in child welfare services compared to general samples, including those related to mental illness, substance use, and involvement with the criminal justice system.

Mental illness. Research has demonstrated that children and youth involved in foster care tend to demonstrate higher rates of psychiatric symptoms than those who did not grow up within the child welfare system (Kisiel, Fehrenbach, Small, & Lyons, 2009; McMillen et al., 2005; Raghavan, Inoue, Ettner, Hamilton, & Landsverk, 2010). In a study of the data derived from the National Survey of Child and Adolescent Wellbeing, Burns and colleagues (2004) found nearly half of the sample of children that had been investigated by child welfare services ($N = 3,803$) reported significant emotional or behavioural problems. In a study of 815 adolescents investigated by child welfare agencies in the U.S., Heneghan and colleagues (2013) found that 42.7% reported at least one mental health problem, such as depression, suicidality,
substance use, anxiety, and attention deficit hyperactivity disorder. Of those 42.7% (332 adolescents), 47.9% had more than one mental health problem. In contrast, in a sample of 374 college students without identified previous histories of child welfare involvement, only 11% reported symptoms of severe stress, 15% reported symptoms of severe anxiety, and 11% reported symptoms of severe depression (Beiter et al., 2015). Similar results were found in a meta-analysis of 26 studies of children born between 1965 and 1996, with depression prevalence rates under 10% for all age groups and genders (Costello, Erkanli, & Angold, 2006). Similar results have been found across the literature, indicating that children who are maltreated consistently have higher rates of adverse mental health outcomes than those without such histories (Greger, Myhre, Lydersen, & Jozefiak, 2015; Guibord, Bell, Romano, & Rouillard, 2011; Helweg-Larsen, Frederiksen & Larsen, 2011). However, one study of 12 to 15 year-olds suggested that participation in extracurricular activities protected against both mental health problems and substance use (Guibord et al., 2011). Greater perceived youth-caregiver relationships were also associated with a lower risk for mental health difficulties (Guibord et al., 2011).

**Substance use.** Numerous studies of adolescents have found that those living in care report significantly higher rates of substance use, abuse, and dependence in comparison to same-aged peers not living in care (Aarons et al., 2008; Guibord et al., 2011; Pilowsky & Wu, 2006). A study of over 16,000 incarcerated men and women demonstrated that childhood adversities, spending time in foster care, and growing up with a caregiver that used drugs or alcohol all predicted increased risk of substance misuse (Marotta, 2017). Aarons and colleagues (2008) demonstrated that multiple placement changes, which many children in care endure through their time in the system, is associated with an even greater risk of substance involvement. The
likelihood of engaging in social drug use and hard substances has been previously associated with high rates of depressive symptoms, which are apparent in many children and youth living in care (Traube, James, Zhang, & Landsverk, 2012). On the other hand, individuals involved with child welfare who remained in their homes demonstrated greater rates of abstinence to hard substances than those who were housed in alternative placements (Traube et al., 2012).

**Involvement with the criminal justice system.** Experiencing a placement in foster care increases the risk of criminal offending (Yang, McCuish, & Corrado, 2017). A study of youth in British Columbia found disproportionate numbers of children and youth in care ($n = 211$) involved in the criminal justice system compared to same-aged peers who were not involved in care ($n = 153$) (41% and 6%, respectively; Corrado, Freedman, & Blatier, 2011). Additionally, within the sample, a greater proportion of children involved in care had entered the criminal justice system than those who graduated high school (Corrado et al., 2011). Further, children and youth involved in child welfare have been found to receive more punitive sentences in comparison to youth not involved in care (Tam, Abrams, Freisthler, & Ryan, 2016). As such, children involved in care tend to experience more adverse developmental outcomes than same-aged peers.

**Outcomes in Adulthood**

As youth in care age, their likelihood of being adopted decreases (Ahmann & Dokken, 2017). In fact, children 12 years or older are almost certainly likely to age out of the system, or to turn 18 without obtaining a permanent placement, rather than being adopted (Ahmann & Dokken, 2017). The aforementioned impacts in childhood and adolescence tend to continue into adulthood, especially immediately after aging out of care (Kovarikova, 2017). Aging out occurs when youth living in care turn 18 and no longer receive child welfare services. Gypen and colleagues (2017) conducted a systematic review of 32 quantitative studies and reported
consistent struggles regarding education, employment, income, housing, substance abuse, and criminal involvement for youth who had aged out of child welfare services compared to same-aged peers from the general population. Similarly, in a U.S.-based study, Ahmann and Dokken (2017) found that youth who age out of care report limited education, failure to keep regular employment, lack of funds to meet basic needs, early pregnancy, inability to obtain healthcare services, homelessness, and increased involvement with the criminal justice system.

**Mental illness.** A consistent finding across 32 quantitative studies indicated more mental health problems for youth aged out of care, as well as a greater likelihood to have a mental health concern that interferes with daily functioning (Gypen et al., 2017). In a study of 603 youth involved in the longitudinal Midwest Evaluation of the Adult Functioning of Former Foster Youth, youth aging out of care were twice as likely to report having received counselling or attending a substance abuse treatment program than the national sample (Courtney & Dworsky, 2006). Similarly, a study of 141 youth who had aged out of care demonstrated significantly lower scores on the Mental Health Inventory than the national sample (Courtney, Pilavin, Grogan-Kaylor, & Nesmith, 2001). However, social support has been suggested as a moderator between experience in care and depression (Salazar, Keller, & Courtney, 2011) and symptoms of post-traumatic stress disorder (Babcock et al., 2008).

**Substance use.** Across 32 studies, Gypen and colleagues (2017) found that youth aged out of care reported significantly higher rates of cannabis use as well as hard drug use compared to the general population. Stott (2012) found that in a sample of 114 youth who had aged out of care, 68% had used drugs or been intoxicated, and 21% used substances at least once a week. In comparison, in a follow-up study of over 9000 participants from the National Longitudinal Survey of Adolescent Health in the U.S., only 3.69% engaged in cocaine use, 1.46% engaged in
the use of crystal methamphetamine, and 5.34% engaged in the use of other drugs (Humensky, 2010).

Involvement with the criminal justice system. Research has shown that youth aged out of care are often more involved with the criminal justice system than individuals in the general population (Gypen et al., 2017; Hayden & Graves, 2018). Of the 603 participants aging out of care in the Midwest study, 28% reported being arrested (Courtney & Dworsky, 2006). Additionally, males who had aged out of care were more likely to report engaging in group fights, using a weapon in fights, and belonging to a gang than national samples, and females aged out of care were more likely to report using or threatening to use a weapon in a fight, damaging property, and hurting someone badly enough to require medical attention than the national sample (Courtney & Dworsky, 2006). Likewise, a study of 364 youth aged 18 to 23 suggested that those who had previous involvement with child welfare were at significantly greater risk of criminal activity than same-aged peers (Yang, McCuish, & Corrado, 2017). Youth who had been in care showed earlier onset of criminal activity, more frequent offending, and more incarcerations than the sample of youth not in care (Yang et al., 2017). Similarly, a British study of 64 children who offended while in care in England found that youth reported higher rates of offending while living in care than while not living in care (Hayden & Graves, 2018). Substance misuse and gender were associated with different patterns of offending, as males reported higher levels of offending than females (Hayden & Graves, 2018).

Education. In their systematic review, Gypen and colleagues (2017) found consistently lower success and graduation rates from high school for youth involved in child welfare, as well as a greater struggle completing post-secondary education. A study of 603 youth transitioning
out of care in the U.S. found that 63.9% of the foster youth within the study had obtained a high school diploma or General Educational Development (GED) certificate, compared to 90.6% of those in the national sample (Courtney & Dworsky, 2006). Other researchers report similar findings supporting the discrepancy in educational attainment for youth involved in child welfare (Courtney, Pilavin, Grogan-Kaylor, & Nesmith, 2001). However, some studies have found differing results. A study of 659 youth aged out of care in the U.S. found similar high school graduation rates as the general population though the completion rate for bachelor’s degrees was significantly lower than that of the general sample (2.7% and 24.4%, respectively; Pecora et al., 2006). A review of 51 articles published using U.S. data found that foster care alumni face greater barriers pursuing post-secondary education such as gender, racial, and ethnic disparities, as well as college disengagement resulting from a history of mental health problems, emotional and behavioural problems, working too many hours, and a difficulty accessing healthcare (Geiger & Beltran, 2017). Supports to foster care alumni identified by the studies include tangible supports such as academic skills training, housing, employment, money management, and tutoring, and intangible supports such as a good fit with the college, social involvement, social support, active participation in extracurricular activities, and positive placement history (Geiger & Beltran, 2017). Therefore, not only should attention be paid to providing social, living, and academic supports to foster care alumni pursuing post-secondary education, but a timely review of placement fit is necessary as positive placements are suggested to lead to greater success in post-secondary education.

**Income.** A study of 1609 adults who aged out of care in the U.S. demonstrated that not only is their employment rate lower than the national average, but their household income is significantly lower than the national population (Pecora et al., 2003). This is potentially due to
the lower educational attainment for youth involved in care, leading to lower employment rates, lower income, and greater instability within employment (Gypen et al., 2017). Further studies within the U.S. have found youth aged out of care to be significantly more likely to report an annual income of $10,000 or less compared to the national sample (Courtney & Dworsky, 2006). In addition to lower annual income, another study of 659 youth aged out of care ($M_{age}=24$) found a significantly lower employment rate than the average for same-aged peers (80.1% and 95%, respectively; Pecora et al., 2006).

**Provincial Legislation**

Child welfare authorities are under the jurisdiction of provincial and territorial governments, resulting in numerous differences across locations including the age at which children may receive services from child welfare agencies, the length of time children can receive such services, and how “out-of-home” care is defined (Jones, Sinha, & Trocme, 2015). Although child welfare services have enacted the national Child and Family Services Act legislation in Saskatchewan, Manitoba, Ontario, Yukon, Northwest Territories, and Nunavut, other provinces follow provincial legislation such as the Child Protection Act in Prince Edward Island, and the Child, Family, and Community Service Act in British Columbia (Canadian Child Welfare Research Portal, 2011). As such, comprehensive transnational statistical evidence is difficult to collect and contemporary research tends to be at the provincial or territorial level.

**Ontario.** Child welfare service provision within Ontario has been governed by the Child and Family Services Act since 1985 (Fallon et al., 2015) and as of April 30, 2018 by the Child, Youth and Family Services Act (Ministry of Children and Community Services, 2017). Based on these policies, suspected maltreatment is reported directly to one of the private, non-profit child welfare agencies across the province (Fallon et al., 2015). As there is no mandated process
for information gathering within each agency, data are scarce limiting provincial statistics (Fallon et al., 2015). Additionally, child welfare services for Indigenous children living in Indigenous communities are funded by the federal government under the Indian Welfare Agreement (1965; Fallon et al., 2015). Updates to the Child and Family Services Act in 2000 led to changes in policies for child welfare agencies including a greater focus on neglect and emotional maltreatment, lower thresholds in the determination of “risk of harm,” and clarity in duty to report requirements (Fallon et al., 2015). The creation of the Ministry of Children and Youth Services in 2003, the Child Welfare Secretariat (2004) and the Child Welfare Transformation Agenda (2005) led to a greater provincial focus on prevention, early intervention, and coordination among the child welfare, children’s mental health sector, and youth justice across Ontario (Fallon et al., 2015). Further, the adoption of the Ontario Risk Assessment Model (1998) and Differential Response Model (2005) provided greater standards for customized responding within case investigations (Fallon et al., 2015). Along with updating the Child and Family Services Act in January 2018, the Ontario government passed the Child, Youth, and Family Services Act (CYFSA), effective since April 30, 2018. This act led to an increase in the age of protection from 16 to 18, increasing supervision of service users to support consistent and high-quality service provision, an enhanced focus on early intervention, and a greater focus on culturally appropriate services (Ministry of Children and Youth Services, 2017).

Despite these changes, examinations of Ontario’s child welfare system have shown Indigenous and racial disparities in policies and practices. According to the 2013 Ontario Incidence Study of Reported Child Abuse and Neglect, while rates of maltreatment-related investigations and substantiated maltreatment were similar across males and females, cases of maltreatment of Indigenous children appeared to be three times more likely to be substantiated
than non-Indigenous children (Fallon et al., 2015). Racialized and Indigenous children are more likely than White children to be reported, have cases investigated, have cases substantiated, be placed in foster care or out-of-home care, and to remain in care longer (Clarke, 2012). Though this increase in reporting and investigations may be viewed as more claims being acted upon, the over-reporting of racialized and Indigenous communities is also argued to be due to the systemic racism within the child welfare system (Clarke, 2012). Additionally, racialized and Indigenous families are less likely to receive in-home or mental health services, and racialized and Indigenous children in care are less likely to be reunited with family or to be adopted than White children in care (Clarke, 2012).

Studies in Toronto, Ontario have demonstrated systemic racism within the child welfare system through reports from both service users and service providers (Clarke, 2011). Service providers have documented a requirement to address personal weakness rather than structural inequalities, and a lack of respect for cultural, religious and regional differences of families (Clarke, 2011). For example, although Canadian law permits the use of physical punishment, the Canadian social norm is against this disciplinary practice used in some Afro-Caribbean families; other parenting practices that differ from the norm include providing older children responsibility over younger children and a lack of adult supervision that leads to them being investigated at greater rates than White families who mostly do not engage in these practices (Clarke, 2011). These families are often investigated for providing inadequate care to their children, instead of addressing systemic factors such as finding affordable child care, employment, or housing (Clarke, 2012). This approach can have adverse effects on youth. For example, one study found that Afro-Caribbean youth involved in care have reported feelings of
anger towards being separated from their families, a loss of cultural belonging, and experiencing differential treatment than White children and youth in care (Clarke, 2011).

Though little research exists to assess racial disproportionality in child welfare services across Ontario, according to the Children’s Aid Society of Toronto (2015), there are higher rates of involvement among Black families than White families. A study of 17 randomly selected child welfare agencies in Ontario suggested that Black children were 41% more likely to be investigated than White children (King et al., 2017). Additionally, cases involving Black children were 64% more likely to be substantiated, and 57% more likely to result in out-of-home placements than cases involving White children (King et al., 2017). However, of those placed in out-of-home settings, a greater proportion of Black children were placed with kin (80%) than White children (58%). Additionally, according to the Child Welfare Anti-Oppression Roundtable (2009), although the Black population represents 8% of the population in an urban Ontario city, 65% of the children in care are Black. Similarly, data from 2008 collected in the US suggested that while African American children represented 15% of the total population, they represented 32% of children in care (U.S. Department of Health and Human Services, Administration for Children and Families, 2008). The disproportional representation across ethnic identity is particularly concerning, as some research suggests that there are no differences in maltreatment rates across ethnic groups (Sedlak & Schultz, 2005). Building on identified explanatory factors within the literature, Boyd (2014) has conceptualized a comprehensive framework to understand disproportionality in the child welfare system, that posits five explanatory factors: disproportionate needs including increased exposure to risk factors such as poverty; human decision-making, such as biases, inconsistent decision-making, and lack of cultural competence of the child welfare systems; agency-system factors including institutional
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racism and the quality of services received; placement dynamics including barriers to adoption; policy impact including federal legislation targeting racialized youth.


Along with a discussion of the disproportionate rates of Black children involved in care, a review of child welfare systems is not complete without a discussion of the complex relationships between Indigenous communities and child welfare systems. Historically, Indigenous communities have had traumatic relationships with child welfare services characterized by residential schools and out-of-community placements (Bennett et al., 2005; Blackstock & Trocme, 2005; Kline, 1992). Residential schools were first opened in 1846 as an attempt towards acculturation (Engel, Phillips, & DellaCava, 2012), and were aimed at white-washing Indigenous children, stripping them of their culture and replacing it with Euro-western ideologies (Blackstock & Trocme, 2005). These schools acted as a main tactic for the Canadian government to eliminate what was referred to as the “Indian problem” (Royal Commission on Aboriginal Peoples [RCAP], 1996). Schools were overcrowded, made of poor materials, and were responsible for the prevalence of both sexual and physical abuse, and preventable deaths from disease (Blackstock & Trocme, 2005). Many survivors of residential schools have experienced elevated rates of mental and physical health problems compared with Indigenous adults who did not attend the residential school system (First Nations Centre, 2005); children who experienced the trauma of attending residential schools also experience poor wellbeing (Bombay, Matheson, & Anisman, 2014). It was not unusual for individuals who survived residential schools to later be unprepared to become parents themselves due to a lack of experience with healthy parental role modeling, leading to intergenerational trauma within many Indigenous communities (Blackstock & Trocme 2005), subsequently becoming involved with
the Child Welfare System as parents and Indigenous children still being subjected to government services.

Though the Indian Act was amended in 1952 to provide child welfare services to Indigenous children, residential schools continued to be the primary facility for “child welfare-like” services for Indigenous children and youth (Kline, 1992), with the last residential school in Canada not closing until 1996 (Blackstock & Trocme, 2005). By the time of its closing, over 150,000 Indigenous children were estimated to have attended a residential school (Barkan, 2003). While residential schools began to close, an astronomical number of Indigenous children were in need of foster care (Engel et al., 2012). From 1955 to 1964, the proportion of Indigenous children in the child welfare system increased from less than 1% to over 34%, in what was called the “sixties scoop” (Johnston, 1983). Among the children and youth who were adopted, an estimated 57.8% to 73.3% were placed with non-Indigenous families (Johnston, 1983). The spread of these estimates is so large due to limited data collected on Indigenous children in care during the 1950s and 1960s (Johnston, 1983). Along with the trauma imposed by experiences within residential schools, this ignorance of Indigenous culture led to psychological problems among children (Engel et al., 2012). Additionally, the impact of child welfare services on Indigenous families has been further exacerbated by the disregard of barriers including poverty, disempowerment, and multi-generational grief caused by the experience of residential schools (Blackstock & Trocme, 2005).

**Suggestions for Change**

In light of the disparities that children and youth in care face, some researchers have made suggestions to improve developmental outcomes for these youth and have identified several protective factors including stable placements, the motivation for education, and mentorship that extends beyond the time of aging out (Gypen et al., 2017). Casey Family
Programs is a foundation which supports families and youth through direct services and program provision, interaction with child welfare services to improve care, and influencing public policy on child welfare in the U.S. (Pecora et al., 2003). In a follow-up of 1609 alumni of Casey Family programs, variables predicting success in adulthood included being male, less positive parenting from the most recent foster mother, completing high school or a GED before leaving care, requiring less tutoring, attending college or job training programs, requiring less alcohol and drug treatment, participation in youth clubs and organizations, and receiving life skills and independent living preparation (Pecora et al., 2003). Less positive parenting is a surprising finding that referred to the most recent parental figure having less consistent rules, fewer expectations for success, and lower attention provision (Pecora et al., 2003). It is possible that the lack of support may have driven youth to prepare for aging out of care; however, more research would be required to confirm this (Pecora et al., 2003). Though some of these factors could be more difficult to control within the child welfare system as a whole, this evidence does suggest that youth engagement in community and providing additional services could aid the transition out of care.

**Theoretical Framework**

A number of theoretical frameworks may be fitting in work related to child welfare. Historically, some researchers have employed systems theory to work related to foster homes and foster family placements. For example, Gillies (1977, as cited in Anderson, 1982) used family systems theories while identifying family dynamics contributing to the viability of foster homes. Anderson (1982) used family systems theories while evaluating applicants to become foster parents. More recently, Berridge (2007) took a systems-level approach when examining factors attributing to low educational achievement of youth in care in England, including social class and poverty. Similarly, ecological models have been utilized by some researchers in
examining factors related to the prevalence of child maltreatment. For example, Belsky (1980) draws on Bronfenbrenner’s (1979) ecological model to explain child maltreatment as determined by factors at individual, family, community, and cultural levels. Belsky (1980) discusses ontogenic factors of abusers including a history of maltreatment and previous experience with child rearing, microsystem-level factors including parent-child relationships, exosystem-level factors including unemployment, and macrosystem-level factors such as level of violence within the country. Additionally, Krishnan and Morrison (1985) applied an ecological perspective to their study predicting variations in rates of child maltreatment in Alberta, Canada. These theories are fitting in areas of research that examine multiple levels of analysis, such as how child welfare involvement increases an individual’s risk of experiencing homelessness (Pecora et al., 2003, 2006); however, as the present study examines individual-level factors, a theory of resiliency will be utilized.

Given the development disparities, trauma, and maltreatment that youth in child welfare face, it is appropriate to employ a theory of resilience in this work. Theories of resilience focus on protective factors that lead to healthy development despite risk (Zimmerman & Brenner, 2010). All theories of resilience incorporate two main components: protective factors and risk factors. Protective factors include individual factors such as self-efficacy, called assets, and external supports called resources (Fergus & Zimmerman, 2005). Resources could include services such as parental support, adult mentoring, and community organizations (Fergus & Zimmerman, 2005). Resiliency theories examine development from a strengths-based approach focused on positive factors that disrupt developmental trajectories for risk (Zimmerman, 2013). A number of resiliency-based theories exist including the compensatory model and protective-
stabilizing model; this thesis will focus on the protective factor model first suggested by Garmezy, Masten, and Tellegen (1984).

The protective factor model suggests a conditional relationship between risk and outcomes, such that protective factors moderate the impact of risk on outcomes (Garmezy et al., 1984). This theory predicts that when protective factors are present, the relationship between risk factors and negative developmental outcomes will be reduced or eliminated. In the present research, the protective factor model would suggest that involvement in an early childhood care and education program, along with all of the associated benefits (Peters et al., 2010), should reduce or eliminate the association between involvement with the child welfare system and negative developmental outcomes such as substance use, depression, and criminal activity in adolescence and adulthood.

**Early Childhood Care Programs**

Longitudinal research evaluating long-term outcomes suggest that children who participate in early prevention programs show more positive outcomes in adulthood than their counterparts who do not participate in such programs (Barnett, 2011; Melhuish, 2011). Programs such as the Carolina Abecedarian program (Campbell et al., 2012), Chicago Child-Parent Centers (Reynolds & Ou, 2011), Brookline Early Education Project (Palfrey et al., 2005), and the Perry Preschool Project (Schweinhart et al., 1993; Schweinhart et al., 2005), which all took place in the U.S., show evidence for greater educational attainment (Campbell et al., 2012; Palfrey et al., 2005; Reynolds & Ou, 2011), greater income (Palrey et al., 2005; Reynolds & Ou, 2011), and lower rates of both substance use and involvement in the criminal justice system (Reynolds & Ou, 2011) than comparison groups. However, much of this research has limitations, including very small sample sizes for analysis (Campbell et al., 2012). Additionally, these programs were only offered until entrance into kindergarten (Barnett, 2011). Further, as
these studies have taken place within the U.S., the results may not be representative of and
generalizable to the Canadian context.

**Better Beginnings, Better Futures.** Within the Canadian context, longitudinal research
focused on developmental outcomes for children participating in comprehensive early
intervention programs is limited. The only known longitudinal study within Canada that is
comparable to the aforementioned projects is Better Beginnings, Better Futures (BBBF). BBBF
is a high-quality, holistic, community-based, ECCE program, offered universally to all children
in five disadvantaged communities across Ontario (Peters et al., 2010). The program was
initiated in 1991 to prevent social and emotional problems in children while promoting positive
familial and community-based environments for healthy child development (Peters et al., 2010).

The BBBF program model is based on Bronfenbrenner’s (1970) ecological model that
takes a systems approach to wellbeing across multiple levels of analysis. As such, intervention
programming must address the levels of the child, parent, and community to be most effective.
Across the intervention sites, there are shared program principles including preventing problems
and promoting healthy development and wellbeing within children and bolstering community
development (Peters et al., 2010). However, as a community-driven initiative, residents at each
program site collaborated with researchers and community partners to ensure services provided
by the program were suitable for the unique needs of each community (Peters et al., 2010).
Community members had decision-making power and made up at least 51% of all committees,
including those regarding program planning, delivery, research development, and project
governance (Peters et al., 2010).

In the most recent wave of data collection, Peters and colleagues (2010) found promising
educational outcomes for participants in grade 12, including higher grades on report cards and
fewer participants requiring special education services than those in the matched community sample. Children who participated in BBBF had greater prosocial behaviour and improved parent-child relationships than those in the comparison communities (Peters et al., 2010). Additionally, participants from the intervention group displayed fewer behaviour problems related to hyperactivity and inattention, lower scores on the Emotional Anxiety Scale, and a lower frequency of property offences committed than those in the comparison community. These results suggest that participation in an early childhood care program can promote healthy development for youth.

**Overview of the Present Study**
The impacts of child welfare systems have become a topic of interest across Canada, as evidence consistently highlights the negative impacts of involvement for children (Ahmann & Dokken, 2017; Bowen, Courtney, & McMillen, 2015; Jones, 2014). However, no known research has examined the impact of participation in an ECCE in reducing the negative outcomes associated with child welfare involvement. As such, the objective of the proposed study was to investigate the efficacy of an early childhood initiative in moderating the negative impacts of Children’s Aid Society (CAS)-involvement on healthy development. Efficacy was defined by examining whether, under ideal circumstances, the initiative was able to achieve the desired results (Gartlehner, Hansen, Nissman, Lohr, & Carey, 2006). Additionally, this study has provided a snapshot of the impacts of ECCE programs that last into late adulthood.

Based on the literature reviewed above, I propose the following hypotheses and research questions presented as two studies. The first study examined the relation between involvement in an ECCE program, the child welfare system, and depression, substance use, and criminal activity with the following hypotheses:
Hypothesis 1: Participants who were involved with child welfare during youth will have higher rates of depression, substance use, and criminal activity at grade 12 compared to youth who were not involved with child welfare. This hypothesis was based on the aforementioned literature that outlined the consistent pattern of disadvantage in developmental outcomes for youth involved in care.

Hypothesis 2: Participation in a comprehensive ECCE will moderate and therefore serve as a protective factor in the association between early child welfare involvement and later depression, substance use, and criminal activity. Given previous research suggesting that community involvement and participation in clubs or organizations could promote healthy development for youth involved in care, it is hypothesized that involvement in a comprehensive ECCE would have similar results.

The second study explored outcomes for individuals formerly involved in the child welfare system approximately 10 years later with the following research questions:

Exploratory Question 1: Did trends observed at grade 12 in depression, substance use, and criminal activity continue into adulthood ten years later?

Exploratory Question 2: Did participants meet their goals for educational attainment set in grade 12?

Exploratory Question 3: How does the household income of young adults compare to parents? It is expected that the youth in the study will report higher levels of income compared to their parents based on the intentional selection of neighbourhoods by census in which household income was below the poverty line.

Research Paradigm
Research is guided by paradigms, or basic views and beliefs of reality (Guba & Lincoln, 1994). One example of a paradigm is post-positivism. Post-positivism is an adapted version of positivism grounded in critical realism and assumes that reality exists but can only be imperfectly described (Guba & Lincoln, 1994). This paradigm emphasizes prediction, control, and replicability within research (Guba & Lincoln, 1994). Post-positivism is an appropriate paradigm for the proposed study because the aim is to control for moderating variables in predicting relationships between early community involvement, participation in child welfare, and developmental outcomes. In addition, post-positivism emphasizes statistical rigor in research including reliability, validity, objectivity, and minimal bias (Guba & Lincoln, 1994).

Some of the measurement tools proposed in the current study are standardized and have established psychometric properties. Further reliability tests were conducted to ensure the feasibility of the proposed instruments with the current sample and were found to be acceptable. For those tools that were not previously standardized, reliability tests were conducted for the same reasons. Though objectivity and minimizing bias are goals of post-positivism, I acknowledge that researchers can never be truly objective or free from bias in their work (Clarke, 1998). As a post-positivist researcher, I respect that the results of this study are not universally true; the aim of the current research questions and methodology is to develop an approximation of the truth (Clarke, 1998).

To promote the validity of survey items within an arguably more rigorous and low-bias paradigm, parents and other community members (some of whom became research participants) engaged with researchers and together they gave feedback on the research questions for the longitudinal study. For example, parents reviewed questions and provided wording changes to the current survey tool. The community-based research teams chose a blend of qualitative and
quantitative approaches and this study continues the tradition that Indigenous, racialized, and non-racialized parents co-created.

Reflexivity

Personal Interest. Though I was never placed in government care or investigated by child welfare services throughout my childhood, examining the impacts of child welfare services has been a topic of interest since early adolescence. Through relationships with youth who were placed in foster care, I learned from an early age about some of the negative outcomes that many children in care face. Within my community, I also witnessed differential parenting practices towards biological children compared to foster children in foster homes. As a result of these experiences, I see value in deepening our understanding of how external factors such as early programming can promote healthy development for children in care. My hope is that this study will provide an empirical basis on which policymakers and program designers can rely to create transformational change for children involved in the child welfare system.

Positionality. My use of data from the larger BBBF follow-up study is informed by the knowledge that some participants may have lived through state-sanctioned investigation and/or apprehension in a country still characterized by settler colonialism. As a White settler residing and studying within the traditional territory of the Attawandaron (Neutral), Anishnaabeg, and Haudonesaunee peoples and on a university campus located on the Haldimand tract promised to the Six Nations, it is imperative that I consider the implications of my research and the impact it may have for families with current and past histories with child welfare systems. Given the overrepresentation of Indigenous and Black youth involved in the Canadian child welfare system (Pon, Gosine, & Phillips, 2011), a careful consideration of my own privilege as someone who has never lived in care, and the deeper implications of my personal involvement in this research
is an important aspect of the research process. For example, as someone with lived experience of mental health issues including anxiety and depression, I have a personal bias in wanting my findings to reveal more positive outcomes for participants in the intervention group. In an effort to ensure this bias does not interfere with the research, I have discussed my findings with my supervisor as a way to double check the results. Additionally, I acknowledge that I am in a privileged position in which I am granted the opportunity to research underprivileged communities, while this is an opportunity that others, particularly others living in such communities, may not have. My hope is that as we publish more work focused on the impacts of the child welfare system, we can start to open the door to opportunities for individuals from disadvantaged communities to do this work. Future research should encompass the views of those with lived experience to better inform work in this area.

I aimed to honour these experiences and reduce my own personal bias by adhering to research ethics protocols, ensuring data were collected without coercion, and carefully considering how the research questions were developed and how results will be reported and disseminated. Finally, as an initiative, BBBF strives to be culturally appropriate and tailored specifically to the unique needs of each community. For this reason, I do not aim to be prescriptive in my analysis of, or recommendations surrounding, the use of this program.

Method

Research Design and Data Collection

A quasi-experimental two-group comparison-site design was employed because the primary research question examines the impact of a particular intervention. Because participating communities were selected to be highly impoverished, the sample was not stratified based on socioeconomic status. The BBBF initiative took place in three intervention communities and was offered universally to families with children for the four years between
junior kindergarten and grade 2. Two communities that were sociodemographically matched to the intervention group but who did not participate in programming were chosen as a comparison group. Participants were recruited predominantly through the school system, and completed follow-up assessments in grades 3, 6, 9, and 12. This research analyzed data from the grade 12 assessment period.

**Participants.** Participants in study one were youth \((N = 598; M_{age} = 18.47\) years) who completed a survey in grade 12. The intervention group included those who had previously taken part in BBBF as children \((n = 382)\), whereas the comparison group \((n = 216)\) included those who did not have access to the intervention.

In study two, participants were young adults \((N = 217, M_{age} = 29.70\) years) who completed a second survey in adulthood. Members from both the intervention \((n = 139)\) and comparison group \((n = 78)\) completed the additional follow-up survey.

**Measures.** The self-report survey was administered in a choice of English or French. The current study analyzed demographic information along with data on depression, substance use, and criminal activity. Depression was assessed with a standardized scale used in previous administrations (Centre for Epidemiological Studies Depression Scale [CES-D]; Radloff, 1977). The remaining items were created by researchers in previous waves of data collection and included questions regarding the frequency of substance use, the frequency of criminal activity, the frequency of being drunk, experiences of child welfare, age, gender, education, and income. For a full list of survey items, see Appendix A.

**Study one.**

**Sociodemographics.** Sociodemographic variables in study one included items related to age, sex, involvement in the child welfare system, and ethnic identity. Respondents provided
their birth date, month, and year in grade 12, which was utilized to calculate age during study one. Sex of the youth was provided on a two-point scale from 1 (male) to 2 (female). Youth responded to the question, *When you were a child, was the Children’s Aid Society ever involved with your family*, on a two-point scale from 0 (no) to 1 (yes). Lastly, parents responded to an item regarding ethnic identity, which was utilized in this study to gain an idea of the ethnic backgrounds of respondents. Youth participants were not personally asked a question regarding ethnic identity at grade 12.

*Education.* Participants were asked how far they expect to go in school, rated on a one to six scale with higher scores reflecting higher expected educational attainment. The scoring key is as follows: 1 (*not graduate high school*); 2 (*secondary or high school graduation*); 3 (*technical, trade or vocational school*); 4 (*community college, CEGEP, or apprenticeship program*); 5 (*university degree*); 6 (*more than one university degree*). In order to match the qualitative meaning of the scale of educational attainment in study two, the scale was recoded so that codes for point 3 and 4 were combined into one scale point.

*Study Two.*

*Sociodemographics.* Sociodemographic variables in study two included items related to age, gender, and involvement in the child welfare system. Respondents provided their birth date, month, and year in grade 12, which was utilized to calculate age at time of analysis during study 2. Participants responded to an item asking how they identify their gender rated on a one to seven scale including: 1 (*man*); 2 (*woman*); 3 (*trans*); 4 (*two-spirit*); 5 (*genderqueer*); 6 (*another gender identity*); 7 (*I prefer not to respond*). Last, participants were asked to respond to the item, *When you were a child, was the Children’s Aid Society ever involved with your family*, 0 (no), 1 (yes).
**Education.** Participants responded to an item inquiring about the highest level of education that they had completed or attained, rated on a one to eleven scale. The scoring of the education scale is as follows: 1 (*no schooling*); 2 (*some elementary*); 3 (*completed elementary*); 4 (*some secondary*); 5 (*completed secondary*); 6 (*some post-secondary*); 7 (*completed community college, technical college, CEGEP or nurse’s training*); 8 (*completed university or teacher’s college*); 9 (*master’s degree*); 10 (*doctorate or medical degree*); 11 (*other education or training*). Items were recoded to match the scale of expectations of educational attainment in study one, as follows: (1 = 1); (2 = 1); (3 = 1); (4 = 1); (5 = 2); (6 = 4); (7 = 3); (8 = 4); (9 = 5); (10 = 5) (11 = 11).

**Income.** Participants completed an item asking their individual current total monthly income from all sources before taxes and deductions. If income varied, participants were asked to respond with the average from the last three months. Additionally, parents of the youth completed their own survey, which included an item asking about monthly household income. This item was utilized for youth-parent dyads who both completed the survey instrument, in order to compare youth income to parent income.

**Studies one and two.** Items related to depression, substance use, and involvement in the criminal justice system were consistent across the two studies.

**Depression.** Participants completed a 12-item version of the CES-D Depression Scale (Radloff, 1977) and were asked to rate how frequently they experienced the feeling in each item from 1 (*rarely or none*) to 4 (*most or all of the time*). In a study of 12,990 high school students in Atlantic provinces within Canada, Poulin, Hand, and Boudreau (2005) found acceptable internal consistency (\(\alpha = 0.85\)), along with adequate criterion and discriminant validity for this scale. Additionally, through receiver operating characteristic curve analysis, the authors
established three categories of depressive symptoms: minimal (12 to 23); somewhat elevated (24 to 32); very elevated (33 to 48). Though the distribution was skewed towards fewer symptoms in the current study, the scale demonstrated adequate internal consistency (α = 0.78 at grade 12, α = .86 at age 29) and a two-factor structure. The first factor represented items related to depression, whereas the second factor represented the happiness items that were recoded post-data collection. This positive skew has been documented in similar studies using the full-length CES-D scale (Foley, Reed, Mutran, & DeVellis, 2002). Additionally, the bidimensional factor structure mirrors results of Schroevers, Sanderman, von Sonderen, and Ranchor (2000) who derived a two-factor structure for the full-length CES-D scale. Similar to the present study, their factors represented depressed and positive affect, however, the internal consistency of the present sample is lower than that in their sample of over 700 either healthy (α=.88) or cancerous (α=.87) patients (Schroevers et al., 2000).

Substance Use. The measure included four items that asked about experience with drugs (e.g., hallucinogens, glue, and drugs without a prescription) during the past 12 months, rated on a six-point Likert scale from 0 (I have never done it) to 5 (I have done it 10 or more times). Internal consistency of this subscale was poor (α=.59) in the grade 12 sample and the adult sample (α = .61). Scores ranged from 0 to 26, with a high score representing a greater frequency of use of drugs. Participants were also asked about the frequency of being drunk in the past 12 months, rated on a six-point Likert scale from 0 (never) to 5 (about 6 to 7 days a week).¹

Criminal activity. One measure of the frequency of criminal activity was created by the researchers for use in this study. The measure of criminal activity included 14 items; answers were recoded and summed to create an overall score. Ten of the items asked about frequency of

¹ No other questions related to drinking behaviour were asked at both grade 12 and age 29. Thus, the frequency of being drunk is the only question related to drinking behaviour included in this study.
criminal activity in the past 12 months, rated on a five-point Likert scale from 0 (no) to 4 (yes, four times or more), e.g., “deliberately damage or destroy property,” “shoplift anything from a store,” and “use public transportation without paying for it.” The remaining four items were rated on a four-point Likert scale from 0 (never) to 3 (five times or more) and asked whether participants had “attacked someone with the idea of seriously hurting him/her,” “carried a weapon for the purpose of defending yourself or using it in a fight,” “sold any drugs,” and “attempted to touch anyone in any sexual way while knowing they would probably object”. Items were recoded to correspond to the scale of the other measures (0=0, 1=1, 2=3, 3=5). Scores ranged from 0 to 32, with high scores indicating a greater frequency of criminal behaviours. The scale demonstrated acceptable internal consistency (α = .78) in the grade 12 sample, but poor internal consistency in the adult sample (α = .49).

Two subscales of the criminal activity scale were created. The first subscale included eight items related to crimes against persons and had adequate internal consistency in the grade 12 sample (α = .77) but poor internal consistency in the adult sample (α = .625). The second subscale included six items related to crimes against property and had poor internal consistency at both grade 12 and adulthood (α = .58, α = .05, respectively). For a full list of reliabilities, see Appendix B.

Procedure.
Study One. When youth participants were in grade 12 (age 18-19 years), they were invited by a site researcher that went door-to-door in their neighbourhood to complete questionnaires including several items related to individual and ecological outcomes.

Study Two. Since the collection of data when youth participants were in grade 12 during 2008, some revisions were made to the survey instrument prior to its administration to participants at age 29. These revisions include the addition of new measures (e.g., a measure of
social anxiety), revisions in descriptions of ethnic identity, and a reduction in the number of questions. Prior to administering the revised survey to the current sample, a pilot study was conducted (Dimakos & Loomis, 2018, unpublished). In total, 11 respondents (6 parents, 5 youth) were recruited from two BBBF sites who were not former participants to provide feedback regarding the look, feel, and accessibility of the survey. Feedback was used to refine the questions and procedures and improve the overall administration of the survey.

Participants at age 29 were identified from a previous database and had provided consent to be contacted in the future. Researchers initially sent invitations by email to complete an online version of the survey. For those whose emails were not available or not active, researchers tried contacting participants by calling phone numbers that had been previously provided. When necessary, secondary contacts such as relatives, neighbours, friends, doctors, and employers were contacted when consent had been provided. If reaching participants by email and phone was not possible, participants were invited through messages sent on Facebook, LinkedIn, Instagram, Twitter, or mailed postcards using Canada Post. Participants were provided $25 in the form of an Interac e-transfer, PayPal, or electronic gift card as remuneration for participating in the study, estimated to take 45 – 60 minutes. Participants were able to stop and return to the survey at a later time if they chose to do so.

**Analysis**

**Testing normality.** Normality of the continuous dependent variables was tested using three methods. First, the Kolmogorov-Smirnov $D$ test of normality was conducted, as the cell size was greater than 50. This standard test for normality should not be significant if the data are distributed normally (Garson, 2012). Skewness and kurtosis values were divided by their standard errors to determine whether data were significantly skewed or kurtotic (Garson, 2012).
Last, graphical testing of normality was conducted by examining histograms, normal probability plots, and detrended expected normal probability plots (Tabachnick, & Fidell, 1983).

Normality was not met for any of the dependent variables. As such, the dependent variables were transformed appropriately to conform to normality, using LOG10 transformations. According to Tabachnik and Fidell (2013), LOG10 is the appropriate transformation when data substantially deviates from normal, as was the case with the present data. Analyses were conducted on both the transformed variables and the non-transformed variables. As results were similar across the two sets of analyses, the non-transformed variables will be analyzed for ease in interpretation (Tabachnik & Fidell, 2013).

**Handling missing data.** When cases were missing less than 50% of scores on any given scale, the mean imputation method was used. 50% was used as a cut-off criterion in order to maintain the integrity and meaning of responses, by only including those cases in analysis that had over half of responses recorded from the participant themselves. Mean imputation is a method in which the mean of the scores on a scale is used to replace missing values (Donders, van der Heijden, Stijnen & Moons, 2006). Cases missing greater than 50% of scores on a given scale were excluded from analyses.

**Ethics**

**Informed Consent.** The survey was completely voluntary, and participants could end participation at any time and still receive full compensation. Prior to beginning the survey, participants were asked to read and sign an informed consent document, authorizing that they understood the potential risks and benefits of participating in the survey. Additionally, the consent form explained that completion of the survey was an indicator of consent for researchers to use the participant’s data. Participants had the option to skip any questions they did not wish to answer and could stop the survey at any time and still receive the full compensation.
Confidentiality. The current study is part of a larger, SSHRC-funded study that has been approved by the Research Ethics Board (REB) at Wilfrid Laurier University. All researchers that had access to the data had completed research ethics training through the Tri-Council Tutorial on Ethical Research with Human Participants (See Appendix C) and had been granted permission by the REB at Wilfrid Laurier University.

The privacy of participants was protected through a variety of preventive measures. Participants’ names and identifying information were not included with the dataset for analyses. Instead, a unique numeric identifier linked to the data protected participant anonymity. The data set was saved in password-protected files on a secure network. Findings at the individual level of analysis are not reported, thus further protecting any identifying information of participants. As this data collection involves two waves of a longitudinal study, the data will be retained indefinitely.

Potential Risks. There were no physical risks associated with the current project; however, there were some potential social risks. Though researchers held responses in confidence, participants were notified that the security of transmission of online information (i.e. online survey submissions) could not be guaranteed. Additionally, participants could experience a range of emotions when completing the survey items, as they were asked to recall information about previous behaviours, experiences, and relationships. Recalling histories of depression, substance use, criminal activity, and child welfare involvement could also cause unpleasant emotions in some participants. A list of mental health resources was included in the consent form.
Results

High School Data
Descriptive Statistics. Participants \((N = 598)\) were two groups of young adults \((M_{\text{age}}=18.46 \text{ years})\). The sample was split almost evenly in terms of gender, as can be seen in Table 1. Parent-reported ethnic identity was included in this study to get an idea of what the ethnic identity of participants might look like; however, ethnic identity was not used as part of the analyses. Ethnic identity at grade 12 was collapsed into categories to match those at age 29.

A detailed table of parent-reported ethnic identity can be found in Appendix D. Of the participants, \(14.2\% \ (n = 85)\) reported prior involvement with the child welfare system, while \(85.8\% \ (n = 513)\) reported no previous involvement.

Table 1: Demographic Characteristics of Youth Sample at Grade 12 \((N = 598)\)

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Intervention ((n = 382))</th>
<th>Comparison ((n = 216))</th>
<th>Total ((N = 598))</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years)</strong></td>
<td>(M = 18.38) ((SD = .56))</td>
<td>(M = 18.6) ((SD = .51))</td>
<td>(M = 18.46) ((SD = .55))</td>
</tr>
<tr>
<td><strong>Gender n (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>189 (49.5)</td>
<td>93 (43.3)</td>
<td>282 (47.2)</td>
</tr>
<tr>
<td>Male</td>
<td>192 (50.4)</td>
<td>122 (56.7)</td>
<td>314 (52.5)</td>
</tr>
<tr>
<td><strong>Education n(%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not graduate high school</td>
<td>3 (.8)</td>
<td>1 (.5)</td>
<td>4 (.7)</td>
</tr>
<tr>
<td>Secondary or high school</td>
<td>19 (5.1)</td>
<td>14 (6.5)</td>
<td>33 (5.6)</td>
</tr>
<tr>
<td>Technical/vocational</td>
<td>31 (8.3)</td>
<td>12 (5.6)</td>
<td>43 (7.3)</td>
</tr>
<tr>
<td>Community college/CEGEP</td>
<td>127 (33.9)</td>
<td>67 (31.2)</td>
<td>194 (32.9)</td>
</tr>
<tr>
<td>University</td>
<td>147 (39.2)</td>
<td>83 (38.6)</td>
<td>230 (39.0)</td>
</tr>
<tr>
<td>More than university</td>
<td>48 (12.8)</td>
<td>38 (17.7)</td>
<td>86 (14.6)</td>
</tr>
<tr>
<td>Total who reported</td>
<td>375 (98.17)</td>
<td>215 (99.54)</td>
<td>590 (98.7)</td>
</tr>
<tr>
<td>Total who did not report</td>
<td>7 (1.83)</td>
<td>1 (.46)</td>
<td>8 (1.3)</td>
</tr>
<tr>
<td><strong>Parent Ethnic origins (From Parent Survey(^2)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African</td>
<td>35 (9.2)</td>
<td>30 (13.9)</td>
<td>65 (10.9)</td>
</tr>
<tr>
<td>American</td>
<td>67 (17.5)</td>
<td>41 (19.0)</td>
<td>108 (18.1)</td>
</tr>
<tr>
<td>British</td>
<td>11 (2.9)</td>
<td>5 (2.3)</td>
<td>16 (2.7)</td>
</tr>
<tr>
<td>Canadian</td>
<td>94 (24.6)</td>
<td>36 (16.7)</td>
<td>130 (21.7)</td>
</tr>
</tbody>
</table>

\(^2\) Ethnic identity was not collected from youth at grade 12. Instead we have reported the parent’s reported ethnic identity.
Correlations. Pearson’s correlation suggested a weak, significant relationship between depression and drug use \([r(575) = .208, p < .001]\), and depression and criminal activity \([r(574) = .181, p < .001]\), such that higher depression was associated with greater likelihood to engage in drug use or criminal activity. There was a significant correlation between drug use and criminal activity \([r(595) = .435, p < .001]\), such that a greater frequency of criminal activity was associated with greater frequency of drug use. Criminal activity \([r(409) = .284, p < .001]\) and drug use \([r(410) = .388, p < .001]\) were both significantly correlated with the frequency of being drunk in the past year; however, depression was not significantly associated with this variable \([r(398) = .048, p = .336]\).

MANOVA. A 2 x 2 between-subjects multivariate analysis of variance (MANOVA) was performed in IBM SPSS MANOVA, version 24.0, on four dependent variables: depression, drug use, the frequency of criminal activity, and frequency of being drunk. Independent variables were group (intervention and comparison) and child welfare involvement (yes and no). The DVs were not significantly impacted by intervention group, F\((4, 328) = 1.35, p = .252, \lambda = .984\) (see Table 2 for means). However, they were significantly impacted by CAS involvement, F\((4, 328) = 3.85, p = .005, \lambda = .955\), and the interaction between group and CAS involvement, F\((4, 328) = 3.573, p = .007, \lambda = .958\). As four analyses were conducted using these variables, a Bonferroni correction was employed on all significance values \((.05/4 \text{ tests} = .012; \text{Abdi, 2007})\). There was a significant difference in depression scores, such that those who

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Intervention ((n = 382))</th>
<th>Comparison ((n = 216))</th>
<th>Total ((N = 598))</th>
</tr>
</thead>
<tbody>
<tr>
<td>European</td>
<td>8 (2.1)</td>
<td>12 (5.6)</td>
<td>20 (3.3)</td>
</tr>
<tr>
<td>French</td>
<td>78 (20.4)</td>
<td>49 (22.7)</td>
<td>127 (21.2)</td>
</tr>
<tr>
<td>Indigenous</td>
<td>16 (4.2)</td>
<td>- (0.0)</td>
<td>16 (2.7)</td>
</tr>
<tr>
<td>Other</td>
<td>3 (.8)</td>
<td>2 (.9)</td>
<td>5 (.8)</td>
</tr>
<tr>
<td>Total who reported ethnicity</td>
<td>320 (83.8)</td>
<td>180 (83.3)</td>
<td>500 (83.6)</td>
</tr>
<tr>
<td>Total who did not report</td>
<td>62 (16.2)</td>
<td>36 (16.7)</td>
<td>98 (16.4)</td>
</tr>
</tbody>
</table>
lived in care reported greater depression \((M = 21.4, SD = 5.92)\) than those who do not live in care \((M = 18.88, SD = 5.41)\), \(F(1, 331) = 8.15, p = .005\). This finding is particularly interesting, as the scaling for the CES-D suggests that though this difference is significant, both youth involved in care and not in care report slightly elevated depression (depression score between 12 to 23).

Further, those living in care reported significantly higher drug use \((M = .96, SD = 1.11)\) than those not living in care, \((M = .47, SD = .75)\), \(F(1, 331) = 7.14, p = .008\). There was no significant difference in frequency of criminal activity, \(F(1, 331) = 2.17, p = .142\), such that while those living in care reported higher criminal activity \((M = 4.24, SD = 6.31)\) than those not living in care \((M = 1.72, SD = 3.52)\), this difference was not significant. There is no significant difference in frequency of being drunk in the past twelve months, \(F(1, 331) = 6.06, p = .014\) (not significant at Bonferroni corrected level of .012), such that those living in care \((M = 1.57, SD = 1.21)\) reported a slightly greater frequency than those not living in care \((M = 1.36, SD = 1.04)\).

The only significant interaction effect is in regard to frequency of criminal activity, \(F(1, 331) = 7.21, p = .008\), such that in the intervention group, there was a greater difference in frequency of criminal activity than in the intervention group (see Figure 1). For the comparison group, there were surprisingly fewer reported acts of criminal activity among those that experienced child welfare involvement than those who did not.

Table 2: Means Table by Group

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Intervention Group</th>
<th>Comparison Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>(M = 19.46 (SD = 5.71))</td>
<td>(M = 18.99 (SD = 5.29))</td>
<td>(M = 19.31 (SD = 5.58))</td>
</tr>
<tr>
<td>Frequency of Criminal Activity</td>
<td>(M = 2.61 (SD = 4.76))</td>
<td>(M = 2.68 (SD = 4.4))</td>
<td>(M = 2.63 (SD = 4.64))</td>
</tr>
<tr>
<td>Drug Use</td>
<td>(M = .75 (SD = .92))</td>
<td>(M = .64 (SD = .83))</td>
<td>(M = .71 (SD = .89))</td>
</tr>
<tr>
<td>Frequency of Being Drunk</td>
<td>(M = 1.42 (SD = 1.05))</td>
<td>(M = 1.37 (SD = 1.15))</td>
<td>(M = 1.41 (SD = 1.08))</td>
</tr>
</tbody>
</table>
Post-Hoc Analyses. To better understand the reports of criminal activity, post-hoc logistic regressions were run on two subscales of the frequency of criminal activity scale: property offences; robbery and assault. Two post-hoc research questions arose: a) what is the impact of child welfare involvement as a predictor of property offences?, and b) what is the impact of child welfare involvement as a predictor of crimes related to robbery and assault (crimes against persons)? First, three predictor variables (involvement with the child welfare system, intervention group, sex) were entered into a model to examine multicollinearity. Sex and intervention group were not correlated ($r = .016, p = .366$), and sex and child welfare
involvement were not correlated \( r = .016, p = .366 \); however, child welfare involvement and intervention group were significantly correlated, \( r = .122, p = .004 \). As such, intervention group was excluded as a predictor in the logistic regression. There was no risk of overfitting the model (Babyak, 2004), as the number of cases in each group of the dependent variable divided by 10 was greater than the two predictor variables (402 participants had 0 property offences, 195 had at least one property offence; to control for over fitting: predictors \( < M/10 \), where \( M \) is the number of cases in each group of the dependent variable). Child welfare involvement correctly predicted property offences 64.8% of the time. The Hosmer-Lemeshow test was non-significant, \( \chi^2(0) = 0.00 \), ns, suggesting that the model was reliable. Sex had no significant effect on property offences, \( p = .809 \). However, child welfare involvement was a significant predictor, \( p < .001 \). As the beta value (-8.28) was negative, the inverse odds ratio was calculated \( (1/\text{Exp}(B) = 1/.437 = 2.29) \). This odds ratio suggests that children involved in the child welfare system are 2.29 times more likely to be involved in property offences than those not involved in care (see Table 3).

Table 3: Cell Totals: Property Offences Index by Child Welfare Involvement

<table>
<thead>
<tr>
<th>Property Offences</th>
<th>Child welfare ever involved when you were a child</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
<td>69.4%</td>
<td>56.5%</td>
</tr>
<tr>
<td>Yes</td>
<td>30.6%</td>
<td>43.5%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

A second logistic regression was run using the crimes against persons index. The first two steps of logistic regression (testing for multicollinearity; testing for overfitting the model) were already conducted in the previous logistic regression and suggested that there were no issues with multicollinearity or fitting the model when sex and child welfare involvement are the predictor variables. Child welfare involvement and sex correctly predicted crimes against
persons 69.6% of the time. The Hosmer-Lemeshow test was not significant at the Bonferroni-corrected alpha level of $\alpha=.012$, $\chi^2 = 6.05$, $p = .048$; therefore, the model fits the data. Both sex ($p < .001$) and child welfare involvement ($p < .001$) were significant predictors of committing crimes against persons. As the beta value (-1.47) for child welfare involvement is negative, the inverse odds ratio is calculated ($1/\text{Exp}(B) = 1/.229 = 4.37$), therefore, youth in the child welfare system are 4.37 times more likely to commit crimes against persons than those not in care (see Table 4). As the beta for sex is positive (.796), no odds calculation is required. The odds of committing a crime against a person is 2.22 times greater for males than females (see Table 5).

Table 4: *Cell Totals: Robbery and Assault Index by Child Welfare Involvement*

<table>
<thead>
<tr>
<th>Reported Robbery/Assault</th>
<th>Child welfare ever involved when you were a child</th>
<th>No</th>
<th>Yes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td></td>
<td>73.7%</td>
<td>48.2%</td>
<td>69.0%</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td>26.3%</td>
<td>51.8%</td>
<td>31.0%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 5: *Cell Totals: Robbery and Assault Index by Gender*

<table>
<thead>
<tr>
<th>Reported Robbery/Assault</th>
<th>Sex</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td></td>
<td>60.4%</td>
<td>78.4%</td>
<td>68.9%</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td>39.6%</td>
<td>21.6%</td>
<td>31.1%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Age 29 Data**

A sample of 217 participants completed a similar follow-up survey in adulthood (see Table 6) to better understand the longitudinal impacts of *Better Beginnings, Better Futures* programming on healthy development. While participants were provided with numerous options for gender identity, participants only identified as male or female, as is reflected in Table 6. Additionally, as discussed in the literature review, we acknowledge that some ethnic groups come to the attention of child welfare services at disproportionately higher rates than White
youth. However, due to small sample sizes, cross-ethnicity comparisons were not able to be made in the current study.

Table 6: Demographic Characteristics of Young Adult Sample as of Dec 6th, 2018 \((N = 217)\)

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Intervention ((n = 139))</th>
<th>Comparison ((n = 78))</th>
<th>Total ((N = 217))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>(M = 29.52) ((SD = .53))</td>
<td>(M = 30.04) ((SD = .19))</td>
<td>(M = 29.70) ((SD = .51))</td>
</tr>
<tr>
<td>Gender (n) (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>90 (64.7)</td>
<td>40 (51.3)</td>
<td>130 (59.9)</td>
</tr>
<tr>
<td>Male</td>
<td>49 (35.3)</td>
<td>38 (48.7)</td>
<td>87 (40.1)</td>
</tr>
<tr>
<td>Education (n%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No schooling</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Some elementary</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Complete elementary</td>
<td>-</td>
<td>1 (1.3)</td>
<td>1 (0.5)</td>
</tr>
<tr>
<td>Some secondary</td>
<td>9 (6.5)</td>
<td>-</td>
<td>9 (4.1)</td>
</tr>
<tr>
<td>Completed secondary</td>
<td>17 (12.2)</td>
<td>4 (5.1)</td>
<td>21 (9.7)</td>
</tr>
<tr>
<td>Some post-secondary</td>
<td>13 (9.4)</td>
<td>10 (12.8)</td>
<td>23 (10.6)</td>
</tr>
<tr>
<td>Completed community/technical college, CEGEP, nurse’s training</td>
<td>43 (31.7)</td>
<td>20 (25.6)</td>
<td>63 (29.0)</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>10 (7.2)</td>
<td>3 (3.8)</td>
<td>13 (6.0)</td>
</tr>
<tr>
<td>Doctoral/medical degree</td>
<td>1 (.7)</td>
<td>6 (7.7)</td>
<td>7 (3.2)</td>
</tr>
<tr>
<td>Other education/training</td>
<td>5 (3.6)</td>
<td>3 (3.8)</td>
<td>8 (3.7)</td>
</tr>
<tr>
<td>Total who reported</td>
<td>139 (100)</td>
<td>78 (100)</td>
<td>217 (100)</td>
</tr>
<tr>
<td>Total who did not report</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ethnic origins</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African</td>
<td>7 (5.3)</td>
<td>-</td>
<td>7 (3.4)</td>
</tr>
<tr>
<td>American</td>
<td>1 (.8)</td>
<td>2 (2.7)</td>
<td>3 (1.4)</td>
</tr>
<tr>
<td>Asian</td>
<td>13 (9.8)</td>
<td>8 (10.8)</td>
<td>21 (10.1)</td>
</tr>
<tr>
<td>British</td>
<td>1 (.8)</td>
<td>1 (1.4)</td>
<td>2 (1.0)</td>
</tr>
<tr>
<td>Canadian</td>
<td>84 (63.2)</td>
<td>44 (59.5)</td>
<td>128 (61.8)</td>
</tr>
<tr>
<td>European</td>
<td>4 (3.0)</td>
<td>-</td>
<td>4 (1.9)</td>
</tr>
<tr>
<td>French</td>
<td>6 (4.5)</td>
<td>5 (6.8)</td>
<td>11 (5.3)</td>
</tr>
<tr>
<td>Indigenous</td>
<td>7 (5.3)</td>
<td>1 (1.4)</td>
<td>8 (3.9)</td>
</tr>
<tr>
<td>Other</td>
<td>10 (7.5)</td>
<td>13 (17.6)</td>
<td>23 (11.1)</td>
</tr>
<tr>
<td>Total who reported</td>
<td>133 (95.68)</td>
<td>74 (94.87)</td>
<td>207 (95.39)</td>
</tr>
<tr>
<td>Total who did not report</td>
<td>6 (4.32)</td>
<td>4 (5.13)</td>
<td>10 (4.61)</td>
</tr>
</tbody>
</table>
Of the 217 participants who completed the follow-up survey, 180 had never experienced child welfare involvement, and 35 had experience with the child welfare system. Two participants did not respond and thus were excluded from analyses. Similar to the findings at age 18, those in child welfare reported higher depression ($M = 22.8, SD = 7.45$) than those without a history of child welfare involvement ($M = 20.16, SD = 6.37$). However, the standard deviations are slightly larger in the older sample across both groups, indicating a wider array of scores than at grade 12. Drug use increased for both samples between ages 18 and 29, with those in child welfare still reporting higher drug use ($M = 9.50, SD = 3.14$) than those not involved in care ($M = 7.32, SD = 3.08$). The pattern of criminal activity continued into adulthood, with those involved in care reporting a greater frequency of criminal activity, ($M = 21.00, SD = 4.59$) than those not in care ($M = 17.90, SD = 3.67$). However, it is important to note items related to illicit drug use included marijuana, which has newly been deemed a legal substance in Canada and would no longer be classified as criminal activity. Last, youth involved in child welfare reported a slightly higher frequency of being drunk in the last 12 months ($M = 2.17, SD = .79$) than those without a history of living in child welfare ($M = 2.12, SD = .96$).

Similar to the findings at grade 12, the intervention group reported slightly higher depression ($M = 21.04, SD = 6.65$) than the comparison group ($M = 19.76, SD = 5.58$); however, the large standard deviations for both groups indicate a widespread with some participants rating their depression scores five to six points lower than the mean. While ratings of the frequency of criminal activity increased between grade 12 and age 29, the intervention group ($M = 18.88, SD = 4.32$) still rated their frequency of criminal activity slightly higher than the comparison group ($M = 18.11, SD = 3.44$). Consistent with the findings at grade 12, the intervention group ($M = 8.02, SD = 3.36$) reported slightly elevated use of drugs relative to the comparison group ($M =$
Inconsistent with the findings at grade 12, the intervention group ($M = 2.10, SD = .10$) reported slightly lower frequency of being drunk in the past 12 months than the comparison group ($M = 2.16, SD = .83$). Additionally, a visual inspection of scores found that of those who reported low (below average) frequency of being drunk ($n = 20$), $50\%$ also reported below average involvement with drugs. For both child welfare (yes/no) and group (intervention/comparison) comparisons at age 29, it is important to note that due to small sample sizes, statistical tests were not computed. Comparisons to grade 12 results are solely based on an examination of means.

**Education.** When examining the entire sample of adults, paired samples t-test with Bonferroni correction ($0.05/3 = 0.016$) suggests that participants expected to attain a higher level of education ($M = 3.76, SD = .84$) than the level that they actually attained by age 29 ($M = 3.48, SD = .97$), $t(186) = 4.63, p < .001$. When only examining those with a history of child welfare involvement, there was no significant difference between the amount of education they thought they would complete when asked in grade 12 ($M = 3.32, SD = .86$) compared with what they actually completed when asked at age 29 ($M = 2.89, SD = 1.13$), $t(27) = 2.19, p = .037$ (not significant at Bonferroni-corrected level). When examining the participants without child welfare involvement alone, there was a significant difference between expected and attained education, $t(157) = 4.072, p < .001$, such that participants expected that they would attain higher education ($M = 3.84, SD = .81$) than they actually attained ($M = 3.58, SD = .90$). To better understand these findings, a crosstabs analysis was run on each group to visually examining cases per cell (see Table 7), where $1 = \text{not graduate secondary}, 2 = \text{complete secondary}, 3 = \text{community college/CEGEP/technical school/vocational training/nurse’s training},, 4 = \text{post-secondary},$ and $5 = \text{more than university}$. 
Table 7: Crosstabs of Education Findings by Group (Child Welfare, non-Child Welfare, Total)

<table>
<thead>
<tr>
<th>Expected Educational Attainment: Study 1</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Attainment: Study 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0.0%</td>
<td>10.7%</td>
<td>3.6%</td>
<td>3.6%</td>
<td>0.0%</td>
<td>17.9%</td>
</tr>
<tr>
<td>2</td>
<td>0.0%</td>
<td>3.6%</td>
<td>3.6%</td>
<td>7.1%</td>
<td>0.0%</td>
<td>14.3%</td>
</tr>
<tr>
<td>3</td>
<td>0.0%</td>
<td>0.0%</td>
<td>25.0%</td>
<td>3.6%</td>
<td>0.0%</td>
<td>28.6%</td>
</tr>
<tr>
<td>4</td>
<td>0.0%</td>
<td>0.0%</td>
<td>17.9%</td>
<td>10.7%</td>
<td>10.7%</td>
<td>39.3%</td>
</tr>
<tr>
<td>5</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total</td>
<td>0.0%</td>
<td>14.3%</td>
<td>50.0%</td>
<td>25.0%</td>
<td>10.7%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Note: Bold text represents participants involved in the child welfare system, italic text represents youth not involved in the child welfare system, and regular text represents the full sample.

Dyad Analysis. A total of 132 pairs of youths and parents had participated in the follow-up study at age 29, allowing for a comparison of youth and parent income. Of the dyads, two were identified as outliers with income z-scores greater than 3.29 and thus were excluded (Mayers, 2013). Of the remaining pairs, 45 of the youth reported a greater monthly income than their parents’ monthly household income, who were originally living in communities selected for the intervention group based on socioeconomic disadvantage. Paired t-test suggested that youth ($M = 4534.95, SD = 2960.30$) reported a significantly lower monthly income than their parents’ monthly household income ($M = 18712.08, SD = 37417.61$), $t(124) = 4.361, p < .001$. It is possible that this discrepancy is due to parent reports of “monthly household income” including the income of an adult child/children living at home, as well as the income of a potential partner. With this limitation, it is unclear how individual parent income directly compares to individual
youth income. Additionally, due to the width of the standard deviation of parent income, it appears that there is a much wider spread among parents than youth regarding monthly income. It is possible that since the 1990s when the families lived in communities selected for intervention, some families have increased their income beyond the poverty line. Lastly, it is possible that some respondents that completed the survey document entered their annual income rather than monthly income. It is interesting to note that though youth income is less than parent income, youth reported monthly income is actually higher than the median annual income for adults aged 25 to 34 years reported by Statistics Canada in 2016 ($31,210 yearly/12 months = 2,600.83 monthly income) (Statistics Canada, 2019).
Discussion

Much research has examined developmental outcomes for youth living under the protection of child welfare services at both adolescence and adulthood and have found consistent disadvantage in comparison to same-aged peers with no experience of child welfare services (Ahmann & Dokken, 2017; Bowen, Courtney, & McMillen, 2015; Jones, 2014). However, more research is needed on individuals 18 years or older in Canada. As such, this Canadian-based study examined developmental outcomes for child welfare youth at both grade 12 and at age 29. In discussing the findings of the present study, I will first focus on findings from comparisons of child welfare to non-child welfare youth at grade 12. Next, I will discuss the findings at grade 12 when comparing participants in the intervention group to those in the comparison group. Last, I will discuss findings at age 29.

Vast literature suggests that youth involved in child welfare experience a greater struggle completing post-secondary education (Gypen et al., 2017), and that high school graduation rates are lower than that of same-aged peers not involved in child welfare (Courtney & Dworsky, 2006). Contrarily, this study found that in grade 12 individuals with some former experiences with child welfare expected to complete some sort of post-secondary education, and by age 29 they had met that expectation. This study also found that individuals who were not involved with child welfare did not reach the level that they had expected. It is possible that youth in child welfare involvement have more realistic expectations of what they will attain due to the lack of supports and transition services available once they age out of the child welfare system. However, it is also possible that due to the small sample size of participants that were involved in child welfare, any effect (whether positive or negative) was too small detect.
At grade 12, consistent with previous literature, young people involved with child welfare have higher rates of depression than non-involved counterparts. There is extensive literature indicating that adolescents in care have higher rates of mental illnesses and emotional problems (Greger et al., 2015) than youth not in care. It is possible that youth in child welfare have higher depression due to poor perceived parent-youth relationships (Guibord et al., 2011). It is equally likely that depression in adolescence is caused by the complex histories of trauma faced by most individuals placed under the protection of child welfare services. The findings in the current study concerning substance use cannot be interpreted because the scale used was unreliable.

Unexpectedly, at grade 12 individuals who were involved with child welfare as children and participated in an ECCE program have greater involvement with the criminal justice system than those in care who were in the comparison group. It is possible that BBBF was not a protective factor because it was a universally-offered program. As such, while the intervention was offered to all families within specific geographical regions, families had the option of participating. It may be that families who opted to participate were those with children at greater risk for future criminality. This could explain why BBBF participants involved in care were more likely to also be involved in the criminal justice system. Further, the BBBF initiative was not created to target children who had been maltreated and living within the child welfare system, nor their complex needs. In a study of over 4,500 foster youth in Illinois, Kisiel and colleagues (2009) found that children exhibited more traumatic stress, mental health symptoms, risk behaviours, difficulties functioning day-to-day, and fewer strengths compared to youth without histories of child welfare involvement. Further, Jane Kovarikova (2017), a former youth in care in Ontario recommends that new interventions and changes to the child welfare system should be evidence-based and informed by youth who have aged-out or are living in care.
BBBF may have served as a protective factor had it targeted these complex needs of youth in care and had been informed by former foster youth. Alternatively, as the reports of criminal activity must have occurred within the last 12 months, and grade 12 students in care would have just endured the process of aging out of the child welfare system, it is equally possible that it was the process of aging out of care and leaving the family unit that youth may have been placed with, that lead to the criminal activity. It is possible that it was the act of leaving the familial relations and transitioning away from the support systems in place that increased the adults’ risk. Future research should look at how transition services in Canada work to maintain potential familial relations and social supports for youth aging out of care.

The most surprising finding is that BBBF involvement did not protect against negative developmental outcomes among children in care. This runs contrary to the existing literature suggesting that participation in extracurricular activities (such as those offered by BBBF programs) can protect against mental health problems and is associated with lower rates of substance use and less involvement with the criminal justice system (Guibord et al., 2011; Reynolds & Ou, 2011). Consistent with resilience literature, this study hypothesized that the various activities and programs offered to both children and parents by the BBBF initiative would buffer against mental health problems, substance use, and criminal activity for youth involved in care. However, this expectation was not met. It is possible that the youth in the intervention group were aware that they were receiving an intervention, and that this knowledge of being so impoverished as to be the target of an intervention may have affected some of these behavioural outcomes. This phenomenon, known as the Hawthorne effect (Roethlisberger & Dickson, 1941), dates back to experiments taking place at the Western Electric Company between 1924 and 1932, and suggests that participants’ knowledge that they are part of an
experiment actually changes their behaviour (Diaper, 1990). According to this idea, if youth knew they were in an intervention because they were disadvantaged, they may have enacted a self-fulfilling prophecy towards more negative outcomes that would be more expected of someone coming from a place of disadvantage. On the other hand, as the comparison group had more positive outcomes than the intervention group, it is possible that their knowledge of being part of a study focused on promoting well-being may have altered their behaviour towards more positive outcomes. Alternatively, as the comparison group did not receive services through the BBBF initiative, it is unknown what other types of resources they sought on their own volition. Perhaps this act of help-seeking in itself improved wellbeing within the comparison group (Dawson, Grant, Stinson, & Chou, 2006). It is also possible that since BBBF was not prescriptive in its program model, and instead allowed each community to construct its own programs, the programming was missing key ingredients that would have altered these specific behavioural outcomes. Last, this non-finding could be indicative that although BBBF had some long-term outcomes at grades 3 to 9 (Peters et al., 2010), the programming was not influential enough to create longer-term impacts after more significant developmental stages. However, despite the lack of difference between the intervention group and the comparison group in the present study, the BBBF initiative has seen other long-term benefits for youth including fewer repeated grades, higher grades on report cards, more prosocial behaviour, lower behaviour problems related to hyperactivity and inattention, and lower scores on the Emotional Anxiety Scale (Peters et al., 2010). Therefore, though the BBBF initiative did not affect depression or substance use, it has still been an effective intervention regarding other constructs.

Though moderation could not be analyzed in adulthood due to small sample sizes, the trends related to substance use, involvement with the criminal justice system, and depression
appear to continue into adulthood, based on comparisons of means. Similar to findings of participants in grade 12, this result is consistently supported by literature showing more severe outcomes for youth with histories of child welfare involvement (Hayden & Graves, 2018). However, participants in child welfare report a slightly smaller frequency of being drunk than participants without past histories of child welfare involvement. This is in line with the findings of Reynolds and Ou (2011) who studied the Chicago Child-Parent Centers, a universal ECCE within the U.S. Resiliency theory would suggest that possibly it is the components of BBBF that account for this difference, as they protect from negative outcomes despite risk. Alternatively, a study of over 9000 participants suggested that higher parental education and parental income was associated with higher rates of binge drinking (Humensky, 2010). As 50% of those who reported low drinking also reported low drug use, possibly it is the lower socioeconomic status of participants through childhood that protected them from later drinking behaviour and substance use in adulthood. Though the literature would suggest greater drinking behaviour among adults with previous child welfare involvement (e.g., Stott, 2012), further research should investigate whether an ECCE may reduce drinking behaviour among individuals with previous child welfare involvement.

**Limitations**

As with all studies, there are limitations to this work. The most problematic limitation is that due to small sample sizes, it was not possible to conduct a comparison based on ethnicity. Given the complex history and traumatic relationships between child welfare services and Black and Indigenous communities, it is imperative that ethnicity-based data are collected to examine any findings for those involved in care. Additionally, it is possible and likely given past literature that the child welfare system serves White families differently than racialized and
Indigenous families. Future research must examine the possible ethnicity-based differences among youth and adults with previous child welfare involvement.

As this study was a quasi-experimental design, there is always the possibility that differences between the intervention and comparison group were not due to the presence or lack of BBBF, but rather a combination of other factors. Further, as BBBF was offered universally to all residents within the select communities, there is a possibility of self-selection bias in which those participants who had the best experiences in BBBF were more likely to participate in follow-up studies and share their experiences with researchers. Additionally, since data have been collected for the past 20 years, it is possible that the loss of participants over that time may have biased the sample at both grade 12 and age 29. As with all self-report surveys, the measures in the current study are susceptible to response biases such as social desirability bias (Johnson & Fendrich, 2005). Given the sensitive nature of some of the items, including asking questions about mental health and involvement with the criminal justice system, it is possible that participants may have felt the need to falsify their responses. Since the survey instrument at age 29 was completed online, it is likely that participants were more truthful than had the instrument been completed face-to-face with a researcher.

As the survey items were inherited from previous researchers without the purpose of investigating the impact of child welfare services, some questions of interest that could apply to the current study were not asked to participants. For example, it may have been interesting to know the number of placements that each youth experienced, or the type of placement (i.e., kinship care, group home, foster home, adoption). We do not know each participant’s level of involvement with the child welfare system (i.e., investigation, substantiation, apprehension) nor do we know whether participants were reuniting with any members of their biological family. It
is possible that results may have differed based on each of these factors. Future research should examine if involvement in an ECCE may have differential impacts on youth involved in care based on type of placement and number of placements.

In addition, a limitation of the present study is the low reliabilities of scales used, particularly the substance use and criminal activity scales. Because of these low reliabilities, we cannot be confident in the results of the current study regarding criminal activity and substance use, as the measures are neither stable nor consistent. Caution should be taken when interpreting the meaning of these results, and future research should replicate the current research questions while utilizing measures with higher internal consistency in order to determine more reliable conclusions.

Last, as the survey instrument was completed in 2008 and 2009 when youth were in grade 12, the policy that was governing child welfare systems during participants’ time in care is no longer in effect. At the time of survey completion, child welfare systems in Ontario were governed by the Child and Family Services Act. As of April 30, 2018, child welfare systems in Ontario are now legislated by the Child, Youth, and Family Services Act, which, among other changes, raised the age of protection from 16 to 18 (Ontario Association of Children’s Aid Societies, 2018). With these changes in policy, it is possible that youth who have entered the child welfare system since April 30, 2018 may experience different developmental trajectories than those who were in care previous to this policy shift. Therefore, it is possible that the results of the current study will not be generalizable to individuals currently living in care.

**Conclusion**

The present research is the first known study of the ability of an ECCE to moderate the relationship between involvement with the child welfare system and later substance
use, depression, and involvement with the criminal justice system in Canada. Building on the theory of resilience, the theoretical assumption was that involvement in BBBF would moderate the relationship between child welfare involvement and later depression, substance use, and involvement with the criminal justice system. This hypothesis was not supported. Those with previous child welfare involvement reported higher depression at grade 12 than those not involved in care; however, those involved in care reported slightly lower drinking behaviour at the age 29 follow-up.

This research has implications for practitioners who work with individuals in the child welfare system. As this study suggests, no program is perfect in addressing all needs of every individual. Given the negative findings for youth in the child welfare system, practitioners should know of programs that exist as well as the empirical evidence supporting or negating such programs to which they may be referring clients. Perhaps practitioners in the frontline can collaborate with practitioners working in the community to find and develop programs that will better impact outcomes for youth in child welfare.

Further, this research has implications for the field of prevention and promotion as the results of this study suggest that a universal ECCE may not be sufficient in the prevention of depression among individuals involved in child welfare. However, ECCEs have shown many positive outcomes for participants on a wide array of constructs. For example, participation in BBBF has led to higher grades and more prosocial behaviour among children (Peters et al., 2010), fewer risk behaviours and lower depression among parents, and more community involvement among parents (Pancer, Nelson, Hasford, & Loomis, 2013). Future research should examine whether an ECCE that specifically targets the unique needs of youth in care will have long-term impacts on mental health, substance use, and involvement with the criminal justice
system. Additionally, all programs available to youth in the child welfare system should be evaluated based on program objectives, in order for children in care to have access to effective supports to promote wellbeing.
References


EFFECTS OF COMMUNITY PROGRAMMING ON DEVELOPMENT


Retrieved from
https://www.ontario.ca/laws/statute/17c14?_ga=2.132202441.631288651.1524061059-131721479.1519240728


Appendices
Appendix A: Survey Items

Survey Items at Grade 12

Demographics

1. What is the sex of the respondent?
   Male
   Female

2. When you were a child, was the Children’s Aid Society ever involved with your family?
   Yes
   No

3. How far do you expect you will go in school?
   Not graduate high school
   Secondary or high school graduation
   Technical, trade or vocational school (above the high school level)
   Community college, CEGEP, or apprenticeship program
   University degree
   More than one university degree

Survey Items at Age 29

Demographics

4. How do you identify your gender?
   Man
   Woman
   Trans
   Two-spirit
   Genderqueer
   Another gender identity
   I prefer not to respond

5. What is the highest level of education that you have completed/attained?
   No schooling
   Some elementary (1 to 8 years)
   Completed elementary
   Some secondary
   Completed secondary
   Some post-secondary (for example, university, community, technical, or teacher’s college, CEGEP, nurse’s training, etc.)
   Completed community college, technical college, CEGEP, or nurse’s training
   Completed university or teacher’s college
   Master’s degree
   Doctoral or medical degree
   Other education or training
6. When you were a child, was the Children’s Aid Society ever involved with your family?
   Yes
   No
7. What is your current total monthly income from all sources before taxes or other deductions? Only include your own income, not your roommates’. If it varies, please use the average of the last 3 months.

Survey Items Across Both Ages

Centre for Epidemiological Studies – Depression Scale

Please think of how you have felt in the past week and choose which best describes the past week on the following scale:

- Rarely or none of the time (less than 1 day) ……………… 1
- Some or a little of the time (1-2 days) ……………… 2
- Occasionally or a moderate amount of time (3-4 days) … 3
- Most or all of the time (5-7 days) ……………… 4

- I did not feel like eating, my appetite was poor
- I felt that I could not shake off the blues even with help from my family or friends
- I had trouble keeping my mind on what I was doing
- I felt depressed
- I felt that everything I did was an effort
- I felt hopeful about the future
- My sleep was restless
- I was happy
- I felt lonely
- I enjoyed life
- I had crying spells
- I felt that people disliked me

Criminality – Youth reported involvement in criminal/illegal activities index

The next questions ask about things which you may have done during the past 12 months.

- No ………………………………………… 0
- Yes, once ……………………………. 1
- Yes, twice ……………………………. 2
- Yes, three times ……………………. 3
- Yes, four times or more …………. 4

- Did you deliberately damage or destroy any property belonging to someone else?
- Did you take anything from your place of work, school, or from a public place such as a restaurant that did not belong to you (excluding shoplifting from stores)?
- Did you shoplift anything from a store?
- Did you use public transportation without paying for it?
- Did you steal or try to steal a vehicle that did not belong to you, or part of a vehicle such as a battery, hubcap, or radio?
- Did you break or sneak into, or attempt to break or sneak into, a building with the idea of taking something?
- Did you take, or try to take, something from someone using force or threat of force?
- Did you threaten to hit someone?
- Did you assault anyone by pushing, slapping, or grabbing them, where they were no injuries beyond minor bruising?
- Did you assault someone which resulted in injuries to the person such as cuts, bleeding or injuries requiring medical attention?

During the past 12 months, about how many times have you…

- Attacked someone with the idea of seriously hurting him/her?
- Carried a weapon for the purpose of defending yourself or using it in a fight?
- Sold any drugs?
- Attempted to touch anyone in any sexual way while knowing that he/she would probably object to this?

During the past 12 months, how many times have you operated a vehicle (for example, a car, motorcycle, boat) after you have been drinking alcohol or taking drugs?

- Never ..........................0
- Once or twice ..................1
- Three or four times ..........2
- Five times or more ......... 3

Substance Use

In the past 12 months, how often have you been drunk?

- Never ..........................0
- A few times ....................1
- Once or twice/month .......2
- 1-2 days/week ...............3
- 3-5 days/week .............4
- 6-7 days/week ............5
Which best describes your experience with the following drugs during the past 12 months?

- I have never done it .......................................................... 0
- I have done it, but not during the past 12 months ........... 1
- I have done it 1 or 2 times .................................................. 2
- I have done it 3 to 5 times .................................................. 3
- I have done it 6 to 9 times .................................................. 4
- I have done it 10 times or more ........................................ 5

- Hallucinogens like LSD/acid, magic mushrooms
- Glue or solvents
- Drugs without a prescription or advice from a doctor (for example, downers, uppers, tranquilizers, Ritalin, etc.)
- Other drugs like ecstasy, crack, cocaine, heroin or speed, etc.

Which of the following statements best describes your experience with using marijuana and cannabis products (also known as a joint, pot, grass or hash) during the past 12 months?

- I have never done it ........................................................... 0
- I have done it, but not during the past 12 months ........... 1
- I have used marijuana a few times .................................... 2
- I have used marijuana about once or twice a month ....... 3
- I have used marijuana about 1-2 days a week ................... 4
- I have used marijuana about 3-5 days a week ................... 5
- I have used marijuana about 6-7 days a week.............. 6
Appendix B: Full List of Reliabilities

<table>
<thead>
<tr>
<th>Name of Scale</th>
<th># of Items</th>
<th>Response Scale</th>
<th>Alpha at Grade 12</th>
<th>Alpha at Age 29</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Full sample n = 598</td>
<td>CW sample n = 86</td>
<td>NCW sample n = 377</td>
</tr>
<tr>
<td>Crimes against persons</td>
<td>8</td>
<td>4 items rated on 0 to 4</td>
<td>.773</td>
<td>.776</td>
</tr>
<tr>
<td>Crimes against property</td>
<td>6</td>
<td>0 to 4</td>
<td>.577</td>
<td>.604</td>
</tr>
<tr>
<td>Criminal activity</td>
<td>13</td>
<td>0 to 4</td>
<td>.78</td>
<td>.776</td>
</tr>
<tr>
<td>Depression</td>
<td>12</td>
<td>1 to 4</td>
<td>.78</td>
<td>.775</td>
</tr>
<tr>
<td>Substance use</td>
<td>4</td>
<td>6</td>
<td>.59</td>
<td>.674</td>
</tr>
</tbody>
</table>
Appendix C: TCPS Certificate

Certificate of Completion

This document certifies that

Alexis Gilmer

has completed the Tri-Council Policy Statement:
Ethical Conduct for Research Involving Humans
Course on Research Ethics (TCPS 2: CORE)

Date of Issue: 4 April, 2016
## Appendix D: Parent Ethnicity at Grade 12 n (%)

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Wave 8 (Grade 12)</th>
<th>Ethnicity</th>
<th>Wave 8 (Grade 12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>British</td>
<td>1 (.2)</td>
<td>Somali</td>
<td>3 (.6)</td>
</tr>
<tr>
<td>English</td>
<td>4 (.8)</td>
<td>Indian</td>
<td>60 (11.4)</td>
</tr>
<tr>
<td>Scottish</td>
<td>3 (.6)</td>
<td>Iranian</td>
<td>1 (.2)</td>
</tr>
<tr>
<td>Welsh</td>
<td>1 (.2)</td>
<td>Pakistani</td>
<td>5 (1.0)</td>
</tr>
<tr>
<td>Irish</td>
<td>7 (1.3)</td>
<td>Punjabi</td>
<td>-</td>
</tr>
<tr>
<td>French</td>
<td>1 (.2)</td>
<td>Sri Lankan</td>
<td>20 (3.8)</td>
</tr>
<tr>
<td>Italian</td>
<td>3 (.6)</td>
<td>Lebanese</td>
<td>6 (1.1)</td>
</tr>
<tr>
<td>German</td>
<td>1 (.2)</td>
<td>Jamaican</td>
<td>28 (5.3)</td>
</tr>
<tr>
<td>Polish</td>
<td>5 (1.0)</td>
<td>Trinidadian</td>
<td>5 (1.0)</td>
</tr>
<tr>
<td>Dutch</td>
<td>-</td>
<td>Barbadians/Bajans</td>
<td>4 (.8)</td>
</tr>
<tr>
<td>Chinese</td>
<td>3 (.6)</td>
<td>Haitian</td>
<td>3 (.6)</td>
</tr>
<tr>
<td>Native Indian</td>
<td>12 (2.3)</td>
<td>Canadian</td>
<td>113 (21.5)</td>
</tr>
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<td>British-Canadian</td>
<td>2 (.4)</td>
<td>American</td>
<td>1 (.2)</td>
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<tr>
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<td>18 (3.4)</td>
<td>Metis</td>
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<td>Filipino</td>
<td>-</td>
</tr>
<tr>
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<td>-</td>
<td>Vietnamese</td>
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<tr>
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<td>Other Native/First</td>
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<td>French-Canadian</td>
<td>105 (20.0)</td>
<td>Nations</td>
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<td>Ukranian-Canadian</td>
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<td>Other European</td>
<td>10 (1.9)</td>
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<tr>
<td>Italian-Canadian</td>
<td>-</td>
<td>Other African</td>
<td>11 (2.1)</td>
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<tr>
<td>German-Canadian</td>
<td>-</td>
<td>Other Asian</td>
<td>11 (2.1)</td>
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<tr>
<td>Polish-Canadian</td>
<td>1 (.2)</td>
<td>Central American</td>
<td>6 (1.1)</td>
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<tr>
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<td>-</td>
<td>South American</td>
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<td>Franco-Ontarian</td>
<td>26 (4.9)</td>
<td>Other Caribbean</td>
<td>6 (1.1)</td>
</tr>
<tr>
<td>Quebecois</td>
<td>6 (1.1)</td>
<td>Other</td>
<td>5 (1.0)</td>
</tr>
<tr>
<td>Portuguese</td>
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