

Life Satisfaction in Early Adolescence: Personal, Neighborhood, School, Family, and Peer Influences

Eva Oberle · Kimberly A. Schonert-Reichl ·
Bruno D. Zumbo

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Abstract Drawing from an ecological assets framework as well as research and theory on positive youth development, this study examined the relationship of early adolescents' satisfaction with life to trait optimism and assets representing the social contexts in which early adolescents spend most of their time. Self-reports of satisfaction with life, optimism, and ecological assets in the school (school connectedness), neighborhood (perceived neighborhood support), family (perceived parental support), and peer group (positive peer relationships) were assessed in a sample of 1,402 4th to 7th graders (47% female) from 25 public elementary schools. Multilevel modeling (MLM) was conducted to analyze the variability in life satisfaction both at the individual and the school level. As hypothesized, adding optimism and the dimensions representing the ecology of early adolescence to the model significantly reduced the variability in life satisfaction at both levels of analysis. Both personal (optimism) and all of the ecological assets significantly and positively predicted early adolescents' life satisfaction. The results suggest the theoretical and practical utility of an assets approach for understanding life satisfaction in early adolescence.

Keywords Early adolescence · Life satisfaction · Ecological context · Assets · Multilevel modeling

Introduction

Theory and research support the notion that subjective well-being—an umbrella term concerned with an individual's evaluation of his or her own life—is an important construct for understanding psychological well-being and overall mental health (Diener and Diener 2009; Gilman and Huebner 2003; Proctor et al. 2009). Subjective well-being can include either cognitive judgments, such as life satisfaction, or emotional responses to events, such as feeling positive emotions (Diener and Diener 2009). Life satisfaction is an important construct in the field of positive psychology because it is closely associated with happiness as well as a range of positive personal, behavioral, psychological, and social outcomes (e.g., Diener 2009; Lyubomirsky et al. 2005). Much of the research conducted to date on subjective well-being in general and life satisfaction in particular, however, has been carried out primarily with adult populations (e.g., Diener et al. 1999), and comparatively limited work has examined life satisfaction in children and adolescents (Gadermann et al. 2010; Huebner 2004). Moreover, there has been relatively little research specifying the critical elements of contextual factors important for life satisfaction in a large community sample of early adolescents (for exceptions, see Gilman and Huebner 2003; Proctor et al. 2009). Given that subjective well-being has consistently been identified as a significant psychological factor associated with positive growth, health, and well-being in adults (Diener and Diener 2009), increasing the understanding of life satisfaction in early adolescence is important because it allows researchers to relate subjective well-being to critical contemporaneous developmental characteristics, such as social adjustment, mental health, and school performance.

E. Oberle (✉) · K. A. Schonert-Reichl · B. D. Zumbo
Department of Educational and Counselling Psychology,
and Special Education, The University of British Columbia,
Vancouver, BC, Canada
e-mail: eva_oberle@yahoo.de

K. A. Schonert-Reichl
e-mail: kimberly.schonert-reichl@ubc.ca

B. D. Zumbo
e-mail: bruno.zumbo@ubc.ca

In light of the limited research conducted with younger populations, the current study was designed to extend the understanding of subjective well-being in early adolescence by examining the ways in which critical personal and ecological assets jointly influence life satisfaction. Seeking to identify assets from important contexts in early adolescents' development, we draw from aspects of bioecological systems theory (e.g., Lerner 2002), positive youth development (Benson 1997), positive psychology (Huebner et al. 2006), and ecological contexts theory (Bronfenbrenner 1989). Investigating subjective well-being in a large community sample of early adolescents, the objective of this study was to reveal the importance of positive personal traits and supportive relationships in important developmental contexts in relationship to satisfaction with life.

Developmental Systems Theory and Assets

The course, pace, and direction of development during the adolescent years is influenced by relationships between the individual and his or her context (Theokas and Lerner 2006). Developmental systems theory views human development as a bidirectional, individual ↔ context relational process with multiple individual factors and different levels of organization within the social ecology, and underscores the plasticity of human development (Theokas and Lerner 2006). As posited by Theokas et al. (2005, p. 114), “[i]nstead of anticipating and trying to fix or prevent problems, this new paradigm considers the strengths, competencies, and contributions that youth can make, and ways to align these strengths with resources and supports in the environment to maximize healthy development of individuals and society.” Fostering adaptive regulation between the individual and the multiple contexts of development (e.g., family, peer group, school, community) can be an important step to increase the likelihood of positive development and thriving (Lerner et al. 2010). Indeed, several recent studies have shown that supportive families, schools, peer groups, and communities are important for positive development and well-being during early adolescence (Benson and Scales 2009; Hughes et al. 2008; Leventhal and Brooks-Gunn 2000; Li et al. 2010; Scales et al. 2006). Because early adolescents interact in ever widening social environments, shifting their focus from the family to the peer group, and relationships in the school and community context (Eccles and Roeser 2009; Steinberg 2005; Wigfield et al. 2006), the external environment becomes increasingly important during this time. Accordingly, research on positive adaptation and competence indicates that dimensions in the external environment, such as caring and supportive caretakers, a sense of belonging to school, friendships with prosocial peers, and living in a neighborhood that supports families and

children, are core assets that serve protective and promotive functions that direct youth on positive developmental trajectories (Masten 2001; Wright and Masten 2005).

Given the increasing significance of social relationships outside the family (Eccles and Roeser 2009; Luciana 2010), the school environment and peer group are particularly important contexts that influence development during this time period (Battistich 2005). Past research has revealed that high levels of school connectedness operate as a protective force for youth and are positively related to self-esteem, academic engagement, academic achievement, motivation, and adjustment in school (Anderman and Freeman 2004; Furlong et al. 2003; Haynes et al. 1997; Osterman 2000; Whitlock 2006). In contrast, low levels of school connectedness have been associated with increased risk of peer victimization (Skues et al. 2005; Young 2004) and depressive symptoms in adolescence (Shochet et al. 2006). Experiencing a strong sense of belonging and connectedness to school can thus be considered a critical factor in overall positive youth development, contributing to social and emotional well-being, and academic growth in early adolescence.

In addition to the significance of relationships in the school context, recent research has also emphasized the importance of supportive and caring adults in communities and neighborhoods for promoting positive development in children and youth (e.g., Battistich 2005; Scales et al. 2001, 2006). Benson (2003) and Eccles and Gootman (2002) have argued that communities and neighborhoods are ecological contexts that play a vital, but largely unrealized, role in influencing positive development throughout adolescence. According to these authors, perceived social support in the neighborhood is one of the key ecological assets that helps youth to thrive and develop positively. A basic theoretical assumption is that both healthy development and well-being are inextricably linked to a sense of belonging, connectedness, and participation in community and neighborhood groups (Baumeister and Leary 1995; Putnam 2000). However, little empirical research has been conducted on the link between perceived community and neighborhood support to indicators of well-being (Farrell et al. 2004), particularly during the early adolescent years. One exception is a study by Theokas et al. (2005). In a sample of 50,000 early adolescents, these authors found that the ecological asset of self-reported community connection was positively and significantly related to several behavioral indicators of thriving, such as having high expectations for oneself, and holding a positive identity. The results of this study are promising because they align with important theoretical assumptions about the significance of community support in early adolescence and throughout the life span (e.g., Baumeister and Leary 1995; Theokas and Lerner 2006). However, further research

needs to be conducted to reveal significant connections between community support and indicators of well-being in youths across multiple domains of development, such as positive social, emotional, mental, and academic development.

Research indicates that both ecological and personal assets are critical for young people to thrive and flourish (Lerner et al. 2010), thus there is a clear need for researchers to concurrently examine the role of personal trait assets as well as ecological assets at multiple levels (i.e., family, peer group, school, and neighborhood), when linking assets to indicators of well-being during the years of early adolescence. In the literature on personal assets, dispositional optimism, or a positive outlook on life, has been described as an essential and key protective personal trait that contributes to adjustment and positive development (Kumpfer 1999; Wright and Masten 2005), and has been identified as a promotive factor for overall health and well-being (Scheier and Carver 1993). To date, the study of optimism has primarily been conducted with adult samples and research on optimism in childhood and adolescence has received little attention (Deptula et al. 2006). Nonetheless, there is some empirical evidence that suggests that optimism is valuable psychological trait in early adolescence as well. For instance, a previous study revealed significant and positive associations between trait-optimism and positive peer- and adult relationships in a sample of pre- and early adolescents (Schonert-Reichl et al. 2008). Furthermore, optimism has been shown to positively predict peer acceptance (Oberle et al. 2010), and has been found to be negatively related to peer victimization, rejection and loneliness (Deptula et al. 2006). Whereas personal assets and ecological assets are independently critical and important in positive and healthy development, theory and research indicates that well-being, thriving, and positive growth can best be understood when choosing an integrative framework that incorporates personal as well as contextual assets in relationship to children's and adolescents' developmental outcomes (Theokas and Lerner 2006).

Correlates of Life Satisfaction in Youth

Past research has identified life satisfaction as a positive indicator of several dimensions of well-being in youth (see Proctor et al. 2009 for a review), such as positive personality characteristics, health and psychopathology, life events, social relationships, and living environments. For instance, Gilman and Huebner (2003) found that high levels of life satisfaction were positively related to interpersonal relations, positive relationships with parents, and hope, and negatively related to depressive symptoms, anxiety, and a negative attitude towards school and

teachers. Furthermore, a positive relationship has been found between perceived parental support and life satisfaction in adolescence (Valois et al. 2009). The consistency of these findings revealing a positive connection between youths' satisfaction with life and important positive relationships as well as developmental characteristics, aligns with previous findings in adult populations (Diener and Diener 2009). Such research is promising because it suggests that life satisfaction is significantly related to other important indicators of mental health and social and emotional well-being, and can thus provide insight into children's and adolescents' happiness and optimal functioning in development.

Fewer studies have focused on the relationship between life satisfaction and school specific assets, such as the feeling of belonging to and connectedness with school. Valois et al. (2009) posit that there is a general lack of research investigating the relationship between life satisfaction and assets in development, such as perceived support from adults and teachers, school support, and positive peer relationships. In a longitudinal study exploring the link between life satisfaction and dimensions of student engagement in a sample of 779 middle school students, Lewis et al. (2010) found a significant and bidirectional relationship between life satisfaction and cognitive engagement. Specifically, higher life satisfaction in the beginning of the school year significantly predicted stronger beliefs in the importance of school 5 months later. Furthermore, students with higher life satisfaction also reported feeling more connected to school and liked school more. Given the increasing amount of time early adolescents spend in schools and in their communities, there is a particular need for further research investigating life satisfaction in relation to school and neighborhood characteristics and the significant relationships young people form within those environments.

Study Purpose and Hypotheses

The purpose of this research was to examine early adolescents' life satisfaction as it relates to both personal and ecological assets. In accord with the ecological approach to human development (Bronfenbrenner 1989), and the positive youth development approach (e.g., Damon 2004; Larson 2000), we defined ecological assets in the family, peer, school, and neighborhood context (i.e., parental support, positive peer relationships, school belonging, neighborhood support) that have been identified to be especially critical during the early adolescent age-period (Theokas et al. 2005). Additionally, we included optimism as a personal trait asset in our model because optimism has been identified to be a valuable psychological resource that

protects and promotes both mental and physical health in adolescent development (e.g., Brodhagen and Wise 2008).

Although previous studies have examined the relationship of individual and contextual factors to adolescent life satisfaction (see Gilman and Huebner 2003 for a review), fewer studies have examined such relationships in a large community sample of early adolescents. Furthermore, few studies have connected life satisfaction with school characteristics (Valois et al. 2009) and, to our knowledge, no research has been conducted investigating life satisfaction's relationship to neighborhood support. One particular strength of this study is the use of multilevel modeling (MLM) to examine variability occurring in life satisfaction due to characteristics of specific contexts in which students develop (i.e., school, neighborhood). MLM can thus be used to separate the importance of assets at the level of the individual from those at the level of the school context.

We hypothesized that in a model including two levels of analysis (i.e., student-level, school-level), school-connectiveness and average perceived neighborhood support would be positive and significant school-level-predictors for life satisfaction in early adolescence above and beyond their effect at the student-level. We also hypothesized that optimism, positive relationships with peers, and perceived parental support would be significant and positive student-level-predictors. Finally, we hypothesized that the addition of school-level variables and student-level variables would explain a significant portion of student- as well as school-level variability in life satisfaction.

Method

Participants

A stratified random sampling procedure was employed across eight school districts located in urban and suburban areas in Western Canada. Stratification was done according to the neighborhood level vulnerability rates for children's development, as reported by the Human Early Learning Partnership (Kershaw et al. 2005; www.earlylearning.ubc.ca). The vulnerability rates were determined according to the Early Development Instrument (EDI; see Janus and Offord 2007), a teacher-report measure that assesses children's school readiness in five domains (i.e., Physical health and well-being, Social competence, Emotional maturity, Language and cognitive development, Communication skills). Kershaw et al. (2005) report high correlations between vulnerability rates and socioeconomic status at the neighborhood level. We randomly selected and approached schools stratified by "high," "medium," and "low" vulnerability rates within the school districts to obtain a diverse representation of participants. Early adolescents were recruited

from 65 classrooms (4th to 7th grade) in 25 public elementary schools across eight school districts.

Of those early adolescents invited to participate, 87% gave assent and received parental/guardian consent to participate, resulting in a total of 1,402 participants (47% female) who were on average 11 years and 6 months old ($SD = 1.03$). In total, 147 participants were in 4th grade, 306 in 5th grade, 471 in 6th grade, and 478 in 7th grade. Sixty three percent of the students reported English as their first language learned at home; the remaining early adolescents reported Chinese (13%), Punjabi (4%), Korean (4%), Vietnamese (3%), or another language (e.g., Farsi, Tagalog, Hindi). The wide range of languages spoken by participants in this study is representative of the ethnically diverse population in the districts in which data were collected. All students spoke English fluently. Regarding family composition, 73% of the early adolescents reported living with a mother and a father (this included biological as well as reconstituted families with stepparents). Nine percent of adolescents reported living half time with their mother and half time with their father, and the remaining adolescents reported other family configurations, including mother only, grandparents, and foster care.

Procedure

Data were gathered in the Spring semester during two regular 45-minute class periods. Prior to providing early adolescents with parental permission slips, a trained research assistant or the principal investigator of the research project provided a 15-minute presentation to each participating class, describing the study in age-appropriate language. Early adolescents were told that the study was a survey of 4th to 7th grade students' experiences within and outside of school. All students who received parental consent signed assent forms that stated assurances of confidentiality. Research assistants administered the survey to the adolescents by reading questions out loud to the students while teachers remained in their classrooms.

Measures

The internal consistency reported in the text refers to the average Cronbach's alpha in the sample. Because the sample consisted of participants across a wide span of grade levels, Table 1 provides an overview of the internal consistencies for each of the study measures by grade.

Demographic Information

A demographic questionnaire was administered to each student to gather information about his or her gender, age, grade, first language learned, and family composition.

Table 1 Internal consistency of measures by grade level

	Cronbach's alpha			
	4th graders	5th graders	6th graders	7th graders
1. Life satisfaction	.82	.86	.86	.97
2. Optimism	.75	.79	.80	.79
3. Perceived parental support	.78	.78	.82	.82
4. Positive peer relationships	.78	.84	.86	.82
5. School connectedness	.90	.88	.88	.88
6. Perceived neighborhood support	.91	.93	.94	.93

Life Satisfaction

Life satisfaction was assessed using the Satisfaction With Life Scale for Children (SWLS-C; Gadermann et al. 2010), an adaptation of the Satisfaction With Life Scale (SWLS; Diener et al. 1985), which is a five-item instrument that assesses global life satisfaction. A validation study of the SWLS-C indicated that the instrument was psychometrically sound and showed construct validity in a sample of 4th to 7th graders (Gadermann et al. 2010; Gadermann et al. in press). Students were asked to rate the five items on a 5-point Likert scale ranging from 1 = *Disagree a lot* to 5 = *Agree a lot*. Sample items were: “In most ways my life is close to the way I want it to be,” and “So far, I have gotten the important things I want in life.” Cronbach's alpha in this sample was satisfactory ($\alpha = .86$).

School Connectedness

Sense of school connectedness was assessed via the 14-item Sense of School as a Community Scale developed by the Developmental Studies Center to assess school connectedness in 3rd to 6th graders (DSC 1994). Rated on a 5-point-scale ranging from 1 = *Disagree a lot* to 5 = *Agree a lot*, students were asked how much they agreed with statements such as “When I am having a problem, some other student will help me,” “Students in this school really care about each other,” and “I feel I can talk to the teachers in this school about things that are bothering me.” Cronbach's alpha in this sample was satisfactory ($\alpha = .88$).

Perceived Neighborhood Support

We used the Neighborhood Support subscale of the California Healthy Kids Survey (WestEd 2005) to assess the existence of non-related supportive adults that early adolescents perceived in their community/neighborhood. The subscale consists of seven items. On a scale from 1 = *Not at all true* to 4 = *Very much true*, early adolescents were asked to rate each of the seven items as to the degree to

which in their neighborhood or community (NOT in their school or family) there was a supportive relationship with a non-related adult (e.g., “... there is an adult who really cares about me,” “... there is an adult who tells me when I do a good job,” and “... there is an adult who notices when I am upset about something.”). Cronbach's alpha was satisfactory in the present study ($\alpha = .93$).

Parental Support

Early adolescents' perceived support by their primary caretakers was assessed with the Parental Support subscale of the California Healthy Kids Survey (WestEd 2005). The subscale consists of six items. On a scale from 1 = *Not at all true* to 4 = *Very much true*, early adolescents were asked to rate statements concerning their parent/caregiver at home, for example “In my home, there is a parent/caregiver or another adult who talks with me about my problems,” “In my home, there is a parent/caregiver or another adult who believes that I will be a success,” and “In my home, there is a parent/caregiver or another adult who always wants me to do my best.” Cronbach's alpha in this study was .81, indicating satisfactory internal consistency.

Positive Peer Relationships

We assessed early adolescents' positive peer relationships using the Relationships with Peers subscale from the Resiliency Inventory (RI; Noam and Goldstein 1998; Song 2003). The subscale is comprised of seven items assessing respondents' relationships with friends (sample items: “I make friends easily,” “I have a friend I can trust,” “I have fun with my friends”). Students were asked to rate each item on a 5-point Likert-type scale ranging from 1 = *Not at all like me*, 2 = *A little bit like me*, 3 = *Kind of like me*, 4 = *A lot like me*, to 5 = *Always like me*. According to Song's (2003) validation study of the RI, participants with high scores on this factor were likely to be popular among friends, experienced having friends as fun and positive, and

were overall characterized by having an active social life with peers. For the present research study Cronbach's alpha for the Relationships with Peers subscale was satisfactory ($\alpha = .83$).

Optimism

We assessed early adolescents' optimism with the Optimism subscale from the Resiliency Inventory (RI; Noam and Goldstein 1998; Song 2003). The scale consists of nine items assessing respondents' positive perspective on the world and the future in general (sample item: "More good things than bad things will happen to me"). Students were asked to rate each item on a 5-point Likert-type scale ranging from 1 = *Not at all like me*, 2 = *A little bit like me*, 3 = *Kind of like me*, 4 = *A lot like me*, 5 = *Always like me*. For the present research study, Cronbach's alpha for the Optimism subscale was acceptable ($\alpha = .79$).

Results

Data Analytic Procedure

MLM was conducted using the SPSS-mixed procedure (Peugh and Enders 2005), modeling early adolescents' life satisfaction as a linear function of student- and school-level variables. Student-level variables of main interest were optimism (OP), positive peer relationships (PR), and perceived parental support (PPS). We were interested in the effect of school connectedness (AvgSC) and perceived neighborhood support (AvgPNS) at the school level, and therefore aggregated respondents' scores within each school to a school average. The rationale for entering perceived neighborhood support as a school-level variable in the model was that schools are set in neighborhoods and typically, students attend a school in their neighborhood; thus perceived neighborhood support by students from the same school cannot not be considered to be independent of each other.¹ However, to control for effects at the individual level, school connectedness (SC) and perceived neighborhood support (PNS) were also entered as student-level variables in

the model. Student-level variables were group-mean centered, and school-level variables were grand-mean centered to facilitate interpretation (see Peugh and Enders 2005, for a brief introduction into centering procedures). Restricted maximum likelihood REML was chosen as estimation method in all models because it provides more accurate variance estimates in smaller sample sizes (e.g., Peugh 2010). First, an unconditional model with no predictors was built (Model 1). Second, a conditional model was built with the five student-level predictors and the two school school-level predictors as fixed effects (Model 2). The estimated parameters and variance explained in Model 2 were compared to those in the initial null model.

The rationale for excluding demographic variables such as gender, grade, and ESL was that the addition of three variables to the model would have led to compromises in power given the small school-level sample size ($N = 25$). Moreover, including the demographic variables in our analyses did not change the overall pattern of the results for the five variables of interest.

Preliminary Analyses

Initial analyses indicated that normality of the Level 1 residuals and Level 2 residuals in the model could be assumed. The model residuals were uncorrelated with Level 1 and Level 2 predictors in the model. Table 2 provides an overview of the intercorrelation of all variables included in the analysis, and displays ranges, means, and standard deviations for all variables.

Multilevel Analyses

Unconditional Model (Model 1)

A basic unconditional means model was built to test the proportion of variation in life satisfaction scores occurring between schools.

$$\begin{aligned} \text{Level 1 (individual): } Y_{ij} &= \beta_{0j} + r_{ij} \\ \text{Level 2 (school): } \beta_{0j} &= \gamma_{00} + u_{0j} \end{aligned} \quad (1)$$

The life satisfaction score of the student i in school j (Y_{ij}) was modeled as function of the mean life satisfaction score for school j (β_{0j}) plus a residual term reflecting individual student differences around the mean of school j (r_{ij}). The mean life satisfaction score for school j (β_{0j}) was modeled as a function of the grand mean of life satisfaction in the sample (γ_{00}) plus a school-specific deviation from the grand mean (u_{0j}). An overview of all parameter estimates along with the results of the hypotheses tests for Models 1 and 2 can be found in Table 3. Analysis of the unconditional model suggested statistically significant

¹ In the school districts in which data collection took place, students are by default expected to attend a public school within their so-called catchment area ("neighborhood school"). Catchment areas are geographical boundaries that define neighborhoods; the rationale for students to register in a school in their catchment area is to ensure that students are able to attend a school in their proximate living environment. If students wish to consider a school outside the boundaries of their neighborhood catchment area, they need to undergo an application process; their request to attend a school in a different catchment area can only be met if the particular school the student wishes to attend has the additional resources and space to accept a student from outside the catchment.

Table 2 Intercorrelation matrix and descriptives for all variables included in the analysis

	Mean	SD	Range	1.	2.	3.	4.	5.	6.
1. Life satisfaction	3.82	.91	1–5	–					
2. Optimism	3.65	.74	1–5	.65**	–				
3. Perceived parental support	3.47	.55	1–4	.41**	.42**	–			
4. Positive peer relationships	4.19	.69	1–5	.36**	.36**	.33**	–		
5. School connectedness	3.56	.71	1–5	.42**	.41**	.30**	.30**	–	
6. Perceived neighborhood support	2.76	.92	1–4	.28***	.23**	.36**	.29**	.23**	–

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

Table 3 Parameter estimates for life satisfaction as a function of student-level and school-level variables

		Model 1	Model 2
<i>Fixed components</i>			
Intercept	γ_{00}	3.81***	3.80***
Perceived parental support	γ_{10}		.19***
Positive peer relationships	γ_{20}		.12***
Optimism	γ_{30}		.61***
School connectedness	γ_{40}		.19***
Perceived neighborhood support	γ_{50}		.05*
School-average school connectedness	γ_{01}		.43*
School-average perceived neighborhood support	γ_{02}		.60***
<i>Variance of random components</i>			
	τ_{00}	.04*	.009
	σ^2	.80***	.44***
Deviance (–2 LL)		3,645.38	2,803.79

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

variability in life satisfaction scores within schools ($\sigma^2 = 0.80$, $Z = 26.06$, $p < .001$), as well as the between schools ($\tau_{00} = 0.04$, $Z = 2.52$, $p = .01$).

The presence of heterogeneity at the individual- and school-level provided support for adding covariates at both levels in subsequent analyses. The intraclass correlation coefficient (Bickel 2007), computed as an indicator for the proportion of variability that exists between Level 2 units,

$$\text{Level 1 (individual): } Y_{ij} = \beta_{0j} + \beta_{1j}(\text{PPS}_{ij}) + \beta_{2j}(\text{PR}_{ij}) + \beta_{3j}(\text{OP}_{ij}) + \beta_{4j}(\text{SC}_{ij}) + \beta_{5j}(\text{PNS}_{ij}) + r_i$$

$$\text{Level 2 (school): } \beta_{0j} = \gamma_{00} + \gamma_{01}(\text{AvgSC}_j) + \gamma_{02}(\text{AvgPNS}_j) + u_{0j} \tag{2}$$

$$\beta_{1j} = \gamma_{10} \quad \beta_{2j} = \gamma_{20} \quad \beta_{3j} = \gamma_{30} \quad \beta_{4j} = \gamma_{40} \quad \beta_{5j} = \gamma_{50}$$

$\tau_{00}/(\tau_{00} + \sigma^2)$, was .048, indicating that almost 5% of the variability in life satisfaction scores were due to the specific

school context to which early adolescents belonged. Despite 5% being a fairly small percentage, researchers have argued that analyses should be continued in the form of MLM, because even a small amount of variability in Level 2 units can result in invalidated hypotheses tests and confidence intervals when MLM is not used (see Kreft and de Leeuw 1998). In addition, the design effect was computed as quantification for the effect of independence violations on standard error estimates, estimating the multiplier that needs to be applied to the standard errors to correct for the negative bias that results from the nested data (Peugh 2010). The design effect, calculated based on the average amount of students per school and the intraclass correlation coefficient in the unconditional model was 3.64 in this study. It has been suggested that a design effect larger than 2.0 indicates the need for MLM (e.g., Muthén and Satorra 1989, 1995). Finally, previous research has shown that even small degrees of non-independence can lead to biased parameter estimates (e.g., Bliese 1998), and it was therefore appropriate to continue with a MLM approach in this study.

Conditional Model With Level 1 and Level 2 Predictors (Model 2)

A conditional model was built adding perceived parental support, positive peer relationships, optimism, school connectedness, and perceived neighborhood support as student-level predictors, and average school connectedness and average perceived neighborhood support as school-level predictors.

The purpose of this model was to estimate life satisfaction as a linear function of student i 's perceived parental

support, positive peer relationships, optimism, school connectedness, and perceived neighborhood support in school j , and the average school connectedness and the average perceived neighborhood support of students in school j . All three student-level variables of interest were positive statistically significant predictors in the model, indicating the significant relation of perceived parental support, $\gamma_{10} = .19$, $t(1,339.23) = 4.80$, $p < .001$, positive peer relationships, $\gamma_{20} = .12$, $t(1,339.55) = 4.00$, $p < .001$, and optimism, $\gamma_{30} = .61$, $t(1,339.66) = 20.85$, $p < .001$, to life satisfaction in early adolescence. The significant student-level life satisfaction slopes showed an increase in life satisfaction as perceived parental support, positive peer relationships, and optimism increased. For instance, a one-point increase in optimism was associated with a .61 increase in life satisfaction.

Furthermore, above and beyond the significant and positive effect of individuals' school connectedness, $\gamma_{40} = .18$, $t(1,339.33) = 6.11$, $p < .001$, and perceived neighborhood support, $\gamma_{50} = .05$, $t(1,339.25) = 2.33$, $p = .02$, at the student-level, we found a significant effect of the variables averaged at the school level, entered as Level 2 predictors in the model. Average school connectedness in a school was positively and significantly associated with students life satisfaction, $\gamma_{01} = .43$, $t(18.59) = 2.76$, $p = .01$, as was average perceived neighborhood support of students in a school, $\gamma_{02} = .60$, $t(19.70) = 5.44$, $p < .001$. A one-point increase in average school connectedness was associated with a .43 increase in life satisfaction, and a one-point increase in average perceived neighborhood support was associated with a .60 increase in life satisfaction. Note that when including the control variables gender, grade, and ESL in the full model, the estimate for average school connectedness decreased to .34, a marginally significant result ($p = .055$).

Despite the addition of Level 1 predictors, there was still statistically significant variability in life satisfaction at the within-school-level ($\sigma^2 = 0.44$, $Z = 25.88$, $p < .001$). However, computing a so-called Pseudo- R^2 (e.g., Bickel 2007; Hayes 2006; Peugh and Enders 2005) by comparing Model 2's within-school-variance in life satisfaction ($\sigma^2 = 0.44$) to the variance in the unconditional model ($\sigma^2 = 0.80$) revealed that adding parental support, positive peer relationships, optimism, perceived neighborhood support, and school connectedness as student-level predictors in Model 2 resulted in approximately 45% reduction of Level 1 variance. After entering the school-level predictors, there was no longer statistically significant variability in life satisfaction between schools ($\tau_{00} = 0.009$, $Z = .162$, *ns*). Furthermore, the intraclass correlation coefficient in Model 2 was .02, suggesting that 2% variability in life satisfaction scores due to the specific school context in which early adolescents were nested,

remained after adding average neighborhood and school connectedness to the model.

Last, comparing the deviance of the null model ($-2LL = 3,645.38$) to the deviance of the full model ($-2LL = 2,803.79$), the addition of the two school-level and five student-level variables resulted in a deviance reduction of 842.04. As Model 2 and Model 1 differed by seven parameter estimates (γ_{01} , γ_{02} , γ_{10} , γ_{20} , γ_{30} , γ_{40} , γ_{50}) the difference between these deviances is distributed as a chi-square with seven degrees of freedom: $\chi^2(7) = 842.04$, $p < .001$, indicating a significant reduction in deviance in Model 2 compared to Model 1.

Discussion

This investigation furthers our understanding of the importance of life satisfaction as it relates to important ecological assets representing key contexts in which development takes place during the early adolescent age-period. Assessing life satisfaction in early adolescence is critical for a number of reasons. For instance, the assessment of life satisfaction can be used to monitor well-being over time and assist in the evaluation of preventative interventions aimed at fostering and promoting positive psychological adjustment in children and youth (Ben-Arieh and Frones 2007). We believe that one of the most important contributions of this study is the finding that supportive and positive relationships with peers, non-related adults in the community, and a strong sense of school belonging were significantly and positively related to life satisfaction, a critical aspect of happiness in early adolescence. These findings are important because they identify critical sources for fostering positive youth development outside the family, and are especially relevant when taking into consideration the large amount of time early adolescents spend with their peers, in school, and in their communities. Furthermore, we consider the use of MLM a methodological strength in this study because it allowed us to investigate both the variability in life satisfaction due to the individual as well as the school context to which individuals belong. In the following sections, we discuss our findings in light of theory and research on satisfaction with life and positive development in adolescence. We end the discussion with limitations of the current study and directions for future research.

Our initial analyses revealed that, in addition to the significant individual variability in early adolescents' life satisfaction, there was also significant variability due to the school contexts to which our participants belonged. This finding is not surprising when taking into account that students spend the majority of their day in the school environment, and that the nature of the school context as

well as the relationships with teachers and students in school have been identified as critical factors in students' current and future development and well-being (Anderman and Freeman 2004; Battistich 2005; Whitlock 2006). Although life satisfaction as a dimension of subjective well-being (Diener and Diener 2009) is an *individual* phenomenon, Sarason (1997) urges researchers to understand satisfaction with life as embedded in the *ecological* context of life, such as the interpersonal, social-familial, and institutional contexts.

Identifying that life satisfaction varies between schools on average is important because it suggests a link between the larger school context—a setting that can be changed, improved and optimized to meet students' needs—and positive development in early adolescence. Knowing that school characteristics are related to individual students' well-being is a first step to stimulate further investigations examining specific factors such as relationships within this context, that have the potential to promote and protect the well-being of students. Taking this finding into a practical context, in addition to interventions and preventions targeted at the individual level, efforts to enhance positive development and thriving in children and youth can also be targeted at the level of the context (i.e., school) in which individuals spend significant amounts of time (Lerner et al. 2010; Li et al. 2010).

Based on the initial differences in life satisfaction due to the school context, further analyses revealed that, as hypothesized, average school connectedness and average perceived neighborhood support within the school's neighborhood were significantly and positively related to life satisfaction, and that the addition of those two variables to the statistical model led to a significant decrease in life satisfaction variability at the school-level. This relationship was maintained even after controlling for the effect of school connectedness and perceived neighborhood support at the individual level, and in addition to the significant impact of relationships in the family context. In alignment with previous theory and research on the importance of neighborhood and community support (Baumeister and Leary 1995; Knowlton 2008; Scales et al. 2001, 2006; Yonas et al. 2010), this finding confirms a key relationship between caring and supportive adults in the neighborhood and early adolescents' satisfaction with life. Furthermore, the significant relationship between a strong sense of school belonging and life satisfaction is in accordance with previous findings indicating the positive impact of an overall positive school environment and school connectedness on children's and adolescents' well-being (e.g., Shochet et al. 2006). Our findings suggest the significance of the school and the neighborhood as positive and caring contexts, with individuals within these contexts experiencing a strong sense of belonging and support.

In a larger scheme, our findings, indicating a link between school and neighborhood context to early adolescents' positive development, are consistent with research demonstrating a shifting focus towards relationships outside the family, and thus the increasing importance of teachers, peers, and members in the community in emerging adolescents' lives (Eccles and Roeser 2009). Practically speaking, these findings are important because they identify that relationships with adults in the community and in important institutions such as schools can provide critical support for thriving in early adolescence. Especially for young adolescents who may have few assets and little support in their home, positive relationships in the school, a school climate wherein students feel a strong sense of belonging, and a strong and positive sense of community in the neighborhood can become an important source of support and care that enhances trust and other indicators of healthy social and emotional development.

Finally, we found that the assets representing perceived parental support, positive peer relationships, and optimism were positively and significantly related to early adolescents' life satisfaction. Identifying a significant link between satisfaction with life and perceived parental support is in concert with previous research that has revealed a significant connection between youth' subjective well-being and parental support or a positive relationship with parents (Gilman and Huebner 2003; Valois et al. 2009), and illustrates the importance of caring, supporting families in fostering social and emotional well-being. Similarly, the finding that life satisfaction is significantly linked to positive peer relationships adds to an existing body of research that has connected peer relationships and indicators of well-being in early adolescence. Specifically, a large number of studies has identified a significant link between positive peer relationships and indicators of social and emotional well-being, such as optimism (Oberle et al. 2010), happiness (Dougherty 2006), positive beliefs about the self (Rubin et al. 2006), and overall psychological well-being (Nangle and Erdley 2001; Wentzel 2009). A positive relationship with peers thus has been identified as a key influence on young people's adjustment, psychological health, and well-being (Vitaro et al. 2009). Given that satisfaction with life is an indicator of subjective well-being, our finding is in alignment with research in this domain.

Despite the increasing research that has been conducted on satisfaction with life throughout the middle childhood and adolescence years (e.g., Proctor et al. 2009), we could not find any specific studies that have investigated the life satisfaction in relationship to optimism. However, given that optimism is a construct in positive psychology that reflects a generally positive attitude on life (e.g., Brodhagen and Wise 2008), our finding that optimism was

significantly and positively related to life satisfaction is of no surprise. Including personal trait assets when examining satisfaction with life is important, because positive youth development and well-being needs to be understood from a holistic standpoint, including ecological assets, individual resources such as positive attitudes, as well as the relationship between individual and context (Theokas and Lerner 2006). Dispositional optimism as a personal asset has previously been identified as an essential resource in positive adjustment that has been related to successful adjustment, especially in the context of stress and adversity (Kumpfer 1999). Previous theory and research have indicated that optimistic people view desired outcomes as attainable and work towards the desired goal (Carver and Scheier 2001). We can therefore conclude that it is likely that optimistic people's tendency to focus on and believe in the positive side of life is also related to their tendency to be more satisfied with life.

Overall, our findings are consistent with Proctor et al.'s (2009) assumption that positive social interactions in all core developmental contexts play a key role in youths' satisfaction with life. The key is thus not to form positive relationships in a single social domain exclusively (e.g., peer group), but to engage emerging adolescents in supportive relationships at home, school, in the community, and in other important social settings in which young people are a part (e.g., sports teams). Our results also support the assumption that we can best explain life satisfaction when including indicators from several important contexts of children's and adolescents' development (Gilman and Huebner 2003). The findings of this study have the potential to inform practices that promote positive youth development, such as prevention and intervention initiatives in schools and communities, because they identify important relationships that can be fostered and strengthened, and ultimately contribute to young adolescents' social and emotional well-being.

Limitations

The data reported here are encouraging for continued investigation of how personal and ecological assets relate to life satisfaction in early adolescence. Nonetheless, despite these promising findings, there are several important limitations in our study that should be raised. First, we relied solely on the self-reports of our participants. Hence, future research should gather the perspectives of others, including teachers, peers, and parents to further our understanding regarding the nature of ecological assets' relationship to life satisfaction during the early adolescent age-period. A second limitation is that we focused only on a portion of the ecological contexts in which early adolescents develop. We therefore cannot assume that we

captured all of the possible indicators that are assets in the ecology of early adolescent development. For instance, other contexts that may influence early adolescents might include extracurricular activities, religious organizations, and sibling relationships. Third, because of the relatively small Level 2 sample size for MLM, only a small number of predictors could be tested in the model. Finally, because of the cross-sectional nature of our study, the findings are correlational, and the results cannot be interpreted in any causal way. Taken together, clearly more research needs to be conducted to discern the complexity of the relationship between subjective well-being and assets within early adolescents' ecological niches to ultimately reveal the factors that can enhance young peoples' happiness and optimal functioning.

Future Directions and Conclusions

The burgeoning research on life satisfaction in childhood and adolescence holds great potential for discerning a deeper understanding of the role of subjective well-being in development throughout the life-span. There are a number of ways in which future studies can address the limitations of current and past research. Future research needs to be conducted that includes objective measures of neighborhood assets, such as social efficacy, social capital, and social ties. Furthermore, future studies should include measures representing additional ecological contexts in which early adolescents develop that were not addressed in this study, such as community settings involving after school activities, sports, and volunteering. In addition to indicators of well-being, more investigations need to be conducted on life satisfaction and indicators of personal distress (e.g., depressive symptoms). Life satisfaction also needs to be investigated for specific sub-groups of early adolescents in order to uncover whether the indicators for life satisfaction differ for early adolescents who are considered to be at risk, and whether there are specific ethnic and cultural differences. The study of life satisfaction as it relates to ecological context-variables in early adolescence also needs to be approached with a longitudinal design, allowing researchers to investigate fluctuations in life satisfaction throughout the early adolescent years, and possible increases and decreases in the importance of specific assets throughout development.

Although a great deal still needs to be learned about how personal and ecological assets relate to social and emotional well-being and thriving in early adolescence, the current research supports the notion that positive and supportive relationships with non-related adults in the community coupled with a strong sense of belonging in school can be critical in determining life satisfaction or happiness. Indeed, what is clear is that early adolescents

are adaptationally advantaged when they are in systems that are coordinated (Benson et al. 1998). Our research suggests that we cannot focus on single relationships when fostering social and emotional well-being in elementary school students; instead, our findings support the popular adage “It takes a village” (Benson et al. 1998), and encourage others to take into account all of the contexts in young people’s environments and to create caring, positive and supportive relationships and settings in which early adolescents develop and grow, ranging from the family and the peer group, to the school and the neighborhood.

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Author Biographies

Eva Oberle is a Ph.D. student in the Department of Educational and Counselling Psychology, and Special Education at the University of British Columbia in Vancouver, Canada. She received her 'Diplom' degree in psychology (equivalent to MA) from the Ruprecht Karls Universität Heidelberg in Germany.

Kimberly A. Schonert-Reichl is an Associate Professor in the Human Development, Learning, and Culture Program in the Department of Educational and Counselling Psychology, and Special Education at the University of British Columbia in Vancouver, Canada. She received her Ph.D. in Educational psychology from the University of Iowa.

Bruno D. Zumbo is a Professor in the Measurement, Evaluation, and Research Methodology Program in the Department of Educational and Counselling Psychology, and Special Education at the University of British Columbia in Vancouver, Canada. He received his Ph.D. degree in Mathematical Psychology and Statistics from Carleton University.