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**Parent–Child Relationships and Adolescents' Life Satisfaction Across the First Decade
of the New Millennium**

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Abstract

Objective: To examine whether changes occurred in parent–child relationships (maternal and paternal affection, ease of communication with the mother and father, maternal and paternal knowledge, and family activities) between 2002 and 2010 in boys and girls and (b) to examine the contributions of these family dimensions to life satisfaction.

Background: Although parent–child relationships may be affected by social change, there are few investigations of change in parent–child relationships over time.

Method: The sample consisted of 46,593 adolescents between 11 to 18 years of age who participated in the 2002, 2006, or 2010 editions of the *Health Behaviour in School-aged Children* (HBSC) study in Spain. Trend analysis including univariate ANOVAs and factorial ANOVAs were conducted separately for boys and girls and effect size tests were calculated.

Results: Communication with fathers and family activities statistically increased across HBSC editions and parent–child relationships were positively associated with life satisfaction across the examined period.

Conclusion: There were small positive changes in some family dimensions, and some of them were increasingly important for adolescent life satisfaction over time.

Implications: Interventions for strengthening parent–child relationships and promoting adolescent well-being should include mothers and fathers and emphasize affection, communication, and family activities.

Keywords: adolescence, cross-sequential analysis, family dimensions, life satisfaction, parent-child relationships

Parent–Child Relationships and Adolescents’ Life Satisfaction Across the First Decade of the
New Millennium

Investigations of changes in parent–child relationships over time are of notable interest (Parke & Buriel, 2008). Indeed, according to Bronfenbrenner’s ecological model (1979), the macrosystem (historical, social, cultural, and economic factors) has a direct influence on children and adolescents’ microsystems, including the family. Current models in the field of social change (e.g., Pinquart & Silbereisen, 2004) also highlight the importance of microsystems as mediators of change at the societal level. Furthermore, in the specific area of family theory, the family life course development framework emphasizes the importance of examining aggregate patterns and variations in family interactions as a way to monitor social change in the family institution over time (White & Klein, 2008). However, compared to other topics, such as adolescents’ lifestyles, changes in parent–adolescent relationships over time have rarely been studied. This may be because family dimensions, such as affection and communication, at the population level have often been considered to be fairly stable. Along these lines, even during periods of rapid social transformation, changes in the family seemed to occur relatively slowly (e.g., Bianchi, 2000).

Similarly, evaluating the contributions of parent–child relationships on adolescents’ well-being over time provides a better understanding of the importance of identified changes in parent–child relationships. As such, life satisfaction, which is the subjective cognitive evaluation of one’s own life, is a key component of adolescents’ subjective well-being (Helliwell & Barrington-Leigh, 2010). Because relationships with significant others influence life satisfaction, this is a useful outcome measure for assessing the importance of attachment relationships in adolescents’ lives (e.g., Ma & Huebner, 2008).

Affection, communication, parental knowledge, and family activities are fundamental dimensions in research on adolescents’ relationships with parents (Collins & Laursen, 2004;

García-Moya, Moreno, & Jiménez-Iglesias, 2013), and play an important role in life satisfaction during adolescence (Levin, Dallago, & Currie, 2012; Tolan & Larsen, 2014). Specifically, affectionate and supportive parent–child relationships are associated with increased psychological well-being in adolescents (Oliva & Parra, 2004). These relationships also reduce the likelihood that an adolescent will experience depression or unhappiness (Helsen, Vollebergh, & Meeus, 2000) and are positively associated with life satisfaction (Schwarz et al., 2012). Similarly, good communication with parents fosters well-being and life satisfaction during this stage (Levin et al., 2012). Furthermore, shared family activities are connected to increased family cohesion (Crouter, Head, McHale, & Tucker, 2004) and enhance adolescents' emotional well-being (Offer, 2013). Finally, time shared with family in addition to trusting family relationships and good parent–child communication (including the parents' ability to solicit information from their children and adolescents' disclosure to their parents) promote parental knowledge (Bumpus & Rodgers, 2009), which is the general knowledge that parents have about their adolescent children's lives (Stattin & Kerr, 2000). Parental knowledge is also associated with adolescents' well-being and adjustment (Karademas, Peppas, Fotiou, & Kokkevi, 2008).

Analyzing gender roles is important to the study of family relationships because, for example, there are differences between fathers and mothers in their roles and involvement in family life. Mothers are often perceived as more affectionate than fathers (Klimidis, Minas, & Ata, 1992; Oliva, Parra, Sánchez-Queija, & López, 2007), tend to be more involved in daily interactions with their children, and are more verbally communicative (Maccoby, 2003). Therefore, adolescents talk more with their mothers (Hawkins, Amato, & King, 2006) and perceive communication with their mothers to be easier than with their fathers (Oliva et al., 2007; Tabak et al., 2012). Additionally, adolescents typically share more time with their mothers than with their fathers (Dubas & Gerris, 2002). Adolescents also perceive that their

mothers know more about them than their fathers, which may be because mothers obtain knowledge through active supervision and adolescent disclosure, whereas fathers often obtain knowledge through the mother's sharing of information (Waizenhofer, Buchanan, & Jackson-Newsom, 2004).

Research has also identified differences between paternal and maternal behaviors with sons and daughters. Although both boys and girls tend to be closer to their mothers (Smetana, Campione-Barr, & Metzger, 2006), mothers usually talk more with their daughters than with their sons (Leaper, Anderson, & Sanders, 1998). In addition, fathers usually share more time with their sons, and mothers share more time with their daughters (Dubas & Gerris, 2002). This is especially true when parents have both a daughter and a son (Lam, McHale, & Crouter, 2012) and may be related to parents feeling more comfortable with their children of the same sex (Stattin & Kerr, 2003). Thus, fathers usually know more about their sons, and mothers usually know more about their daughters (Crouter, Helms-Erikson, Updegraff, & McHale, 1999; Moreno, Ramos, Rivera, Jiménez-Iglesias, & García-Moya, 2012). For the associations between family relationships and life satisfaction in adolescence, several studies have indicated that family relationships make similar contributions to boys' and girls' well-being (e.g., Jiménez-Iglesias, Moreno, Ramos, & Rivera, 2015), although some family dimensions, such as parent-child communication, may act differently on life satisfaction in boys and girls (Levin et al., 2012).

Despite an assumption that family dimensions are generally stable (Bianchi, 2000), several changes have occurred in Spain over the last decade that may have impacted adolescents' family lives. For example, women's involvement in the labor market has increased since the 1980s, and that increase has continued during the time period examined in the present study. The number of women in the labor force increased from 6,220,000 in 2002 to 8,283,500 in 2010 (Instituto Nacional de Estadística, 2015b). In addition, concurrent social

and ideological changes have encouraged more father involvement in their children's caregiving and education (Menéndez & Hidalgo, 2003). Accordingly, researchers have recommended more attention to the changing role of fathers in the family (see Dette-Hagenmeyera, Erzinger, & Reichle, 2014). In addition, the economic crisis led to a dramatic rise in the unemployment rate, from 9.60% at the beginning of 2008 to 20.11% by the end of 2010 (Instituto Nacional de Estadística, 2015b), and resulted in an increase in the percentage of Spanish families that have reported economic hardship since 2008. For example, the percentage of family units that reported serious difficulties making ends meet represented 11.3% of the population in 2006 and increased to 14.2% in 2010 (Instituto Nacional de Estadística, 2015a). Because these societal and macroeconomic changes may affect parent–child relationships, it is important to examine changes in family dimensions as well as in the contributions of family relationships to life satisfaction over the last decade.

Study Aims and Hypotheses

Data used in the present study are from the Health Behaviour in School-aged Children survey (HBSC), which is a WHO Collaborative Study for which detailed information is collected every four years and allows for monitoring changes over time in adolescents' lifestyle, well-being, and experiences in their developmental contexts including family (Currie, NicGabhainn, Godeau, & The International HBSC Network Coordinating Committee, 2009). In the present study, we aimed to examine whether changes occurred in parent–child relationships (maternal and paternal affection, ease of communication with the mother and father, maternal and paternal knowledge, and family activities) between 2002 and 2010 in boys and girls.

Given recent social and economic changes, and consistent with the family life course development framework, we expected that the social and historical changes that occurred during the time period studied would affect families (White & Klein, 2008). However,

because changes in family dimensions tend to occur relatively slowly even during periods of rapid social transformation (Bianchi, 2000), we expected that the magnitude of the change, if any, would be small (Hypothesis 1).

For the nature of the changes, we had two competing hypotheses. On the one hand, the family stress model on the relationships between economic hardship and adolescent well-being (Conger, Rueter, & Conger, 2000; Donnellan, Martin, Conger, & Conger, 2013; Elder & Russell, 2000) describes the mediating role of family relationships on family economic hardship and adolescents' well-being. Economic problems negatively affect parental well-being, which, in turn, has a detrimental effect on family climate. Studies of American families during the Great Depression and the Iowa Farm Crisis (e.g., Conger, Ge, Elder, Lorenz, & Simons, 1994; Elder, 1974), as well as on the economic recession after German reunification (e.g., Forkel & Silbereisen, 2001), provide support for this model. According to the family stress model, economic crises can lead to an increased tendency for punitive, arbitrary, and inconsistent parenting (Conger et al., 2000; Elder & Russell, 2000). Thus, we hypothesized that the quality of parent–child relationships decreased in 2010 compared to previous editions of the HBSC due to the increased economic pressure that families experienced from Spain's economic crisis (Hypothesis 2). On the other hand, the family life course development framework states that family roles and interaction patterns are regulated by societal timing (White & Klein, 2008), which makes it a useful framework for analyzing how social change shapes fathering (Roy, 2014). Parenting roles are influenced by the social norms and expectations of a given period and will gradually align with changes in other social institutions, such as work and education (White & Klein, 2008). As such, ideological change and the incorporation of women in work outside the home have corresponded with a higher level of father involvement in their children's education and upbringing (Menéndez & Hidalgo, 2003) and a more equal distribution of roles between mothers and fathers (Cabrera,

Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000). Therefore, we hypothesized that some changes that indicate greater involvement may be apparent in paternal family dimensions (Hypothesis 3).

Given the literature on gender roles in parent–child relationships (Crouter et al., 1999; Dubas & Gerris, 2002), we examine the patterns of change in family dimensions separately for boys and girls. Consistent with the increasing gender equality in Spanish society and the resulting decrease in inequalities between men and women in the family (Ajenjo & García, 2014), and drawing from the tenets of social learning theory (Wood, 2013), we hypothesized that fathers and sons experienced an increase in family life participation across the time periods examined in the present study (Hypothesis 4).

Finally, we examine the contribution of family dimensions to life satisfaction across the three editions of the HBSC study included (i.e., 2002, 2006, and 2010) separately for boys and girls. In the absence of a theoretical model, we generated the following hypotheses based on our literature review. We hypothesized that family dimensions are positively associated with life satisfaction (Schwarz et al., 2012) in all of the examined editions (Hypothesis 5) and that there would be similar findings for boys and girls (Hypothesis 6), consistent with previous research (e.g., Jiménez-Iglesias et al., 2015). Sociological studies suggest that family relationships are highly valued by young people and became increasingly important from 1994 (Elzo, Orizo, González-Blasco, & Del Valle, 1994) to 2010 (González-Anleo, López, Valls, Ayuso, & González, 2010; González-Blasco et al., 2006). Accordingly, we hypothesized that there would be an upward trend for the importance of family in our analyses of family dimensions' contribution to adolescents' life satisfaction (Hypothesis 7).

Method

Participants

Representative samples of adolescents aged 11 to 18 years were selected from the 2002, 2006, and 2010 editions of the WHO international Health Behaviour in School-aged Children survey in Spain. We used random multistage sampling stratified by conglomerates that considered participants' geographic area, age, and type of school (state or private). As a result, the data in each edition are nationally representative of Spanish adolescents. However, it is important to note that because the national compulsory education age limit is 16 years, 17- and 18-year-old adolescents in these samples are only representative of those who continue in the educational system. More details on the sampling procedure for each edition can be found in national reports that are available on the website *HBSC España: Health Behaviour in School-aged Children* (Moreno, Muñoz-Tinoco, Pérez, & Sánchez-Queija, 2005; Moreno et al., 2012; Moreno et al., 2011).

Data were collected from a sample of 46,593 adolescents between 11 and 18 years of age. The sample size, participant demographic characteristics, and participation rates for each edition are summarized in Table 1. It is important to note that the 2006 sample size is larger because the 2006 sampling strategy sought to be representative at the autonomous region level. Therefore, a sufficiently large sample from each of the 17 autonomous regions in Spain was needed. Analyses conducted at the national level, as in the present study, use a weighting coefficient to correct the weight of data for each autonomous region so that it mirrors the actual proportion of the national population that autonomous region represents. No further adjustments were needed to ensure comparability among the three examined samples and the representativeness of the sample at the national level.

Measures

Data were collected with the Spanish HBSC questionnaire for each edition of the study. Both the instrument and data collection procedure were approved by the Research Ethical Committee of the University of Seville. During its 30 years of existence, the HBSC survey has attempted to ensure functional equivalence in measures across countries and over time (Schnohr et al., 2015). In addition, only items that were not changed across the survey editions are used in the present study.

Affection. Affection was assessed using a 4-item subscale of the Parental Bonding Instrument–Brief Current form (PBI–BC; Klimidis, Mina, & Ata, 1992; the HBSC–PBI). This scale consists of items that are repeated for the mother and the father and include: “helps me as much as I need,” “is loving,” “understands my problems and worries,” and “makes me feel better when I’m upset.” Response options for each item ranged from *never* (0) to *almost always* (2). Mean response scores were used, with higher scores indicating greater affection. The PBI–BC is a useful brief index for research with adolescents because it has strong psychometric properties, including reliability values of .75 for maternal affection and .80 for paternal affection (Klimidis, Mina, & Ata, 1992) and good validity (Klimidis, Mina, Ata, & Stuart, 1992). In each of the three editions that were used for the present study, Cronbach’s alpha was above .74 for maternal affection and .81 for paternal affection.

Communication. Participants were asked how easy it was for them to talk to their parents “about things that really bother you” with two 4-point Likert-type items that referred to their mother and their father and had response options ranging from *very difficult* (1) to *very easy* (4). Despite the inherent limitations associated with using single-item measures, these items have been used in the HBSC study network since the first edition of the study and are useful indicators for analyzing change in communication over time and cross-cultural comparisons (e.g., Tabak et al., 2012).

Parental knowledge. Parental knowledge was measured with a scale that was developed by Brown, Mounts, Lamborn, and Steinberg (1993) that asks adolescents how much their father/mother knows about five issues: “who your friends are,” “how you spend your money,” “where you are after school,” “where you go at night,” and “what you do with your free time.” Response options for each item ranged from *knows nothing* (0) to *knows a lot* (2). Mean response scores were used, with higher scores indicating greater knowledge. The reliability of the original scale reported by Brown et al. (1993) was high, at .80. The three examined editions of the HBSC also had high reliability values: above .73 for maternal knowledge and .81 for paternal knowledge.

Family activities. Based on Sweeting, West, and Richards’ (1998) research, we used a scale to assess the frequency with which adolescents were involved in the following shared activities with their families (“Here is a list of things which some families do together. How often do you and your family usually do each of these things all together?”): watching TV or a video, playing indoor games, eating a meal, going for a walk, going places, visiting friends or relatives, playing sports, and sitting and talking about things. Response options for each item ranged from *never* (0) to *every day* (7). Mean response scores were used, with higher scores representing greater frequency. Cronbach’s alpha for the scale was above .80 for the three editions that were examined in the present study.

Life satisfaction. The Cantril Ladder (Cantril, 1965) was used to obtain adolescents’ global assessments of their own life satisfaction: “Here is a picture of a ladder. The top of the ladder ‘10’ is the best possible life for you and the bottom ‘0’ is the worst possible life for you. In general, where on the ladder do you feel you stand at the moment?” Thus, the item has a range from 0 to 10, with 10 representing the highest level of life satisfaction. This measure continues to be one of the most widely used instruments for assessing cognitive evaluations of life (Helliwell & Barrington-Leigh, 2010) and has been used to compare

adolescents' life satisfaction across countries and changes in satisfaction across time in the HBSC study for more than a decade. Correlations above .60 between this scale and the well-known Satisfaction With Life Scale (SWLS) by Diener and colleagues (Diener, Emmons, Larsen, & Griffin, 1985) support the usefulness of the Cantril Ladder as a global indicator of life satisfaction.

Procedure and Statistical Analysis

The data collection procedures used in the three analyzed HBSC editions were similar. Specifically, they used the three criteria that were recommended by the HBSC international network standardized protocol (Roberts et al., 2009): students answered the questionnaires by themselves, data collection occurred during school hours, and participants' anonymity was ensured. Passive consent was obtained from participants' parents, i.e., they had the opportunity to decline permission for their children to participate but had to do nothing when they agreed to their children's participation.

For the statistical analyses, we used the *stratified approach* for trend analysis, as proposed by Schnohr et al. (2015). Specifically, univariate ANOVAs were conducted separately for boys and girls to assess whether there were statistical differences across HBSC editions for the following family dimensions: maternal and paternal affection, communication with the mother and father, maternal and paternal knowledge, and family activities. Consistent with the literature on gender roles in parent–child relationships (Crouter et al., 1999; Dubas & Gerris, 2002), these analyses were conducted separately for boys and girls. When *p* values were lower than .01, Bonferroni *post-hoc* multiple comparisons were calculated to identify the pairs of conditions in which there were statistical differences. Cohen's *d* effect size test was calculated to assess the magnitude of the identified differences and distinguish between meaningful and negligible effects. Specifically, based on criteria that are typically used in the social sciences (Cohen, 1988), the magnitude of the effects was

considered negligible (less than 0.200), small (from 0.200 to 0.499), medium (from 0.500 to 0.799) or large (0.800 or greater).

Finally, we conducted three general linear models (factorial ANOVAs) to assess the contributions of the family dimensions (independent variables) on life satisfaction (dependent variable) across the three HBSC editions. Age was a covariate in each model given its statistical association with life satisfaction (e.g., Currie et al., 2012). The global level of explained variability, R^2 , was reported for each model. In addition, partial eta square values for age were subtracted from the total R^2 value to get an approximation of the global effect of family dimensions for each model after accounting for age. Partial eta squared values were also used to examine the effects of each family dimension in the three HBSC editions. Using Cohen's criteria (1988), R^2 values were classified as negligible (0 to .019), small (.020 to .129), medium (.130 to .259), and large (.260 or greater); and partial eta squared values for the effects of each variable were negligible (lower than .010), small (from .010 to .059), medium (from .060 to .149), and large (.150 or greater). These analyses were also conducted separately for boys and girls in line with the aforementioned literature (Crouter et al., 1999; Dubas & Gerris, 2002). To avoid multicollinearity, maternal and paternal dimensions were combined into single indicators for conducting these general linear models.

Results

Descriptive statistics for family dimensions in the 2002, 2006, and 2010 editions of the HBSC study and the univariate ANOVA results for boys and girls are presented in Tables 2 and 3. For boys (see Table 2), there were statistical differences across editions but negligible effects sizes ($0.05 \leq d \leq 0.10$) for maternal affection, paternal affection, maternal knowledge, paternal knowledge, and communication with the mother. Communication with the father and family activities tended to statistically increase across editions, with larger but still generally small effects when comparing 2010 with previous editions ($0.22 \leq d \leq 0.25$, for

meaningful effects). For girls (see Table 3), there were not statistical differences in paternal knowledge across editions, and statistical but negligible differences ($0.04 \leq d \leq 0.12$) were found for maternal affection, paternal affection, communication with the mother, and maternal knowledge. Communication with the father and family activities also statistically increased across editions, with notably larger but still generally small effects when comparing 2010 and 2002 ($d = 0.23$ and 0.19 , respectively).

General linear models for the family dimensions on life satisfaction across the three HBSC editions are shown in Table 4 for boys and girls. The magnitude of the global effect for family dimensions after subtracting the specific contribution from age increased from the initial to subsequent editions for both boys and girls. The global effect for boys was small in 2002 ($R^2 = .096$), and had a medium effect size in 2006 ($R^2 = .167$) and 2010 ($R^2 = .153$). For girls, the magnitude of the effect was on the upper end of small in 2002 ($R^2 = .125$), and increased to $.200$ and $.212$ in 2006 and 2010, respectively.

For the contributions of the examined family dimensions on boys' life satisfaction (see Table 4), parental affection and family activities were the only dimensions with noticeable yet small effect sizes in 2002. In 2006 and 2010, there were small effect sizes for communication with parents, parental affection, and family activities. The effects of parental knowledge were negligible in the three HBSC editions. For girls, as shown in Table 4, there were small effects in the three editions of the HBSC study for communication with parents, parental affection, and family activities; the effects of parental knowledge were negligible except for in 2006.

Discussion

In this study, we analyzed changes in maternal and paternal affection, ease of communication with the mother and father, maternal and paternal knowledge, and family

activities during the first decade of the new millennium in Spain. We examined trends in these dimensions separately for boys and girls.

The analysis of the changes in family dimensions revealed that only communication with the father and family activities statistically increased across the years and that the magnitude of these increases were negligible to small. These findings are consistent with our stability versus change hypothesis, where we hypothesized that changes, if any, were likely to be small (Hypothesis 1) because changes in family life tend to occur relatively slowly (Bianchi, 2000).

We did not find any evidence to support Hypothesis 2; parent–child relationships had not deteriorated in conjunction with the economic crises (Conger et al., 2000; Donnellan et al., 2013; Elder & Russell, 2000). Given that the economic crisis began in 2008, more time may be needed than these 2010 data provide before for the negative effects of the crisis on parent–child relationships becomes apparent. Unemployment and household income statistics in Spain (Instituto Nacional de Estadística, 2015b) appear to be consistent with this idea. Specifically, although there was an increase in the unemployment rate in 2010 compared to 2006 and 2002, the percentage of households with no income source remained similar across these three years and the percentage of long-term unemployment, despite increasing in 2010, was still lower than it was in 2002. The family stress model states that the economic pressure that parents perceive is associated with a decrease in the quality of parent–child relationships (Conger et al., 2000; Elder & Russell, 2000) and that negative economic events do not have direct effects on parenting but are mediated by perceived economic pressure (Landers-Potts et al., 2015). The fact that our results did not support Hypothesis 2 may be because losing one's job does not translate into an immediate increase in perceived economic pressure within the family; detrimental effects on parenting may not surface once sources of income disappear, but after parental unemployment becomes a chronic situation and financial stress begins to

mount. Accounting for recent efforts to integrate the family stress model with family resilience theory (Patterson, 2002), future research should also explore family strengths that favor successful adaptation in the face of economic adversity.

Consistent with Hypothesis 3, there were improvements in communication with fathers and family activities, perhaps due to a more egalitarian distribution of parenting roles associated with social and cultural changes in Spanish society that promote more father involvement in parenting (Cabrera et al., 2000; Menéndez & Hidalgo, 2003). Whatever the reason, the increase in communication with the father in both boys and girls is beneficial and suggests that fathers have increased their involvement in parent–child relationships despite stability in the mother’s role. This change has been tapped as one of the four most prominent social changes that have occurred in family life during this century (Cabrera et al., 2000), and can be attributed to both the widespread incorporation of women in the labor force and to changes in cultural and social expectations and beliefs about parental roles. Accordingly, communication with the father may have become easier for adolescents as norms and roles changed. That said, communication with father still lagged behind communication with mother, which remained stable across the years. This advantage for mothers was also true of affection and knowledge., which coincides with the literature showing that mothers tend to score higher than fathers on these measures (Oliva et al., 2007; Tabak et al., 2012). Importantly, the values for parent–child relationships with mothers remained stable across the period of analysis, which previous research has shown is fundamental for adolescents' well-being (e.g., Oliva et al., 2007).

The finding that family activities have increased is consistent with the view that parents and adolescents perceive their time together as important for satisfying their needs and objectives and maintaining close family relationships (Ashbourne & Daly, 2010).

Additionally, increasing communication with the father may be related to increases in family

activities because communication implies that more time is shared between adolescents and their parents (Keijsers, Branje, VanderValk, & Meeus, 2010). Economic aspects may also be associated with the frequency of family activities. For example, a qualitative study of adolescents' views of their family life (Jiménez-Iglesias, Moreno, García-Moya, & López, 2014) found that one advantage adolescents associated with family activities was that the shared activities helped them to save money because their parents usually bought meals and paid for activities, such as shopping, when done together.

The slightly greater increase in family activities among boys than girls was exceedingly small, but nonetheless is consistent with Hypothesis 4 that parents and sons would show an increased involvement in family life. This finding may also be related to the fact that fathers tend to share more time with their sons (Dubas & Gerris, 2002) as a result of parents feeling more comfortable with their children of the same sex (Stattin & Kerr, 2003).

In addition to examining changes in several family dimensions between 2002 and 2010, we also examined the relationship between these changes and adolescent boys' and girls' life satisfaction.

First, we expected that all family dimensions measured were positively associated with life satisfaction (Schwarz et al., 2012). Consistent with that hypothesis (Hypothesis 5), we found that affection, ease of communication, and family activities statistically contributed to adolescents' life satisfaction across the years examined. However, parental knowledge only reached a small effect size for girls in 2006. From our perspective, this should not be interpreted as an indication of parental knowledge not being important for life satisfaction. As previous research has shown, parental knowledge is closely related to other family dimensions in adolescence, such as warm and close relationships with parents (Smetana, Metzger, Gettman, & Campione-Barr, 2006), communication connecting adolescent

disclosure and parental solicitation (Stattin & Kerr, 2000) and time spent together in family activities (Jiménez-Iglesias, Moreno, García-Moya, & Ramos, 2013).

As Hypothesis 6 stated, previous research suggests that the associations between family dimensions with adolescent well-being do not differ for boys and girls (Jiménez-Iglesias et al., 2015). Overall, our results were consistent with this hypothesis, as we found more similarities than differences between boys and girls. However, there were some differences in the association between communication and life satisfaction, as the magnitude of the contribution from communication was negligible for boys in 2002. This was an unexpected finding, although previous research had found differences in the role of communication on life satisfaction between boys and girls. Specifically, Levin et al. (2012) found that difficult parent–child communication was a risk factor for boys' and girls' life satisfaction, while easy parent–child communication was only a protective factor for girls' life satisfaction. Therefore, it is important to further explore the different results for boys and girls.

Finally, in line with previous research (González-Anleo et al., 2010; González-Blasco et al., 2006; Elzo et al., 1994), we expected that there would be an upward trend for the importance of family in adolescents' life satisfaction across time (Hypothesis 7). Indeed, family was increasingly important for both boys' and girls' life satisfaction. This finding is consistent with previous research showing that parent–child relationships are important for adolescents' well-being (Steinberg & Silk, 2002) and that, among diverse potential precursors of adolescents' life satisfaction, family relationships are the most important (Ma & Huebner, 2008; Tolan & Larsen, 2014). Furthermore, family appeared to become increasingly important for boys' and girls' life satisfaction across the examined time period. In other words, despite the challenges that were brought about by the social and economic changes, family maintained and increased its importance in adolescents' life satisfaction.

Consequently, the aforementioned changes did not appear to weaken the family as a crucial institution in adolescents' lives. However, because the effect of the economic crises may not be immediate in family life, the findings from the present study should not be interpreted as indicating that the family was not affected by economic changes. Furthermore, our findings on the importance of family for adolescents' life satisfaction highlight the crucial importance of both interventions aimed to strengthen family relationships and social resources devoted to supporting families.

Limitations, Strengths, and Future Directions

This study has several limitations that should be taken into account when interpreting the results. First, the design was cross-sequential and, consequently, does not allow for identifying causality or the direction of relationships. In addition, it was not possible to directly examine the role of other factors, such as financial hardship. Nevertheless, according to lifespan developmental psychology theorists, using cross-sequential design is suitable for examining the impact of historical and social changes in development (Baltes, Lindenberger, & Staudinger, 1998), as in the present study. Second, trend analysis poses several methodological challenges that are related to the equivalence of measures and procedures through time and the variability and lack of clarity on the recommended analytical strategy. Nevertheless, using a standard protocol in the HBSC survey across editions and the data quality check by the HBSC Data Management Centre contributes to ensuring the robustness of the data comparisons across survey years. Similarly, we selected an analytical strategy that fit the study purpose and adhered to a standard approach for trend analysis (Schnohr et al., 2015). Finally, the information in this study was exclusively from adolescents' self-reports and consequently it only reveals adolescents' perceptions of parental behaviors. Nevertheless, adolescents' perceptions can be more predictive of their mental health than parents' self-reported behaviors (Maurizi, Gershoff, & Aber, 2012).

In summary, the present study provides a valuable analysis of the changes in parent–adolescent relationships during the first decade of the new millennium and its importance for life satisfaction. There were interesting changes in communication with the father and family activities that underscore the steady role of the family as a key institution in adolescents' lives. This is an important contribution to the current literature on family relationships during adolescence because there is a scarcity of studies that analyze trends in family dimensions, which is a line of research of paramount interest (Parke & Buriel, 2008). The same applies to research on the relation between family life and life satisfaction, where our literature review had to resort to broad sociological studies that were conducted at different points in time to formulate tentative trend hypotheses. In addition, conducting segregated analyses by gender improves current knowledge about the degree to which social changes toward egalitarian parenting roles are translating into changes in family life as perceived by adolescent sons and daughters. Another strength is the robustness of the HBSC database, which has tremendous potential for conducting trend analyses (Schnohr et al., 2015). Finally, as further developed in the final section of the manuscript, our results have valuable implications for practice and policy on family relations.

Future research can expand the present findings by directly examining the relationship between macrosocial and economic variables and these family dimensions. Furthermore, although the aforementioned social and economic changes have been documented in other countries (Currie et al., 2008; Currie et al., 2012), cross-cultural studies may also be beneficial for determining whether specific aspects of the changes in family relationships and their importance to adolescents' well-being can be found across countries. For example, some research suggests that family cohesion may be a value that is more deeply rooted in Spanish culture than some others (Morgan, Rivera, Moreno, & Haglund, 2012).

Implications for Practice and Policy

This study has several implications for practice in the field of parental guidance. Because the following family dimensions were positively associated with adolescents' life satisfaction, parental guidance should emphasize affection, communication, and family activities as key dimensions that promote adolescent well-being. It is also important for interventions to include both mothers and fathers because father involvement can be beneficial for adolescents and contribute to providing egalitarian gender role models for adolescent sons and daughters.

Regarding policy implications, it is important to ensure that there are sufficient interventions and resources for supporting families and strengthening parent–child relationship such that no families are left behind. Policy design and implementation—that is, from policymakers to those who implement policies—can also contribute to an egalitarian distribution of parenting roles to the extent that they support and encourage equal opportunities for the participation of both mothers and fathers in family life.

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Table 1
Sample Size and Demographic Characteristics

	2002	2006	2010
Sample size	13,552	21,811	11,230
Participation rate	76%	72%	68%
Gender	49.6% boys 50.4% girls	48.1% boys 51.9% girls	49.4% boys 50.6% girls
Age	$M = 14.53$ $SD = 2.33$	$M = 14.47$ $SD = 2.35$	$M = 14.42$ $SD = 2.16$

Table 2
Descriptive Statistics, ANOVAs, and Post-hoc Tests of Family Dimensions by Editions of the HBSC Study for Boys

Dimensions and editions	N	M	SD	F	p	Bonferroni post-hoc tests		
						Editions	p	d
Maternal affection				5.68	.003			
2002	6499	1.68	0.39			2002↔2006	.002	0.05
2006	9940	1.70	0.38			2002↔2010	.407	-
2010	5326	1.69	0.40			2006↔2010	.378	-
Paternal affection				5.79	.003			
2002	6252	1.50	0.51			2002↔2006	.007	0.06
2006	9584	1.53	0.49			2002↔2010	.011	0.06
2010	5110	1.53	0.51			2006↔2010	1.00	-
Communication with mother				12.53	< .001			
2002	6527	3.18	0.85			2002↔2006	.066	-
2006	9980	3.21	0.83			2002↔2010	< .001	0.08
2010	5334	3.25	0.80			2006↔2010	.003	0.05
Communication with father				68.02	< .001			
2002	6324	2.85	0.94			2002↔2006	.002	0.05
2006	9694	2.90	0.90			2002↔2010	< .001	0.22
2010	5234	3.05	0.87			2006↔2010	< .001	0.17
Maternal knowledge				39.64	< .001			
2002	6237	1.64	0.40			2002↔2006	< .001	0.16
2006	9669	1.70	0.37			2002↔2010	.012	0.05
2010	5206	1.66	0.41			2006↔2010	< .001	0.10
Paternal knowledge				13.83	< .001			
2002	6019	1.44	0.52			2002↔2006	< .001	0.10
2006	9379	1.49	0.51			2002↔2010	< .001	0.10
2010	4987	1.49	0.53			2006↔2010	1.00	-
Family activities				113.86	< .001			
2002	6353	2.17	1.30			2002↔2006	.018	0.05
2006	9434	2.23	1.26			2002↔2010	< .001	0.25
2010	5262	2.52	1.48			2006↔2010	< .001	0.22

Table 3
Descriptive Statistics, ANOVAs, and Post-hoc Tests of Family Dimensions by Editions of the HBSC Study for Girls

Dimensions and editions	N	M	SD	F	p	Bonferroni post-hoc tests		
						Editions	p	d
Maternal affection				7.75	< .001			
2002	6642	1.66	0.41			2002↔2006	< .001	0.05
2006	11272	1.68	0.40			2002↔2010	.010	0.05
2010	5516	1.68	0.41			2006↔2010	1.00	-
Paternal affection				32.48	< .001			
2002	6281	1.43	0.53			2002↔2006	< .001	0.12
2006	10730	1.49	0.51			2002↔2010	< .001	0.11
2010	5222	1.49	0.52			2006↔2010	1.00	-
Communication with mother				19.98	< .001			
2002	6669	3.17	0.85			2002↔2006	.035	0.04
2006	11260	3.20	0.82			2002↔2010	< .001	0.11
2010	5490	3.26	0.78			2006↔2010	< .001	0.07
Communication with father				76.52	< .001			
2002	6331	2.47	0.94			2002↔2006	< .001	0.12
2006	10879	2.58	0.93			2002↔2010	< .001	0.23
2010	5305	2.68	0.91			2006↔2010	< .001	0.11
Maternal knowledge				7.77	< .001			
2002	6383	1.74	0.35			2002↔2006	< .001	0.06
2006	10962	1.76	0.34			2002↔2010	.726	-
2010	5378	1.75	0.36			2006↔2010	.065	-
Paternal knowledge				2.17	.115			
2002	6074	1.44	0.52			2002↔2006	-	-
2006	10596	1.45	0.53			2002↔2010	-	-
2010	5105	1.45	0.55			2006↔2010	-	-
Family activities				55.76	< .001			
2002	6445	2.08	1.21			2002↔2006	.010	0.05
2006	10795	2.14	1.19			2002↔2010	< .001	0.19
2010	5398	2.31	1.27			2006↔2010	< .001	0.14

Table 4

General Linear Models of the Family Dimensions on Life Satisfaction Across Editions of the HBSC Study for Boys and Girls

	2002 edition			2006 edition			2010 edition		
	<i>F</i>	<i>p</i>	<i>R</i> ² / partial η^2	<i>F</i>	<i>p</i>	<i>R</i> ² / partial η^2	<i>F</i>	<i>p</i>	<i>R</i> ² / partial η^2
Boys									
Corrected model	58.98	< .001	.109	157.26	< .001	.190	80.29	< .001	.174
Age	71.40	< .001	.013	175.61	< .001	.023	89.18	< .001	.021
Communication	9.86	< .001	.006	40.71	< .001	.016	19.11	< .001	.013
Parental knowledge	4.75	.003	.003	15.96	< .001	.006	3.24	.021	.002
Affection	34.14	< .001	.019	53.58	< .001	.021	57.42	< .000	.039
Family activities	51.45	< .001	.010	218.68	< .001	.029	73.87	< .001	.017
Girls									
Corrected model	86.53	< .001	.150	263.23	< .001	.253	129.57	< .001	.248
Age	136.48	< .001	.025	481.70	< .001	.053	160.04	< .001	.036
Communication	22.00	< .001	.012	30.88	< .001	.011	22.64	< .001	.015
Parental knowledge	8.18	< .001	.005	27.60	< .001	.010	9.58	< .001	.007
Affection	30.20	< .001	.017	84.17	< .001	.029	60.56	< .001	.040
Family activities	55.23	< .001	.010	305.28	< .001	.035	120.62	< .001	.027