

Generativity as a Positive Mental Health Outcome: The Long-term Impacts of Better Beginnings, Better Futures on Youth at Ages 18–19

Norah Love, Geoffrey Nelson, S. Mark Pancer,
Colleen Loomis, and Julian Hasford
Wilfrid Laurier University

ABSTRACT

This study examined the long-term impacts of the Better Beginnings, Better Futures project, a universal, community-based prevention program. Generativity was studied as an indicator of positive mental health, using a narrative analysis of youths' stories about turning points in their lives. A quasi-experimental design was used to compare youths aged 18–19 who participated in Better Beginnings when they were 4–8 ($n = 62$) and with youths from comparison communities who did not participate in Better Beginnings ($n = 34$). Significant differences between the 2 groups were found on 2 measures of generativity. The findings suggest the utility of adopting a narrative approach to evaluate the long-term outcomes of prevention programs for children and youth.

Keywords: prevention, early childhood development programs, long-term outcomes, generativity, positive mental health

RÉSUMÉ

Cette étude a examiné les effets à long terme d'un projet intitulé Partir d'un bon pas pour un avenir meilleur, un programme pour tous les enfants et leurs familles mis en place dans les communautés locales avec un but de prévention des problèmes de comportement et de santé mentale. Nous avons utilisé un modèle quasi expérimental pour comparer les jeunes âgés de 18 à 19 qui ont participé quand ils avaient 4–8 ans ($n = 62$) avec les jeunes issus de communautés de comparaison qui n'ont pas participé au programme ($n = 34$).

Norah Love, MA Community Psychology, Wilfrid Laurier University. Geoffrey Nelson, Professor, Department of Psychology, Wilfrid Laurier University. S. Mark Pancer, Professor, Department of Psychology, Wilfrid Laurier University. Colleen Loomis, Associate Professor, Department of Psychology, Wilfrid Laurier University. Julian Hasford, PhD, Wilfrid Laurier University.

This research was supported by a grant from the National Crime Prevention Centre, Canadian Ministry of Public Safety. The authors wish to thank the staff of the Better Beginning, Better Futures Research Coordination for their assistance with project management, conducting the interviews, and transcription of the interviews.

Correspondence regarding this paper should be directed to Norah Love at norah.love@gmail.com

Nous avons étudié la générativité comme un indicateur d'une bonne santé mentale en utilisant une analyse narrative des récits des jeunes à propos des tournants dans leur vie. Des différences significatives entre les 2 groupes ont été trouvées sur 2 mesures de la générativité. Les résultats suggèrent l'utilité d'adopter une approche narrative pour évaluer les résultats à long terme des programmes de prévention pour les enfants et les jeunes.

Mots clés : prévention, programmes de développement du jeune enfant, résultats à long terme, générativité, bonne santé mentale

In Canada and elsewhere, there is a growing emphasis on early childhood development (ECD) programs that are designed to promote academic and social skills and prevent serious long-term social and emotional problems, particularly for disadvantaged children whose families live in poverty. While there is a growing literature indicating that ECD programs can have positive short-term and long-term effects (Barnett, 2011), there is little research on the effectiveness of ECD programs in Canada. In this paper, we examine the long-term impacts of one ECD program, Better Beginnings, Better Futures, on generativity, a construct first put forward by Erik Erikson (1950), as a positive mental health outcome, using a narrative analysis of youths' stories about turning points in their lives.

BACKGROUND

Positive Mental Health and Children's Mental Health

From the time of Jahoda's (1958) book on positive mental health prepared for the U.S. Joint Commission on Mental Illness and Health, mental health has been conceptualized as more than the absence of mental illness (Canadian Institute for Health Information, 2009; World Health Organization, 2004). According to the Epp (1988) report *Mental Health for Canadians: Striking a Balance*:

Mental health is the capacity of the individual, the group and the environment to interact with one another in ways that promote subjective well-being, the optimal development and use of mental abilities (cognitive, affective, and relational), the achievement of individual and collective goals consistent with justice and the attainment and preservation of conditions of fundamental equality. (p. 7)

In the Epp report, mental health and mental illness are viewed as conceptually distinct, and recent research in the United States (Keyes, 2007; Westerhof & Keyes, 2009) has confirmed this distinction. Mental illness varies from low to high levels of psychopathology, while mental health ranges from languishing to flourishing. In the context of children's mental health, Peters (1988) asserts that positive mental health consists of social competence, cognitive problem-solving skills, skills to cope with stress, and perceptions of having social support. Cowen (2000) similarly suggests that competence, empowerment, and resilience are important aspects of positive mental health for children.

Mental Health Promotion Programs for Young Children

Cowen (1996) argues that mental health promotion is proactive, focused on populations, multi-dimensional, and ongoing. Keyes (2010) further states that efforts to promote mental health will result in cost

savings for governments and reduced personal suffering for individuals, as there is a tremendous economic and psychological burden that results when the mental health of a significant percentage of the population languishes. ECD programs that focus on promoting young children's academic and social skills, as well as supporting parents, are one exemplar of mental health promotion (Reynolds & Temple, 2008). Meta-analytic or systematic reviews have demonstrated the positive long-term impacts of ECD programs.

In their meta-analytic review of the impact of ECD programs at high school and beyond, Nelson, Westhues, and MacLeod (2003) located 10 controlled studies that reported positive impacts on social-emotional outcomes for youth and adults. Similarly, in their review of the impact of five ECD programs on adult outcomes, Karoly, Kilburn, and Cannon (2005) found significant positive impacts on rates of high school completion and employment and earnings. In another review of controlled evaluations of the impacts of 13 ECD programs on youth 13 years of age or older, Reynolds and Temple (2008) found significant impacts of these programs on social and emotional development, school achievement, school completion, and employment and earnings. In a review of 17 controlled evaluations of ECD programs, Manning, Homel, and Smith (2010) found significantly positive impacts on adolescents' educational success, social participation, cognitive development, family well-being, and social-emotional development.

While there has recently been a great deal of policy and program development, as well as research, in the ECD sector in Canada (McCain, Mustard, & McCuaig, 2011), there is only one research study that has examined long-term outcomes of a prevention program in Canada. The Montreal Prevention Experiment was implemented in Grades 2 and 3 with boys from low SES backgrounds who scored in the top 30% of teacher ratings of disruptive behaviour. The intervention consisted of social skills training, parent training, and teacher support. While there were initially no effects of the intervention, in the long term boys in the intervention had significantly lower rates of delinquency and were less likely to drop out of high school than boys in the control group (Boisjoli, Vitaro, Lacourse, Barker, & Tremblay, 2007).

In sum, evidence is accumulating that demonstrates the long-term impacts of ECD programs for young children on indicators of well-being and positive mental health. While useful and important, we believe that an exclusive reliance on outcome indicators such as high school completion or employment earnings may not tell the full story of the long-term impacts of these programs. In the next section, we argue for the utility of adopting a narrative approach that taps the subjective experiences of youth, which may uncover a richer understanding of their life stories, to evaluate the long-term outcomes of ECD programs.

Generativity as a Positive Mental Health Outcome

In evaluating the long-term impacts of ECD programs, a narrative approach makes it possible to tap into unique programmatic outcomes that may be missed when using more traditional approaches. Generativity is one programmatic outcome that requires an understanding of the subjective experiences of participants, such as their goals, dreams, and plans, and is therefore best explored through narrative life stories. The initial concept of generativity refers to an individual's commitment to care for future generations (Erikson, 1950). Erikson proposed that generativity was the seventh of eight stages of human psychosocial development, occurring in middle to late adulthood, during which individuals become increasingly concerned with the well-being of the next generation and the legacy of the self.

According to Erikson's (1950) theory, the development of generativity is an integral stage of healthy adult development that is reflected by a personal sense of creativity and success. Those individuals who fail to achieve generativity during adulthood experience a sense of stagnation and personal dissatisfaction. Contemporary generativity theorists have elaborated Erikson's conceptualization of the phenomenon, and suggest that generativity is characterized by several key psychosocial features: (a) motivational sources (i.e., cultural demand and inner desire for a sense of being needed and for symbolic immortality), (b) thoughts and plans (i.e., concern for the next generation, belief in the human species, and commitment), (c) action (i.e., behaviours that create, maintain, or offer to future generations), and (d) meaning (i.e., generative themes within the life story) (McAdams & de St. Aubin, 1992).

Erikson's (1950) initial theory postulated that generativity was a distinctly midlife phenomenon, which developed through the assumption of adult roles that involved responsibilities of caring for others and contributing to society (e.g., parenting, mentoring, civic engagement). Although there is evidence to support the emergence of generativity during adulthood, a growing body of research has shown that generativity may begin during late adolescence and emerging adulthood, and that it plays an important role in healthy adolescent development (Frensch, Pratt, & Norris, 2007; Lawford, Pratt, Hunsberger, & Pancer, 2005; McAdams, de St. Aubin, & Logan, 1993).

A number of studies have shown that generativity is related to positive mental health outcomes. Studies of adults have found that levels of generative concern are associated with higher life satisfaction (McAdams et al., 1993) and personal well-being (Huta & Zuroff, 2007). Research on generativity among adolescents has also shown positive associations between positive mental health and developmental outcomes. For example, in a longitudinal study of 198 adolescents, Lawford et al. (2005) found that generativity at age 19 predicted levels of community involvement at age 23. In a cross-cultural study of German and Cameroonian adolescents, Busch and Hofer (2010) found similar associations between generativity, prosocial behaviour, and identity achievement among youth from both cultures.

The relationship between generativity and indicators of positive mental health illustrates the importance of exploring programmatic outcomes using narrative measures. Concepts such as generativity provide a richer understanding of the life stories of youth. While previous research assessed generativity primarily through quantitative questionnaires and check-lists such as the Loyola Generativity Scale (LGS), the Generative Behaviour Checklist (GBC), and the Generative Composite Index (GCI), recent research has demonstrated that generativity is best explored by examining youth narratives and tapping into youths' subjective experiences (Frensch et al., 2007; McAdams, 2001; Pratt, Norris, Arnold, & Filyer, 1999). Researchers have found significant associations between narrative measures of generativity and the more traditional pencil-and-paper measures. McAdams et al. (1993) used all three of these measures in their exploration of generativity in young, midlife, and older adults. In their study, generative narration was positively associated with participant LGS (0.47) and GBC (0.39) scores. Similarly, Frensch et al. (2007) showed that GCI scores at age 20 were positively related to generative themes found in turning point and proud stories collected later at ages 23–24. In these studies, the authors highlight that while quantitative, standardized measures of generativity are useful and important, they do not allow an understanding of the lived experiences of individuals. Narratives provide greater insight into the saliency of generativity in an individual's current life story.

THE BETTER BEGINNINGS, BETTER FUTURES PROJECT

Better Beginnings, Better Futures Communities

Better Beginnings, Better Futures (Better Beginnings) is a research demonstration project funded by the government of Ontario to prevent emotional, social, behavioural, academic, and other problems in young children living in economically disadvantaged neighbourhoods, promote healthy development in these children, and enhance the ability of the families and communities to provide a positive environment for children (Peters et al., 2010). Three Better Beginnings sites focusing on children aged 4–8 were established in 1991. These sites are in Sudbury, Cornwall, and Highfield (a neighbourhood in the Greater Toronto Area). Sudbury is the largest city in the northern part of the province; its Better Beginnings project is centred in two ethnically diverse neighborhoods which include a significant proportion of Native, Anglophone, and Francophone families, as well as other groups. Cornwall is a medium-sized city in eastern Ontario; its Better Beginnings site was designed to serve the large Francophone community in the neighbourhoods in which it was based. The Highfield community is an ethnically diverse community with a large proportion of newcomers to Canada, situated in the northwestern part of Toronto, the largest city in the province. All three communities are socioeconomically disadvantaged, with household incomes well below the provincial average. In addition, two other Ontario communities, in Ottawa-Vanier and Etobicoke (Toronto), which were similar in economic and community characteristics to the communities receiving the intervention, were designated as comparison sites. The matched comparison communities are described in more detail further on in this paper.

Better Beginnings, Better Futures Model

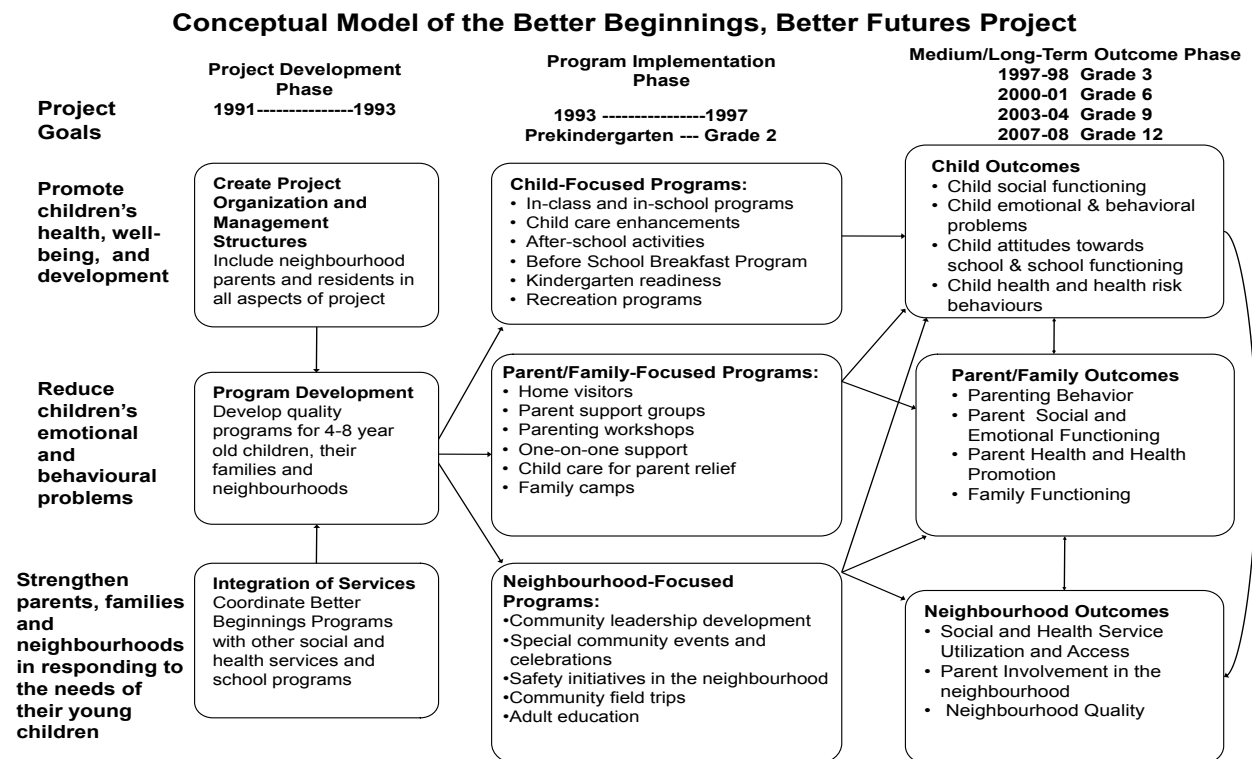
The Better Beginnings model for primary prevention was established by a 25-member advisory group comprising social service providers and administrators, researchers, policy-makers and others from across the province of Ontario. The model had a number of distinguishing features. The project was ecological, in that it included programs that were designed not only for the children in the target communities but also for their parents and families and the community as a whole. The project and its programs were universally available to all children and families living in a Better Beginnings community, regardless of individual risk factors. Project programs were designed to address multiple areas of need for families, children, and communities and were to be coordinated by a partnership of Better Beginnings personnel, local service providers, and community residents. The involvement of community residents as key decision-makers in all aspects of program development, implementation, and evaluation was Better Beginnings' most distinctive feature.

On the basis of this ecological model and comprehensive view of child development, programs were implemented in each of the three Better Beginnings sites focusing directly on the children, including in-class, in-school, before-after school, and holiday/vacation programs. A variety of programs were also implemented to provide support for parents and families. Lastly, a range of programs focusing on the entire neighbourhood were implemented, including special events, safety initiatives, and community development activities.

It is important to note that while all three of the Better Beginnings communities offered a number of common programs, and all programs were designed to achieve the major project goals, the mix of programs and the way in which programs were operated and delivered varied from site to site. Each site established

programs that were designed to meet the needs of its community, as expressed by the members of that community (Peters et al., 2010). Some of these programs were similar to those offered in other sites; others were unique to a specific site. The desired outcomes of the child, parent/family, and neighbourhood programs are portrayed schematically in Figure 1. In previous research, we have found positive impacts of Better Beginnings on child, parent, family, and community outcomes at Grades 1, 2, 3, 6, and 9 (Peters et al., 2010; Peters, Petrunka, & Arnold, 2003). The current study aimed to expand on previous research by exploring one particular positive mental health outcome, generativity.

Figure 1
Better Beginnings, Better Futures Program Logic Model



PURPOSE AND HYPOTHESIS

The purpose of this research is to examine the impacts of Better Beginnings on themes of generativity in the turning point stories of youth ages 18–19. More specifically, we tested the hypothesis that youth who had participated in the three Better Beginnings sites when they were children (4 to 8 years of age) would score significantly higher than youth from the comparison sites on themes of generativity in their narration of turning point stories.

METHOD

Design

This study drew from a larger study of Better Beginnings, so the design and sampling strategy are connected to that of the larger study that used a quasi-experimental, longitudinal comparison site design ($n = 959$) and began in 1993. The two-group quasi-experimental design used in the current study allowed comparisons of the stories of individuals who had participated in a Better Beginnings program (between 4 and 8 years of age) with the stories of individuals from a matched comparison group who had not participated in Better Beginnings.

Sampling and Recruitment

Larger Better Beginnings sample. The sample for the present study was drawn from the larger longitudinal study of Better Beginnings that began in 1993 when the children enrolled in Junior Kindergarten at 3–4 years of age. In the larger study, children and their parents from three Better Beginnings sites and two socio-demographically similar comparison sites participated in the research. By Grade 3, a total of 959 children and families had been recruited into the study through the children's schools. In the Better Beginnings and comparison sites, the sampling strategy was to invite all families to participate. The resulting self-selected sample for Better Beginnings ($n = 601$) and comparison sites ($n = 358$) represented 50% to 60% of the entire birth cohort in their respective neighbourhoods, on the basis of school records. Sampling bias was tested using four indicators of behaviour and social skills as assessed by teachers, and no significant differences were found during the initial waves of data collection (1993–94 and 1997–98). The sample attrition in this larger study averaged 10% every 3 years with a retention rate of 65.3%, which is similar to the rate of 65% reported in Statistics Canada's (2007) National Longitudinal Survey of Children and Youth (NLSCY). For more information on the research design of the larger study see Peters et al. (2010).

Sub-sample for study of narratives. In 2007–8, a stratified random sampling strategy was used to recruit participants from the larger Better Beginnings sample into the Better Beginnings narrative research. Stratification was by site and gender with roughly equal numbers of males and females drawn from each site. For inclusion in the study, participants needed to have lived in the community continuously since they were in elementary school and to have had a high level of participation in Better Beginnings programs (for those in the Better Beginnings communities). These inclusion criteria were stipulated because youths were also asked questions about experiences in their communities both when they were young and currently.

The narrative sub-sample size was $n = 95$ (for $n = 51$ males and $n = 44$ females). Roughly equal numbers of males and females were drawn from each of the Better Beginnings and comparison communities: Cornwall (10 males and 10 females), Highfield (10 males and 8 females), Sudbury (13 males and 10 females), Etobicoke (10 males and 8 females), and Ottawa Vanier (8 males and 8 females). The narrative sub-sample did not differ from the larger Better Beginnings sample on several demographic variables: sex of respondent, immigrant status, and cultural identification. However, on average, participants in the narrative sub-sample had a lower mean monthly household income ($M = 3496.75$) than participants in the larger Better Beginnings sample ($M = 3880.84$), $t(458) = 2.48$, $p < 0.05$. In addition, the samples differed in length of youths' residence in their neighbourhood (in years), $t(772) = 3.97$, $p < 0.05$. Participants in the narrative sub-sample had lived in

their neighbourhood for longer ($M = 5.33$) than participants in the larger Better Beginnings sample ($M = 4.00$). Lastly, in comparison to the larger Better Beginnings sample, more participants in the narrative sub-sample still lived in Better Beginnings neighbourhoods at the time of interviews, $\chi^2(1, N = 543) = 50.35, p = 0.00$.

There are numerous reasons why the samples may have differed on these measures. First, we aimed to recruit participants for the narrative sub-sample who had lived in Better Beginnings communities consistently over time. Therefore the difference in length of youths' residence in a Better Beginnings neighbourhood is expected. In addition, there may be a relationship between the length of a youth's residence in their neighbourhood, their current residence in a Better Beginnings neighbourhood, and monthly household income. Better Beginnings programs are located in communities with lower than average socio-economic status. Families that reside in those communities continuously may do so because of a lack of financial opportunities that would allow them to relocate. Also of importance, those participants who lived in Better Beginnings communities and participated in Better Beginnings programs for a greater length of time may have had a greater desire to give back to the program by participating in this study.

Since this is a quasi-experiment and the sites could differ in terms of demographic characteristics, the data were weighted to remove mean differences in covariates between Better Beginnings and comparison sites (Friedman, 2001; Ridgeway, McCaffrey, & Morral, 2006). This procedure, generalized boosted regression, provides a robust estimate of the probability that a case lies in one group or the other, given its scores on a set of variables that predict group membership. These probabilities are created from the regression coefficients of many bootstrapped samples (30,000 samples in this case), which are used to create a final set of regression weights for the predictors. On the basis of these and a participant's scores on the predictors, each case in the comparison group is assigned a weight. When applied, these weights produced a comparison sample closely resembling the Better Beginnings sample, so that the two groups did not differ on the following variables: birth year and gender of the interview respondent (typically the mother), gender of child, marital status, single parent status, respondents' education, employment status, family income, cultural category (Anglophone or Francophone), and immigrant status.

Interview Guide and Procedure

Interviews were conducted with youths from Better Beginnings and comparison communities. All interviews were conducted by site researchers who resided in the selected communities. The site researchers who interviewed the youth were trained in an 8-hour session that addressed ethical issues, the nature of qualitative data, and tips for how to ask open-ended questions and probes, with particular attention to discussing personal matters with youth. This session included conducting mock interviews with feedback provided by the lead researchers.

The interview guide was divided into three main parts, only one of which was used for this study. Participants were asked to share a turning point story and, if they could not think of one, they were asked to describe an episode that came close to being a turning point. The interviewer described a turning point to the participant as "an event or episode through which you experienced an important change in your life." For each event, the interviewer asked the participant to include concrete details of what happened, when and where it occurred, who was involved, and the feelings and thoughts experienced during the event. The

participant was also asked to evaluate why the event was important and to describe the residual impact felt at the present time.

The same recruitment procedures were used for both Better Beginnings and comparison youth. Site researchers scheduled and conducted a semi-structured individual interview that was audio-recorded. Potential participants were contacted by phone and invited to participate in the study. For those who agreed to participate, a time and place were arranged for the interview. As with previous data collections in the larger study, most of the interviews were conducted in the home. Participants read an informed consent letter detailing the goals of the study, the number of people involved, and the way in which interview responses would be reported. After an interview was completed, site researchers uploaded the digital audio-recording to a secure website. The interview was later transcribed verbatim by research assistants. The lead researchers listened to the audio-recordings of a sample of the narrative interviews and provided feedback to the site researchers on their interviewing. Also, monthly teleconferences were held with all the site researchers and lead researchers to review progress, share experiences, and troubleshoot problems.

Generativity Measures

Generativity was measured by coding turning point stories for generative themes. Two different measures for coding generativity were used. One measure coded stories based on themes that had been inductively identified by the researchers of the current study. A second measure followed McAdams's (1988) scheme, widely used for coding generativity in narratives (McAdams & de St. Aubin, 1992; McAdams et al., 1993; Peterson & Stewart, 1993; Pratt et al., 1999). Each measure is described in more detail below.

Coding. Using our measure of generativity, narratives were coded for two generative themes: (a) shift from a focus on self to a focus on others, and (b) the aspiration to make a contribution. A shift from a focus on self to a focus on others is described as a shift in focus in the narrative away from oneself and onto others, or the recognition of the impact of an experience on others in addition to oneself. The aspiration to make a contribution is described as the desire to make a lasting contribution that would benefit others (a family, community, or society) or lead to improvements for future generations. Presence or absence of each type of theme was scored (1 = *present*, 0 = *not present*) for each turning point story, providing a possible range of scores of 0–2.

Using McAdams's (1988) scheme, narratives were coded for three generative themes: (a) caring, (b) productivity, and (c) general generativity. An expression of concern for others, or "to care to do something" is captured by the "caring" theme of generativity. The "productivity" theme involves generating products and outcomes that benefit others, such as hosting a fundraiser for an important cause. The "general generativity" theme encompasses broader expressions of generativity, such as making a lasting contribution to future generations. Presence or absence of each type of theme was scored for each turning point story, providing a possible range of scores of 0–3.

Inter-rater reliability. All of the turning point stories were coded by one rater, while a second rater coded a sample of 30 stories. Both raters were blind as to whether the youth had participated in Better Beginnings. To determine inter-rater reliability, Pearson correlation coefficients were calculated for each of the codes. Estimates of inter-rater reliability using our approach were high: shift from a focus on self to a

focus on others (0.92); the aspiration to make a contribution (1.0); and total (0.92). Estimates of inter-rater reliability using McAdams's (1988) approach were also high: caring (0.92); productivity (1.0); general (0.92); and total (0.92).

Statistical Analyses

Tests for differences between the combined Better Beginnings sites and combined comparison sites were examined using the *t* statistic, using one-tailed tests ($p < 0.05$). As well, effect sizes (*d*) were calculated to determine the magnitude of the effects.

RESULTS

The findings are reported in Table 1. There were significant differences in the means for youth from Better Beginnings sites and youth from comparison sites on both measures of generativity. Better Beginnings youth scored significantly higher on the two measures of generativity than youth from comparison sites, supporting the study's main hypothesis. Moderately large effect sizes were also found (0.40 and 0.63).

Table 1
Means, Standard Deviations, *t* Tests, and Effect Sizes for Generativity Measures for Better Beginnings Sites and Comparison Sites

Generativity measure	All Better Beginnings sites (<i>n</i> = 61) Mean (SD)	All comparison sites (<i>n</i> = 34) Mean (SD)	<i>t</i> test	Effect size
Inductive coding of generativity (range 0–2)	0.61 (0.79)	0.32 (0.64)	1.94*	0.63
McAdams coding of generativity (range 0–3)	1.06 (0.85)	0.53 (0.83)	2.99**	0.40

* $p < 0.05$ ** $p < 0.005$

Here, we give an example of part of a turning point story, which highlights how generative themes were illustrated in stories of Better Beginnings youths and youths from comparison communities. The following narrative of a Better Beginnings youth demonstrates a clear commitment to making a lasting contribution and caring for future generations.

I just had a son who was born with a disability and I mean it's the only thing that keeps you up, and it's the only thing that keeps your head up high. Because of him, you want to get involved in the community. You

want your community to be better because you don't want anything to happen to him. So, it's like, it's a motivation that gets you going, it gets you to think as to what you can do better, to improve the environment so that your son can live peacefully, because you don't want a bad future for him. You want him to do better than what you went through . . . there are so many children out there with disabilities that need support and with just a simple pair of hands, you can do so much. I mean no one ever thinks about the many things that they can do to help, to help out our community.

In contrast, the following narrative of a youth from a comparison community does not illustrate the same themes of generativity. In this story, the youth was sharing her experience of being kicked out of school for vandalizing. The youth's focus in the story remained on the "self" and she expressed very little concern for other people, the school, or the community.

Like screw school, like screw this like, I don't want to be here like I don't care about like—no one, everyone can say they care and shit and it's just like I don't care like what they have to say to me. . . . Like I was just like I'm going to do what I want and like you're not going to like stop me.

DISCUSSION

Generativity and Positive Mental Health

The hypothesis of this study was supported: The stories of youth from Better Beginnings sites were significantly more developed than the stories of youth from the comparison sites with regard to themes of generativity. More specifically, in young adulthood (18 to 19 years of age), youth who had participated in the three Better Beginnings sites when they were children (4 to 8 years of age) scored significantly higher than youth from the comparison sites on themes of generativity. Additionally, the effect sizes of the intervention on generative themes were of moderately greater magnitude (0.40 and 0.63) than those typically reported in the literature on the effects of ECD programs on more traditional outcome measures (e.g., Manning et al., 2010). Such large effect sizes highlight the benefit of exploring youth narratives and less traditional outcome measures, such as generativity, when evaluating the long-term impact of ECD programs.

These findings indicate that ECD programs can have effects long after youths' participation in the programs. Furthermore, given that generativity is strongly related to indicators of positive mental health such as high life satisfaction (McAdams et al., 1993), personal well-being (Huta & Zuroff, 2007), and identity achievement (McAdams & de St. Aubin, 1992), examining the youths' turning point stories allows us to infer that youth from Better Beginnings communities experienced more positive mental health than youth from the comparison communities.

Research on generativity among adolescents has also shown positive associations between generativity and community involvement (Lawford et al., 2005; Pratt et al., 1999). This association was illustrated in the current findings, as youth from Better Beginnings communities demonstrated a general care orientation that encompassed responsiveness to human need and the desire to actively contribute to others and to their communities. The interest in others and communities expressed by youths from Better Beginnings communities suggests that these youths had a more substantial connection with their communities and a greater sense of responsibility for contributing to the communities' well-being than did youths who did not participate in Better Beginnings. This finding is important, as individuals with greater connections to their communities have been found to participate more in those communities (DaSilva, Sanson, Smart, & Toumbourou, 2004;

Scales, Benson, Leffert, & Blyth, 2000). This leads to positive mental health outcomes for the youth (DaSilva et al. 2004; Scales et al., 2000; Scales, Leffert, & Vraa, 2003), and also contributes to greater social capital and well-being within communities (Abada, Hou, & Ram, 2007; Nelson, Prilleltensky, & Hasford, 2009; Pancer & Pratt, 1999).

Generativity and Adolescence

Erikson's (1950) initial theory postulated that during adolescence personal productivity is more salient than issues of societal concern, and therefore generativity is typically displayed in later adulthood, rather than in adolescence or emerging adulthood. In the current study, themes of generativity were clearly heard in the narratives of young adults from Better Beginnings. The findings therefore support the growing body of research showing that generativity may begin during late adolescence and emerging adulthood and play an important role in healthy adolescent development (Frensch et al., 2007; Lawford et al., 2005; McAdams et al., 1993). However, it should be noted that youths' average scores for generativity were below the scale mid-points for both Better Beginnings and comparison communities. These findings are comparable to Frensch et al.'s (2007) frequently cited publication that uses McAdams's (1988) scheme of generativity to explore generative themes in the turning point stories of adolescents (age 16) and emerging adults (age 20). Frensch et al.'s findings indicated that while generative themes were present in adolescent and emerging adult turning point stories, average scores of generativity for both age groups were below scale mid-points. Moreover, there appeared to be an increase in the presence of generative themes from the turning point story at age 16 to the turning point score at age 20, although this trend was non-significant. These findings support our perspective that generativity may begin during adolescence and become more salient in emerging and late adulthood.

Lastly, the presence of generativity in youth 18 and 19 years of age provides insight into what kinds of activities and components could be emphasized in ECD programs to enhance generativity in adolescence and young adulthood. For example, encouraging youth to have a connection to their community, to care for others, and to contribute to others and their community may help to enhance generativity and support positive mental health.

Utility of a Narrative Approach to Evaluate ECD Programs

The findings from this project indicate that a narrative approach can have significant value in evaluating long-term prevention programs. Narratives, and in particular turning point stories, have not previously been used as a way of examining long-term program outcomes. Previous research has shown Better Beginnings to be beneficial for families and communities in both the short and the long term, on the basis of various quantitative outcome measures, including improved social, emotional, and physical health, increased positive parenting behaviours, and improved neighbourhood and school characteristics (Peters et al., 2003, 2010). However, this quantitative evaluation did little to allow a deeper understanding of the differences in the lived experiences of youth. Collecting narratives in this study provided a space for youths to tell their own stories in a way that was personally meaningful. In doing so, they were empowered to reflect on personal aspirations, life goals, dreams, and plans, which provided a richer understanding of the life stories of youth and the long-term impacts of ECD programs on youth.

Our experience suggests that narrative analysis can produce significant added value in understanding and articulating programmatic outcomes, particularly in the case of long-term prevention-oriented programs such as Better Beginnings. We encourage other researchers engaged in evaluating similar efforts to consider the addition of a narrative analysis component to allow for richer depth of understanding of programmatic outcomes.

LIMITATIONS AND CONCLUSION

There are several limitations to this study. First, as with any quasi-experimental design in which intervention and comparison communities are not randomly assigned, there may be differences in the intervention and comparison communities (other than the presence or lack of a Better Beginnings project) that may have accounted for some of the effects we saw in outcomes. We attempted to reduce these differences by selecting comparison communities that matched the Better Beginnings communities as closely as possible. However, not all differences among communities can be controlled in this manner. Second, there is the inherent limitation of determining causality in longitudinal, community-based intervention research that uses quasi-experimental designs. The extended time lapse since the youth participated in the program and the complexities of local contexts make it difficult to attribute the findings solely to the intervention. Third, the present study did not explore the extent to which prolonged exposure to the intervention, or increased participation in programs, contributed to more desirable outcomes. Nor did the study explore the independent role that specific factors, such as family functioning and support or community involvement, may have had in leading to generativity. These methodological limitations suggest that future studies should focus more comprehensively on understanding the mechanisms of change.

Despite the limitations noted above, this study highlights the benefit of exploring youth narratives and less traditional outcome measures, such as generativity, when evaluating the long-term impact of ECD programs. Generativity was displayed by youths from Better Beginning communities through a tendency to use an other-oriented perspective, to care for others, and to make a lasting contribution to others and communities. Such generative perspective-taking and action is important, as generativity is associated with indicators of positive individual and community mental health. The findings in this study suggest the need for settings and ECD programs to encourage and create opportunities for youth to engage in generative behaviour, so as to promote positive individual and community mental health.

REFERENCES

- Abada, T., Hou, F., & Ram, B. (2007). Racially mixed neighborhoods, perceived neighborhood social cohesion, and adolescent health in Canada. *Social Science & Medicine*, 65, 2004-2017. doi: 10.1016/j.socscimed.2007.06.030
- Barnett, W.S. (2011). Effectiveness of early educational intervention. *Science*, 333, 975-978. doi: 10.1126/science.1204534
- Boisjoli, R., Vitaro, F., Lacourse, E., Barker, E.D., & Tremblay, R.E. (2007). Impact and clinical significance of a preventive intervention for disruptive boys: 15-year follow-up. *British Journal of Psychiatry*, 191, 415-419. doi: 10.1192/bjp.bp.106.030007
- Busch, H., & Hofer, J. (2010). Identity, prosocial behavior, and generative concern in German and Cameroonian Nso adolescents. *Journal of Adolescence*, 34(4), 629-638. doi: 10.1016/j.adolescence.2010.09.009
- Canadian Institute for Health Information. (2009). *Improving the health of Canadians: Exploring positive mental health*. Ottawa, ON: Author.

- Cowen, E.L. (1996). The ontogenesis of primary prevention: Lengthy strides and stubbed toes. *American Journal of Community Psychology*, 24, 235-249. doi: 10.1007/BF02510400
- Cowen, E.L. (2000). Community psychology and routes to psychological wellness. In J. Rappaport & E. Seidman (Eds.), *Handbook of community psychology* (pp. 79-99). New York, NY: Kluwer Academic/Plenum.
- DaSilva, L., Sanson, A., Smart, D., & Toumbourou, J. (2004). Civic responsibility among Australian adolescents: Testing two competing models. *Journal of Community Psychology*, 32, 229-255. doi: 10.1002/jcop.20004
- Epp, J. (1988). *Mental health for Canadians: Striking a balance*. Ottawa, ON: Minister of Supply and Services.
- Erikson, E.H. (1950). *Childhood and society*. New York, NY: Norton.
- Frensch, K.M., Pratt, M.W., & Norris, J.E. (2007). Foundations of generativity: Personal and family correlates of emerging adults' generative life-story themes. *Journal of Research in Personality*, 41(1), 45-62. doi: 10.1016/j.jrp.2006.01.005
- Friedman, J.H. (2001). Greedy function approximation: A gradient boosting machine. *Annals of Statistics*, 29, 1189-1232.
- Huta, V., & Zuroff, D.C. (2007). Examining mediators of the link between generativity and well-being. *Journal of Adult Development*, 14(1-2), 47-52. doi: 10.1007/s10804-007-9030-7
- Jahoda, M. (1958). *Current concepts of positive mental health*. New York, NY: Basic Books.
- Karoly, L.A., Kilburn, M.R., & Cannon, J.S. (2005). *Early childhood interventions: Proven results, future promises*. Santa Monica, CA: RAND Corporation.
- Keyes, C.L.M. (2007). Promoting and protecting mental health as flourishing: A complementary strategy for improving national mental health. *American Psychologist*, 62, 95-108. doi: 10.1037/003-066X.62.2.95
- Keyes, C.L.M. (2010). The next steps in the promotion and protection of positive mental health. *Canadian Journal of Psychiatric Nursing*, 42(3), 17-28. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/21086774>
- Lawford, H., Pratt, M.W., Hunsberger, B., & Pancer, S.M. (2005). Adolescent generativity: A longitudinal study of two possible contexts for learning concern for future generations. *Journal of Research on Adolescence*, 15(3), 261-273. doi: 10.1111/j.1532-7795.2005.00096.x
- Manning, M., Homel, R., & Smith, C. (2010). A meta-analysis of the effects of early developmental prevention programs for in at-risk populations on non-health outcomes in adolescence. *Children and Youth Services Review*, 32, 506-519. doi: 10.1016/j.childyouth.2009.11.003
- McAdams, D.P. (1988). *Power, intimacy, and the life story: Personological inquiries into identity*. New York, NY: Guilford Press.
- McAdams, D.P. (2001). The psychology of life stories. *Review of General Psychology*, 5, 100-122. doi: 10.1037/1089-2680.5.2.100
- McAdams, D.P., & de St. Aubin, E. (1992). A theory of generativity and its assessment through self-report, behavioral acts, and narrative themes in autobiography. *Journal of Personality and Social Psychology*, 62(6), 1003-1015. doi: 10.1037/0022-3514.62.6.1003
- McAdams, D.P., de St. Aubin, E., & Logan, R.L. (1993). Generativity among young, midlife, and older adults. *Psychology and Aging*, 8(2), 221-230. doi: 10.1037/0882-7974.8.2.221
- McCain, M.N., Mustard, J.F., & McCuaig, K. (2011). *Early years study 3: Making decisions, taking action*. Toronto, ON: McCain Family Foundation.
- Nelson, G., Prilleltensky, I., & Hasford, J. (2009). Prevention and mental health promotion in the community. In D. Dozois & P. Firestone (Eds.), *Abnormal psychology: Perspectives* (4th ed., pp. 440-457). Scarborough, ON: Prentice-Hall.
- Nelson, G., Westhues, A., & MacLeod, J. (2003). A meta-analysis of longitudinal research on preschool prevention programs for children. *Prevention & Treatment*, 6(1). doi: 10.1037/1522-3736.6.1.631a
- Pancer, S.M., & Pratt, M.W. (1999). Social and family determinants of community service involvement in Canadian youth. In M. Yates & J. Youniss (Eds.), *Community service and civic engagement in youth: International perspectives* (pp. 32-55). Cambridge, England: Cambridge University Press.
- Peters, R.DeV. (1988). Mental health promotion in children and adolescents: An emerging role for psychology. *Canadian Journal of Behavioural Science*, 20, 389-401. doi: 10.1037/h0079941
- Peters, R.DeV., Bradshaw, A.J., Petrunka, K., Nelson, G., Herry, Y., Craig, W., . . . Rossiter, M. (2010). The Better Beginnings, Better Futures project: Findings from Grade 3 to Grade 9. *Monographs of the Society for Research in Child Development*, 75(3), 1-174.

- Peters, R.DeV., Petrunka, K., & Arnold, R. (2003). The Better Beginnings, Better Futures project: A universal, comprehensive, community-based, prevention approach for primary school children and their families. *Journal of Clinical Child and Adolescent Psychology*, 32, 215-227.
- Peterson, B.E., & Stewart, A.J. (1993). Generativity and social motives in young adults. *Journal of Personality and Social Psychology*, 65(1), 186-198. doi: 10.1037/0022-3514.65.1.186
- Pratt, M.W., Norris, J.E., Arnold, M.L., & Filyer, R. (1999). Generativity and moral development as predictors of value-socialization narratives for young persons across the adult life span: From lessons learned to stories shared. *Psychology and Aging*, 14, 414-426. doi: 10.1037/0882-7974.14.3.414
- Reynolds, A.J., & Temple, J.A. (2008). Cost-effective early childhood development programs from preschool to third grade. *Annual Review of Clinical Psychology*, 4, 109-139. doi: 10.1146/annurev.clinpsy.3.022806.091411
- Ridgeway, G., McCaffrey, D., & Morral, A. (2006). *Toolkit for weighting and analysis of nonequivalent groups: A tutorial for the twang package*. Retrieved from <http://finzi.psych.upenn.edu/R/library/twang/doc/twang.pdf>
- Scales, P.C., Benson, P.L., Leffert, N., & Blyth, D.A. (2000). Contribution of developmental assets to the prediction of thriving among adolescents. *Applied Developmental Science*, 4, 27-46. Retrieved from http://www.tandfonline.com/doi/abs/10.1207/S1532480XADS0401_3
- Scales, P.C., Leffert, N., & Vraa, R. (2003). The relation of community developmental attentiveness to adolescent health. *American Journal of Health Behavior*, 27(1), 22-34. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/12751644>
- Statistics Canada. (2007). *Microdata user guide: National Longitudinal Survey of Children and Youth, cycle 7 September 2006 to June 2007*. Retrieved from <http://www.statcan.ca/>
- Westerhof, G.J., & Keyes, C.L.M. (2009). Mental illness and mental health: The two continua model across the lifespan. *Journal of Adult Development*, 17, 110-119. doi: 10.1007/s10804-009-9082-y
- World Health Organization. (2004). *Promoting mental health: Concepts, emerging evidence, practice*. Geneva, Switzerland: World Health Organization, Department of Mental Health and Substance Abuse.