ROMANTIC INVOLVEMENT AND PSYCHOSOCIAL ADJUSTMENT DURING ADOLESCENCE

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Summary. This study examines associations between different aspects of romantic involvement and psychosocial adjustment during adolescence. Nine hundred and one youths (432 boys, 469 girls) between 12 and 17 years of age, all indicating having been involved in at least one romantic relationship, answered questionnaires measuring ten parameters of romantic involvement (interest, age at the time of the first romance, average age of the partners, number of romantic relationships, number of broken hearts, average duration of relationships, duration of a recent, more significant relationship, time spent each week outside of school in this relationship, current romantic status, sexually active or not) and four indices of psychosocial adjustment (performance at school, body image, self-esteem, behavioural problems). The results suggest that it is possible to accurately predict poorer performance at school based on stronger romantic involvement, more significantly so for younger youths (ages 12 to 14) than older youths (ages 15 to 17). Body image and self-esteem are positively and significantly related to greater involvement in romantic relationships, and boys differ from girls in terms of parameters predicting self-esteem. Finally, behavioural problems are significantly associated with greater romantic involvement at all ages. The strength of association between variables ranges from weak to moderate, depending on age and gender (*r* ranging between 0,13 and 0,40) and the regression equations account for a generally modest portion of the total variance (6,3% to 11,7%). Differences attributable to age and gender refer to interaction effects concerning few parameters only. The results obtained are discussed in the context of psychosocial development in adolescence.

Adolescence is a developmental period marked by numerous individual and social transitions, including changes in relations withto the opposite sex and emerg-

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ing romantic relationships (Sippola, 1999). Initiation to heterosexual relationships ranks among the central highlights of adolescent development (Sullivan, 1953; Erikson, 1959; Havighurst, 1972). The substantial array of burgeoning new emotions experienced by youths on a daily basis appears to be partly attributable to heterosexual reality and romantic involvement (Wilson-Shockley, 1995; Larson, Clore & Wood, 1999). Adolescence is an ideal period for studying youths' ability to adapt to social transitions, particularly regarding romance (Sippola, 1999) since it is equally associated with opportunities for growth and risks of teenage maladjustment (Erikson, 1959, 1968; Sullivan, 1953). Despite the importance of romantic relationships during adolescence, the scientific community is just beginning to determine their role in development (Feiring, 1999; Shulman et al., 1997). Information isremains fragmented at best, with the significance its meaning in relation toof youths' well-being and social adjustment remaining poorly understood to date (Maccoby, 1990; Paul & White, 1990; Sippola, 1999). The purpose of this study is to provide answers to this need by studying the connection existing between the importance of romantic involvement and psychosocial adjustment between ages 12 and 17.

Opportunities for Growth and Risk Factors

First romantic relationships presuppose the integration of new social roles. They can alter youths' feelings of self-competence during adolescence (Darling et al., 1999). However, from a general standpoint, activities initiated with youths of the opposite sex, with or without romantic involvement, are perceived by most actors as pleasant and enriching steps of the social experience (Csikszentmihayli & Larson, 1984; Richards et al., 1998). Such activities have been associated with a perception of self-competence and strong intrinsic motivation (Mannell & Kleiber, 1997). Indeed, it is in mixed contexts that adolescents report the highest levels of stimulation, feeling more attractive, competent and important in life (Richards et al., 1998). Experiencing a steady romantic relationship involves several social advantages, such as an additional source of social support (Furman & Buhrmester, 1992; Connolly & Johnson, 1996), better self-esteem (Long, 1989) and security in one's sexual identity (Samet & Kelly, 1987). However, among 12- to 14-year olds, heterosexual relationships are predictable indicators of positive evaluation only among boys and girls who feel at ease in the presence of the opposite sex (Darling et al., 1999). Likewise, while self-esteem among boys appears to depend more on the number of girls present in their networkcircle, girls' self-esteem is more directly influenced by their well-being in relation to the opposite sex (Darling et al., 1999). One notes that at the onset of adolescence and in a context of heightened awareness of body image, cross-sex networks can also induce a lowering of self-esteem among some youths (Simmons & Blyth, 1987; Leaper, 1994; Darling et al., 1999), more often so among girls than boys (Maccoby, 1990). At the onset of puberty, girls overall tend to experience lower self-esteem and body image than boys (Tobin-Richard et al., 1984; Graber, Petersen & Brooks-Gunn, 1996; Papillon, Marcotte & Cloutier, 2000), leading one to believe that adjustment to

a heterosexual reality is harder for girls (Maccoby, 1990). During adolescence, the image girls have of themselves is particularly dependent on their perception of their heterosexual attractiveness (Archer, 1992); and, same-sex friendships sometimes become more strained, conflicting and competitive when girls start dating boys. Conversely, boys more often see their popularity and social prestige enhanced by the emergence of romantic relationships (Berndt & Hoyle, 1985; Miller, 1990; Zimmer-Gembeck, 1999). This may explain in part why boys seem to be less vulnerable to changes in self-esteem related to romantic involvement. In summary, if a heterosexual context can be energizing and act as a source of personal valorization for some youths, the reality of the situation appears to be experienced differently by boys and girls.

On the other hand, emerging romantic involvement during adolescence has been associated with certain psychosocial problems hindering youths' well-being and functioning. The emergence of active sexuality, which can be predicted on the basis of involvement in romantic relationships (Phinney et al., 1990; Scotte-Jones & White, 1990), constitutes a developmental zone fraught with potential risks. Several hazards are inherent in such relationships, including the possibility of unwanted pregnancy, sexually transmitted diseases and an increased likelihood of sexual violence. As a group, sexually active youths present a psychosocial picture portrait differing from youths who are not, showing less conformist behaviour and personal characteristics predisposing them to experience greater problems of adjustment. In comparison with sexually active adolescents, youths entering their twenties without having had sexual intercourse are often white, from an intact family and harbour religious convictions. They are more ambitious with respect to schoolwork, score higher on intelligence tests and are less likely to use drugs and commit illegal offences (Irwin & Shafer, 1992). In Quebec however, the information gathered by Cloutier and colleagues (1994) does not confirm these observations. In their survey, sexually active youths presented the same levels of personal well-being, were just as ambitious and motivated to pursue their education, had had no run-ins with the authorities and for the most part were not engaged in high-risk sexual behaviour. However, teenage pregnancies carry with them tremendous risks for the life trajectories of young mothers and their children (Cloutier, 1996), such as financial problems, dropping out of school and shouldering the responsibility of a child who in turn is exposed to a greater risk of experiencing adjustment difficulties (Cloutier & Villeneuve, 1988; Blau & Gullota, 1993). Likewise, girls run a greater risk of being subjected to sexual violence than boys (Bergman, 1992; Rickel & Hendren, 1993; Cloutier et al., 1994), and sexual violence is more frequently observed in very young teenage couples (Makepeace, 1987; Burcky, Reuterman & Kopsky, 1988). Finally, romantic involvement during adolescence is linked to the risk of romantic deceptions and break-ups, which can lead to serious heartbreak among youths (Larson, Clore & Wood, 1999). According to a survey conducted in Quebec, more than 50% of youths have experienced two to four episodes of heartbreak since the onset of romantic relationships (Lafleur, Drolet & Trottier, 1999). Yet a broken heart can have serious emotional repercussions and lead to at-risk behaviour. Youths may commit suicide (Hanigan, 1987; D'Amours, 1995), consume more alcohol

and drugs (Éliany, Wortley & Adlaf, 1992), become depressed and lose interest in scholastic performance (Lafleur, Drolet & Trottier, 1999), and girls may yield more easily to the sexual pressures of future partners in order to avoid another break-up (Drolet, Lafleur & Trottier, 1999).

Overall, and as summarized in Table 1, research data indicates that romantic involvement during adolescence can have positive and negative effects on adolescent well-being and functioning.

Table 1. Opportunities for Growth and Risks Associated with Romantic involvement

Opportunities for Growth	Associated Risks
– Development of relational skills	– Threat to self-esteem
– Development of personal and sexual identity	– Changes to existing friendships
– Development of greater social maturity	– Source of interpersonal stress
– Source of motivation and stimulation	– Decrease in the amount of energy directed
– Diffusion of stress during adolescence	towards other spheres
– Additional source of interpersonal	of individual development
support	(for example school or career)
– Acquisition of social status	– Risk of experiencing a break-up
– Source of self-esteem	– Possibility of teenage pregnancy
– Development of a capacity for intimacy	– Contracting a sexually transmitted
	disease
	– Sexual, physical and verbal violence
	– Increased risk of behavioural problems

The Importance of the Time at which Romantic Involvement Begins

The time at which romantic involvement begins in an individual's development can prove instrumental in understanding the course of psychosocial adjustment experienced by youths. Some authors have observed that youths initiating romantic involvement at a later date stood apart from those who experience the reality of romance earlier (Connolly et al., 1999; Feiring, 1999). In particular, youths involved in heterosexual relationships are more precocious in terms of sexual maturation; they experience lower self-esteem and are more subject to stress (Simmons et al., 1979; Simmons & Blyth, 1987). Among other things, precocious romantic involvement has been associated with a decline in academic performance and earlier distancing of self from parents (Feiring & Lewis, 1991, 1993). It has is also been associated with higher alcohol and drug consumption and psychological and behavioural problems (Brown & Theobald, 1996; Cauffman & Steinberg, 1996). Similarly, premature stability in romantic relationships has been linked to a greater risk of experiencing academic difficulties and emotional problems (Neeman, Kojetin & Hubbard, 1992), even more so when the romantic relationships are initiated and maintained outside the school

environment (Sroufe, Carlson & Shulman, 1993). For the most part, these observations concur with risks associated with precocious sexual activity during adolescence (Irwin & Shafer, 1992). On the other hand, youths involved in romantic relationships at an earlier date differ in terms of social competence and popularity (Neeman, Hubbard & Masten, 1995; Bukowski, Sippola & Hoza, 1999). More precisely, having more friends on average, including friends of the opposite sex, has been associated with a higher frequency of romantic relationships and a more precocious introduction to such relationships in individual development (Connolly & Johnson, 1996). Conversely, a lack of social skills demonstrated by excessive shyness or blatant lack of self-confidence can also interfere with the transition towards heterosexual relationships. All in all, the time at which romantic involvement begins appears to be linked both to the psychosocial functioning of youths in terms of social competence, personal well-being, academic performance and the risk of possible behavioural problems.

Two studies among those documented address the connection between the importance of romantic involvement and psychosocial adjustment during adolescence according to several measurement criteria and from a longitudinal standpoint (Neeman, Hubbard & Masten, 1995; Zimmer-Gembeck, Siebenbruner & Collins, 2001). Neeman, Hubbard and Masten (1995) documented the psychosocial adjustment trajectory of 205 youths based on their level of involvement in romantic relationships. According to this study, romantic involvement defined by youths' interest and dating relationships is associated with greater social competence at the onset of adolescence (8-12 years of age), but also with more behavioural problems. Early romantic involvement is a likely predictor of an increase in behavioural problems and a decline in academic performance during the latter stages of adolescence. Between 14 and 19 years of age, romantic involvement remains a predictor of greater social competence, but is also negatively associated with functioning at school and at work, and behavioural problems remain more frequent among youths who are romantically involved. On the other hand, between 17 and 23 years of age, psychosocial adjustment is not linked to the degree of romantic involvement, although for many youths, difficulties appearing during early adolescence tend to persist. The results illustrate that for the majority of youths, romantic relationships are initiated during the second part of adolescence. As stressed by the authors, it is conceivable that precocious heterosexual involvement may fall within a general trend to act "older than one's age" and to associate with youths who are on average older and more often exhibiting antisocial behaviour. However, this study does have certain limitations, among them measurement that does not always clearly distinguish interest from actual involvement in romantic relationships, and it fails to consider gender differences (Neeman, Hubbart & Masten, 1995).

A second study conducted by Zimmer-Gembeck, Siebenbruner and Collins (2001) documented the impact of romantic involvement on the psychosocial adjustment of youths at age 16, while taking into account changes in their functioning since age 12. A total of 167 youths from underprivileged homes were evaluated at age 12 and again at age 16 according to several psychosocial adjustment indices (for example, emotional health, internalizingation symptoms, academic performance). The authors reported

that an accumulation of several romantic experiences at age 16 (over-involvement) was associated with more behavioural problems at all ages and a general decline in psychosocial functioning between the age of 12 and 16. Conversely, they observed that the level of experience defined by the seriousness and the duration of romantic relationships, and the quality of intimacy at age 16, were predictors of greater social competence and better self-concept at age 16. This study also documented the fact that romantic involvement variables correlated differently with adjustment indices for boys and girls. More precisely, romantic over-involvement at age 16 was predictive of greater decline in emotional health and academic performance for girls aged 12 to 16, compared to boys. However On the other hand, boys having experienced more romantic relationships by age 16 were prone to a greater increase in behavioural problems between age 12 and 16. From a general standpoint, and like the work of Neeman and his colleagues (1995), the researchers observed a positive connection between social competence and the development of more committed and intimate romantic relationships. They also noted that a greater number of romantic relationships were associated with more adjustment problems at age 16, including behavioural problems, emotional problems, more interiorized internalizing difficulties and a decline in academic performance and motivation to attend school. Taken together, these studies underlined a need to evaluate multiple dimensions in order to ascertain the complexity of the links existing between psychosocial functioning and the characteristics of romantic involvement during adolescence.

Overview and Research Hypotheses

Despite its importance, the significance meaning of romantic involvement during adolescence oin youths'the psychosocial functioning of youths during adolescence is little understood (Maccoby, 1990; Paul & White, 1990; Sippola, 1999; Feiring, 1999) and rare is the research thatconsidering that considerss multiple dimensions. Yet, the positive and negative repercussions resulting from romantic involvement during adolescence highlight the importance of including a range of psychosocial adjustment criteria and of considering the degree of romantic involvement from several angles. Likewise, the impact of romantic relationships on youths' functioning may depend on when they are initiated during thein developmental period (Neeman, Hubbard & Masten, 1995; Sullivan, 1953; Erikson, 1959, 1968). Some information suggests that the transition towards romantic relationships is particularly demanding for girls, affecting their self-esteem more negatively (Maccoby, 1990). On the other hand, boys' social rating often increases with romantic involvement (Miller, 1990; Zimmer-Gembeck, 1999). On the whole, few of the studies addressing romantic involvement and psychosocial adjustment during adolescence have favoured a multidimensional approach adapted to the complex nature of the phenomenon: a review of the litterature literature suggests that knowledges remains fragmented in the area field. Some recent American studies diverge from this trend (Neeman, Hubbard & Masten, 1995; Zimmer-Gembeck, Siebenbruner & Collins, 2001), but none is supported by an equiv-

alent in French-speaking Quebec. This study addresses this shortcoming. Like the authors of other in-depth research studies (Neeman, Hubbard & Masten, 1995; Zimmer-Gembeck, Siebenbrunner & Collins, 2001), a range of evaluation criteria was used to assess romantic involvement and psychosocial adjustment. The importance of the involvement and its relative precocity are the cornerstone of central to our evaluation of romantic relationships. A total of ten parameters were selected to determine a profile of romantic involvement applying to youths: a) interest in romantic relationships; b) age at the time of the first romantic relationship; c) age of partners in relation to one's age; d) duration of romantic relationships (on average, most recent significant relationship); e) number of broken hearts; f) number of romantic relationships; g) time spent with partner; h) current romantic status (has or does not have a romantic partner); and i) sexually active or not. Moreover, four indices serve to evaluate psychosocial adjustment: 1) academic performance, 2) body image, 3) self-esteem and, 4) behavioural problems. Three research hypotheses were formulated:

1. It is expected that romantic involvement will serve to predict lower academic performance (1a), better body image (1b), more positive self-esteem (1c) and, more behavioural problems (1d).
2. It is expected that the strength of relations between romantic involvement and academic performance will vary according to age. More particularly, we expect to observe a more marked decrease in academic performance for youths between 12 and 14, compared to youths aged 15 to 17.
3. It is expected that the strength of relations between romantic involvement and self-esteem will vary based on gender. More precisely, it is anticipated that only the self-esteem of boys will be positively associated with romantic involvement, compared to that of girls.

Method

Participants

The sample, as described in Table 2, consisted of 901 youths (469 girls, 432 boys) 12 to 17 years of age[1] (average = 15.0 years; standard deviation = 1.4) and students at a high school in the City of Quebec. Respondents were enrolled in the regular academic program (701 youths), the "individualized path" (61 youths) or the "international studies program" (139 youths)[2]. The sample was divided evenly between grades 7 and 11, with 173 youths in grade 7 (19.2%), 155 youths in grade 8 (17.2%), 207 youths in grade 9 (23.0%), 191 youths in grade 10 (21.2%) and 175 youths in grade 11 (19.4%). Most of the youths aged 12 to 14 were in grades 7 or 8 (69.7%),

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[1] Five youths among the entire group of respondents were 18 years of age.
[2] The individualized path program is intended for youths experiencing academic difficulties, whereas the international studies program is an enriched program.

while most of the youths 15 and older were in grades 10 or 11 (79.6%). The proportion of boys aged 12 to 14 was 49.8% (53.2% for the second group of adolescents), compared to 51.8% for girls (48.2% for girls 15 and older).

Table 2. Breakdown of the Sample and Average Age of Respondents Based on Grade and Gender[3]

Grade	Girls		Boys		Total	
	n	Aver. Age	n	Aver. Age	N	Aver. Age (S.D.)
Grade 7	82	13.1	91	13.1	173	13.1 (0.7)
Grade 8	67	14.1	88	14.0	155	14.0 (0.7)
Grade 9	108	15.2	99	14.9	207	15.0 (0.7)
Grade 10	86	15.9	105	15.9	191	15.9 (0.6)
Grade 11	89	16.8	86	16.7	175	16.7 (0.4)
Total	432	15.1	469	14.9	901	14.9 (1.4)

For the most part, respondents lived in a family environment where both parents were present (71.0% of youths), which corresponds to the situation prevalent for the population in Quebec in general (ISQ, 2001). Parents' educational background was broken down as follows: a) *high school not completed or less:* 11.4% of fathers and 9.6% of mothers; b) *high school diploma:* 29.3% of fathers and 30.9% of mothers; c) *college diploma:* 24.0% of fathers and 26.6% of mothers; d) *university graduate:* 20.8% of fathers and 20.5% of mothers; 5 – *Don't know:* 14.5% for fathers and 12.4% for mothers. This information corresponds to a level of education considered standard in Quebec families[4]. According to the classification established by the Department of Education in Queébec (2003-2004), the low-income threshold of the school participating in this study was in the 2nd decile, with a social and economic environment index in the 1st decile. This rating places the school at the upper average level from a social and economic standpoint.

The sample was drawn from a larger study (N = 1113 youths) and all respondents selected reported having been involved in a least one romantic relationship. The 901 youths participating in the study were significantly older (F = 15.23, $p < 0.001$)

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[3] Age and grade at school correlated significantly (r = 0.90).
[4] According to a social and health survey conducted among children and adolescents in Quebec in 1999 (Institut de la statistique, 2002), average parental education characteristics of youths aged 16 may be broken down as follows: high school not completed or less (13.2%), high school diploma (23.3%), college diploma (35.7%) university graduate (27.7%).

than the 212 youths excluded from the study. They were less often enrolled in grades 7 or 8 (36.4% vs. 42.5%) and were more often in grades 10 or 11 (40.6% vs. 34%). Likewise, they did not belong to the same study programs, proportionally speaking; compared to youths excluded from the study, participants were less often enrolled in the international studies program (15.4% vs. 31.6%) and more often enrolled in the regular program (77.8% vs. 64.6%) or individualized path program (6.8% vs. 3.8%). Participants in the study did not differ significantly from the 212 youths excluded from the study in terms of gender, parents' level of education and family environment.

Measures

Instrument 1: *Socio-demographic Questionnaire.* In the first section, the *Socio-demographic Questionnaire* provided general information such as: age, grade at schoolaverage school grades, studies program of study, gender, parents' level of education and family context (single parent or two parents present at home). The questionnaire also assessed academic performance through the question: *What is your grade average?* The questions of Instrument 1 were drawn from a questionnaire entitled "Ados, familles et milieu de vie"[5] (Cloutier, Champoux, Lancop & Jacques, 1994).

Instrument 2: *Questionnaire on Heterosexual Involvement.* The *Questionnaire on Heterosexual Involvement* consisted of two comparable versions, one for boys and the other for girls. This questionnaire evaluated three aspects of heterosexual involvement (cross-sex friendships, love and sexuality)[6]. Only the sections on love and sexuality were used within the framework of this study. A total of ten parameters were used to evaluate precocity and the extent of romantic involvement:

1. Age at the time of the first romantic relationship (*How old were you when you had your first boyfriend / girlfriend?*).
2. Average age of partners in relation to one's age (*As a rule, how old is your boyfriend / girlfriend when you do have one?* 1 = younger by at least one year; 2 = same age (more or less one year's difference); 3 = older by two years; 4 = older by more than three years).
3. Interest, which is associated with the value allocated to involvement in a romantic relationship. This index includes four statements measured on the basis of a 4-point Likert-type scale (from 1 = not at all to 4 = completely true). A factorial analysis of these four items (N = 1113) revealed one unique factor accounting for 52.6% of response variance. Internal consistency might be qualified from moderate to high, based on an Alpha coefficient of 0.69.

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[5] "Adolescents, families and living environment".
[6] The questionnaire was first submitted to 235 youths between 14 and 17 years of age in the course of a pilot study (Bergeron, Descôteaux & Ouellet, 2001).

4. The number of relationships reported, inclusive of the current romantic relationship, if applicable (*Not counting your current romantic relationship if you are involved in one, indicate the number of romantic relationships you have been involved in* (based on duration); *Do you have a boyfriend / girlfriend right now?*).
5. The number of broken hearts (*How many times have you experienced a broken heart?*).
6. Average duration of romantic relationships in terms of years (*…indicate the number of romantic relationships that you have been involved in that lasted: less than one month; between 1 and 3; between 3 and 6 months; between 6 and 12 months; more than a year (specify)*.
7. The duration of a most meaningful recent (in the past six months) romantic relationship (in the past six months) (*How long has he / she been your boyfriend / girlfriend?* 1 = less than one month; 2 = from 1 to 3 months; 3 = from 3 to 6 months; 4 = from 6 to 12 months; 5 = more than a year (specify))*.
8. The amount of time spent each week with this same most significant romantic partner outside of school (*How many hours per week do you spend with your boyfriend / girlfriend?* 1 = from 0 to 5 hours; 2= from 5 to 10 hours; 3 = from 11 to 20 hours; 3 = more than 20 hours)*.
9. Romantic status is determined based on the existence or not of a current romantic relationship (*Do you have a boyfriend / girlfriend right now?*).
10. Sexual status refers to having had, or not had, sexual intercourse for a first time (*Have you ever had a complete sexual relationship?*)

Instrument 3: *Offer's Self-image Questionnaire.* A French version of the "Offer's Self-image Questionnaire" (OSIQ; Offer, Ostrov & Howard, 1977, 1981) allowed assessment of body image. This self-report inventory is often used to evaluate adolescents' satisfaction with their physical appearance and body changes. Seven items on a 6-point Likert-type scale (from 1= "describes me very well" to 6 = "does not apply to me at all") evaluate satisfaction with physical appearance, body changes and health. An abridged form of the instrument consisting of 4 items is associated with an internal consistency of 0.74 (Allgood-Merten, Lewinsohn & Hops, 1990). Papillon (2000) and Marcotte et al. (2002) documented internal consistency coefficients of 0.70 when the entire scale is used. Cronbach's alpha coefficient for the present study was also 0.70, representing a moderate internal consistency coefficient.

Instrument 4: *Rosenberg's Self-esteem Questionnaire.* The French version of the "Rosenberg's Self-esteem Questionnaire" (Rosenberg, 1965) measured youths' self-esteem. This questionnaire consists of 10 graduated statements on a 4-point Likert-type scale (from 1 = "totally agree" to 4 = "totally disagree"). This questionnaire is frequently used with adult or adolescent populations and presents an internal consistency coefficient of 0.88 (Papillon, 2000). The internal consistency observed in this study was 0.84.

Instrument 5: *Achenbach's Youth Self-report Questionnaire.* The French version of the "Youth Self-Report" (YSR; Achenbach, 1991) was used to evaluate behavioural

problems (externalizediorized problems). This widely used self-report measure evaluates the adjustment of youths aged 11 to 18 based on their answers to 112 brief statements (0 = False, does not resemble me at all; 1 = Sometimes true; 2 = Always true or often true). The questionnaire includes a total of 11 subscales resulting in a distinct T score for externalizediorized problems. Measurement of externalizediorized problems involves 64 statements combining scores obtained on two scales (delinquency, aggressiveness). The construct validity and factor pattern factorial design of Achenbach's questionnaire are backed by numerous studies (e.g., Dedrick et al., 1997). Test-retest reliability coefficients average above 0.80 and internal consistency coefficients obtained are generally 0.80 and higher (Achenbach, 1991). Research data on the French version revealed validity coefficients similar to those obtained for the English version (Wyss et al., 2003).

Procedure

The research project was initiated in 2001 a high school near Quebec City in partnership with the school board and with the cooperation of the team of teachers responsible for morality and religious studies. Standardized administration of the questionnaire took place during a 1 hour 15 minutes period[7, 8]. Five researchers who had previously attended a training session participated in the data collection. The participation rate in the study was about 85%.

Results

Results are presented in three sections: a) exploration of metric properties of variables measuring romantic involvement and psychosocial adjustment, based on age and gender; b) examination of correlations existing between adjustment indices, parameters of romantic involvement, age and gender; and c) presentation of sequential multiple regression analyses serving to predict four indices of psychosocial adjustment based on the ten parameters of romantic involvement under consideration, and taking into account age and gender[9, 10].

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[7] The questionnaires were administered in a set order: 1) Socio-demographic Questionnaire; 2) Questionnaire on Heterosexual Involvement (a-romantic relationships; b- sexuality); 3) Offer's Self-image Questionnaire; 4) Rosenberg's Self-esteem Questionnaire; and, 5) Achenbach's Youth Self-report Questionnaire.

[8] The study protocol was reviewed and approved according to school standards and ethical rules in effect at Laval University. Free and enlightened consent was obtained from each youth participating in the study. Youths enrolled in Grades 7 and 8 had to obtain parental consent in writing in order to participate.

[9] Missing data were replaced by the mean, a procedure used in less than 3% of variables.

[10] Statistical analyses were preformed using SPSS software (Verson 10).

Description of Romantic Involvement and Psychosocial Adjustment

Table 3 presents means and standard deviations or percentages relating to parameters of romantic involvement and adjustment indices according to gender and to age groups (ages 12 to 14 and 15 to 17)[11]. A first 2 (gender) x 2 (age) multivariate variance analysis was conducted on the eight dependent variables used to measure romantic relationships[12, 13]. According to the Wilk criterion (Tabachnich and Fidell, 1996), the dependent variables taken together are significantly affected by both gender ($F = 29.83$; $p < 0.001$) and age group ($F = 34.75$; $p < 0.001$). A significant interaction effect exists between gender and age group ($F = 2.77$; $p = 0.005$). The results revealed a moderate association between all dependent variables combined and gender ($eta^2 = 0.23$) as well as with age group ($eta^2 = 0.26$). The power observed was 1.00 in both cases was 1.00. The interaction effect was associated with an eta^2 statistic of 0.03, with an observed power of 0.94. To examine main effects according to each dependent variable, eight univariate 2 (gender) X 2 (age group) analyses were conducted[14]. Chi-squared tests were used in the case of nominal variables (e.g. sexual status).

Table 3. Means, Standard Deviations or Percentages Relative to Parameters of Romantic Involvement and Adjustment Indices According to Age and Gender

Variables		n[1]	Ages 12-14 M (AND) or %	Ages 15-17 M (AND) or %	TOTAL M (AND) or %
1	2	3	4	5	6
ROMANTIC INVOLVEMENT					
Interest (on 4)	Girls	469	3.4 (0.5)	3.3 (0.5)	3.4 (0.5)
	Boys	432	3.4 (0.5)	3.5 (0.5)	3.4 (0.5)
Age 1st romantic relationship	Girls	469	10.5 (2.3)	12.8 (1.9)	11.6 (2.4)
	Boys	432	10.0 (2.3)	11.7 (2.7)	10.9 (2.6)

[11] The cut-off criterion of age 15 was based on the average age of the youths. Youths in the first group (age 12-14) were less than 15 years of age, while youths in the second group (age 15-17) ranged from 15 to 18 years of age, with five respondents aged 18.

[12] The number of youths and which youths are concerned varies according to the dependent variables measuredunder study. The MANOVA concerns only those respondents for whom information was available for all variables ($N = 803$). The 2 X 5 univariate analyses conducted thereafter included all the youths for whom information was available for a given dependent variable (see "n" per variable in Table 3).

[13] Logarithmic and inverse transformations were applied to certain variables to improve the normality of their distributions and to reduce limit outliersextreme data: 1) log10 of the number of relations; 2) log10 of the number of heart breaks (+1); 3) the inverse of the average duration (+1); and 4) the inverse of the duration of a significant relationship (+1). Results obtained for the hypotheses of normality, variance and covariance homogeneity, and linearity were satisfactory.

[14] Transformations used in the univariate analyses correspond to Note 13.

(Table 3 continued)

1	2	3	4	5	6
Age of partners	Girls	469	2.4 (0.6)	2.6 (0.7)	2.5 (0.7)
(from 1 to 4)	Boys	432	2.0 (0.3)	1.9 (0.4)	2.0 (0.4)
No. of romantic relationships	Girls	469	3.9 (3.8)	4.6 (3.9)	4.2 (3.8)
	Boys	432	3.5 (4.3)	4.6 (4.5)	4.0 (4.4)
No. of broken hearts	Girls	469	1.9 (1.9)	1.7 (1.4)	1.8 (1.7)
	Boys	432	1.5 (1.8)	1.5 (1.5)	1.5 (1.7)
Average duration (years)	Girls	469	0.3 (0.4)	0.3 (0.4)	0.3 (0.4)
	Boys	432	0.4 (0.5)	0.3 (0.3)	0.4 (0.4)
Duration of most significant	Girls	431	0.4 (0.5)	0.6 (0.7)	0.45 (0.6)
relationship (years)[2]	Boys	372	0.4 (0.5)	0.5 (0.6)	0.4 (0.5)
Times invested (significant	Girls	431	11.0 (7.0)	14.7 (7.6)	12.8 (7.7)
relation.) (hours / week)	Boys	372	10.2 (7.0)	13.6 (7.6)	12.0 (7.5)
Current romantic status	Girls	469	28.4%	38.5%	33.3%
(% in a relationship)	Boys	432	24.3%	34.8%	29.9%
Sexual status (%	Girls	469	20.6%	55.7%	36.5%
Sexually active)	Boys	432	33.2%	53.5%	45.1%
ADJUSTMENT INDICES					
Academic performance (%)	Girls	469	77.2 (8.9)	76.0 (7.6)	76.6 (8.3)
	Boys	432	75.8 (8.3)	74.2 (7.8)	75.0 (8.0)
Body image (/ 50)	Girls	469	36.9 (6.7)	36.0 (6.5)	36.9 (6.7)
	Boys	432	39.6 (6.5)	39.3 (6.0)	36.0 (6.5)
Self-esteem (/ 50)	Girls	469	38.3 (6.4)	39.8 (6.4)	38.8 (6.4)
	Boys	432	41.5 (6.0)	41.3 (6.1)	41.4 (6.0)
Behavioural problems (/ 50)	Girls	469	12.2 (5.9)	13.5 (5.7)	12.8 (5.8)
	Boys	432	12.9 (7.0)	13.7 (6.4)	13.4 (6.7)

[1] Breakdown of the "n": a) **ages 12 to 14**: 243 girls – 202 boys and, b) **ages 15 to 17**: 226 girls – 230 boys.
[2] The duration and time invested weekly in a recent more significant relationship wereas evaluated only in the case of youths to whom these variables applied (N = 803).

Youths of all ages showed marked interest towards romantic involvement, although boys significantly more so than girls (F = 3.95, p = 0.047). An interaction effect was observed between gender and age (F = 4.95, p = 0.026)[15], with a greater difference between boys and girls aged 15 to 17, compared to youths at the onset of adolescence

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[15] Respectively, these effects were associated with eta^2 statistics of 0.004 and 0.005, and an observed power of 0.51 and 0.60.

(ages 12 to14). First romantic relationships were initiated on average at 11.2 years of age. Examination of this variable revealed the existence of a main effect of gender (F = 26.41, $p < 0.001$), a main effect of age (F = 165.00, $p < 0.001$), and significant interaction between age and gender (F = 4.43, $p = 0.005$)[16]. More precisely, if girls aged 12 to14 indicated having had their first romantic relationship later than boys, the opposite was observed between those aged 15 and 17. Romantic partners were generally the same age in the case of boys, but significantly older in the case of girls (F = 199.54, $p < 0.001$), with a significant interaction effect between age and gender (F = 11.44, $p = 0.001$)[17]. Indeed, gender differences observed in the age of romantic partners was greater between the ages of 15 and 17 compared to younger adolescents. Moreover, the youths indicated having had an average 4.1 relationships, with a significantly greater number of relationships between ages 15 and 17 (F = 5.75, $p = 0.017$); and with the girls indicated having had a greater number of relationships than the boys (F = 26.34, $p < 0.001$)[18]. The average number of broken hearts per youth was 1.7, and girls reported significantly more episodes of broken hearts than boys (F = 18.38, $p < 0.001$)[19]. In terms of duration of relationships, the youths indicated that relationships lasted on average 0.35 years (4.2 months). There was no significant difference based on age or gender for this variable. From another standpoint, it was observed that the most recent significant relationship (during the past six months) lasted an average 0.4 years (4.8 months), and was longer in duration for youths aged 15 to 17 than for youths aged 12 to 14 (F = 10.95, $p < 0.001$)[20]. The youths spent an average 12 hours per week outside of classroom hours in this same relationship, and time invested was significantly greater among the group of older adolescents, compared to youths aged 12 to14 (F = 44.9, $p < 0.001$)[21] There was no gender difference for this variable. Finally, at the time of data collection, 29.4% of the youths reported being currently involved in a romantic relationship, with no significant difference between boys and girls, but more so for youths aged 15 to 17 than youths aged 12 to 14 ($X2$ (1, N = 901) = 10.64, $p = 0.001$)[22]. On the other hand, 40.6% of the youths in the sample indicated being sexually active, more so among the boys (45.1%) than the girls (36.5%) ($X2$ (1, N = 901) = 7.02, $p = 0.008$), and more

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[16] For effects associated with the age of the first romantic relationship, *eta*^{2} statistics of 0.029, 0.155, 0.005 were obtained and an observed power of 1.00, 1.00 and 0.56.
[17] Respectively, the main effect of gender and the interaction effect were associated with *eta*^{2} statistics of 0.182 and 0.013, and an observed power of 1.00 and 0.92.
[18] Respectively and for each effect observed, *eta*^{2} statistics were 0.006 and 0.029, with an observed power of 0.67 and 1.00.
[19] The main effect of gender was associated with an *eta*^{2} statistic of 0.020, with an observed power of 0.99.
[20] The main effect of age was associated with *eta*^{2} statistics of 0.029, with an observed power of 0.97.
[21] The main effect of age was associated with an *eta*^{2} statistic of 0.053, with an observed power of 1.00.
[22] The strength of the association between the variables, as represented by the *eta* statistic. was 0.109.

often among youths aged 15 to 17 than youths between 12 and 14 ($X2$ (1, N = 901) = 74.85, $p < 0.001$)[23].

With respect to psychosocial adjustment indices, a multivariate 2 (gender) X 2 (age) analysis of variance was run on the four dependent variables measuring psychosocial adjustment[24]. According to the Wilk criterion (Tabachnich and Fidell, 1996), the dependent variables combined were significantly affected by both gender (F = 21.29; $p < 0.001$) and age group (F = 3.62; $p = 0.006$), but not by their interaction. The results revealed a weak association between these dependent variables and gender ($eta^2 = 0.09$) as well as with age group ($eta^2 = 0.02$). Respectively, observed powers were 1.00 and de 0.88. A total of four 2 (gender) X 2 (age group) univariate analyses of variance were conducted to examine the effects of age and gender on each dependent variable. The results revealed that the academic performance of girls was significantly higher than that of boys (F = 8.33, $p = 0.004$) and average school grades of youths aged 15 to17 were significantly lower than that of youths aged 12 to 14 (F = 6.21, $p = 0.013$)[25]. Compared to the boys, girls scored lower for body image (F = 66.94, $p < 0.001$) and lower for self-esteem (F = 37.49, $p < 0.001$)[26]. Behavioural problems were more frequent among youths aged 15 to 17 than youths aged 12 to 14 (F = 5.85, $p = 0.016$)[27], but were just as prevalent among girls and boys. There was no interaction effect of age and or gender on any of the psychosocial adjustment indices.

Correlations between Romantic Involvement and Psychosocial Adjustment

Table 4 presents the correlations between parameters of romantic involvement, gender, age and adjustment indices for the entire sample (N = 901)[28]. Significant correlations varied between 0.08 and 0.28, implying degrees of low to moderate relations association between the variables. Academic performance presented a pattern of relationships, for the most part negative, with the parameters of romantic involvement. More precisely, poorer performance at school was associated with greater romantic interest (r = -0.08); romantic relationships initiated earlier in adolescent development

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[23] Respectively and as represented by the *eta* statistic, the strength of the association between the variables was 0.09 and 0.29.

[24] Results proper to hypotheses of normality, homogeneity of variance and covariance and linearity were satisfactory.

[25] Respectively, the main effects were associated with eta^2 statistics of 0.009 and 0.007, with an observed power of 0.82 and 0.70.

[26] Respectively, the main effects were associated with eta^2 statistics of 0.054 and 0.040, with an observed power of 1.00 in both cases.

[27] The main effect of age was associated with an eta^2 statistic of 0.006, with an observed power of 0.68.

[28] The entire sample (N = 901) was considered in examining relationships between variables. Missing data (meaning not applying to certain youths) were replaced by 0.

Table 4. Correlations between Gender, Age, Parameters of Romantic involvement and Adjustment Indices

N total = 901	Psychosocial Adjustment			
	Academic Performance	Body Image	Self-esteem	Behavioural Problems
– Gender (ref. = boys)	0.10**	-0.28**	-0.21**	-0.03
– Age	-0.14**	0.01	0.06	0.11**
– Interest	-0.08*	0.12**	0.08*	0.17**
– Age 1ST relationship	0.08*	-0.09**	-0.01	-0.07*
– Age of partners	-0.12**	-0.05	-0.05	0.13**
– No. of relationships	-0.04	0.08*	0.07	0.19**
– No. of broken hearts	-0.10**	0.02	-0.08*	0.12**
– Average duration	-0.01	0.11**	0.09**	-0.06
– Duration of a signif. relationship	0.04	0.08*	0.11**	0.01
– Time invested	-0.13**	0.002	0.04	0.14**
– Romantic status	-0.08*	0.11**	0.08*	0.06
– Sexual status	-0.16**	0.07	-0.04	0.13**

Note: The Pearson correlation coefficient (r) was used for all variables, except for categorical variables (gender, current romantic status – involved or not in a relationship, and sexual status – sexually active or not) for which where Spearman's rho (R) was preferred.
* $p < .05$; ** $p < .01$

(r= 0.08); partners on average older than oneself (r = -0.12); more episodes of heartbreak (r = 0.10); more time invested in a significant relationship (r = -0.13); current involvement in a romantic relationship (r = -0.08) and having had sexual intercourse at least once (r = -0.16). On the other hand, body image was significantly associated with romantic interest (r = 0.14); romantic relationships initiated at an earlier age (r = -0.07); more romantic relationships (r = 0.11); romantic relationships lasting on average longer (r = 0.09 and r = 0.08); and current romantic status (r = 0.16). On the other hand, only romantic interest (r = 0.08), number of broken hearts (r = -0.08), lasting on average longer (r = 0.09 and r = 0.08); and current romantic status (r = 0.16). On the other hand, only romantic interest (r = 0.08), number of broken hearts (r = -0.08), average duration (r = 0.09), and duration of a recent significant relationships (r = 0.11), as well as and current romantic status (r = 0.08), were significantly related to self-esteem. Finally, behavioural problems were, for the most part, associated with deeper and more precocious romantic involvement. More specifically, behavioural prob-

[29] With the exception of school grades which were measured in percentage (%), dependent variables were compiled on a 50-point scale.

lems were related to greater romantic interest (r = 0.17), a more precocious onset of romantic involvement (r = -0.07), dating partners older than oneself (r = 0.13), more romantic relationships (r = 0.19), more episodes of heartbreak (r = 0.12),; more time invested in a significant relationship (r = 0.14), and finally, more often related to an active sexual life (r = 0.13). From another standpoint, gender, with boys as the reference group, was positively associated with academic performance (r = 0.10), but negatively associated with body image (r = -0.28) and self-esteem (r = 0.21). Age, on the other hand, was negatively associated with academic performance (r = -0.14) and with more behavioural problems (r = 0,11).

Prediction of Psychosocial Adjustment on the Basis of Romantic Involvement

Four sequential linear regression analyses were performed to determine if the consideration of parameters of romantic involvement parameters improved the prediction of the adjustment indices (a – academic performance, b – body image, c – self-esteem, d – behavioural problems)[29] on the basis of parameters of romantic involvement[30]. Age and gender were computed in the first step of each of the regression equation, while the ten parameters of romantic involvement (interest, age at the time of the first romantic relationship, age of partners compared to oneself, number of romantic relationships, number of broken hearts, duration of relationships (on average, based on a recent most significant relationship), time invested each week in this significant relationship, romantic status, sexual status) were considered in the second step of the regression analyses. The existence of interaction effects of either age of gender with on any independent variables was evaluated by adding a third step to the equations[31]. Final equations, that is to say after having omitted parameters of romantic involvement not contributing significantly to the prediction, are presented in Table 6. Precisely, the table displays for each predictive model, regression coefficients (B) and their standardized errors (SEB), standardized regression coefficients (ß), adjusted R^2 and R^2 stratistics, probabilities of occurrence of B coefficients and the degree of significance of change in the R^2 tied to each step.

Results of the evaluation of assumptions led to the transformation of certain independent variables to reduce skewness, reduce the number of outliers and improve the normality and linearity of residuals[32]. No transformation was necessary to normalize dependent variables. With the use of a $p < 0.001$ (c^2 (dl, 12)= 32.91) criterion of

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[30] Same as Note 28.

[31] Variables were omitted from the equations in the absence of either a significant main effect or a significant interaction effect.

[32] Metric transformations used in the univariate analyses correspond to Note 13 (page 13). Transformations used for the duration of relationships invert the direction of association between variables.

Mahalanobis distance, four outliers remained present in the equation after performing the transformations[33]. These data were maintained in the equations given their low remoteness (Maximum Mahalanobis Statistic $c^2 = 39.26$). As for the final equations, meaning those resulting from the exclusion of independent variables not contributing significantly to the prediction, the Mahalanobis distance criterion ($p < 0.001$) suggested that between two and nine outliers remained (for body image and behavioural problems, respectively). These data were again preserved owing to their low remoteness (maximum distance of 8.2 from the c^2 statistic), and considering that the equations with or without the outliers did not differ significantly from each other.

Prediction of Academic Performance Based on Romantic Involvement. A first regression analysis was computed to predict academic performance based on romantic involvement. In addition to age and gender (step Step 1), eight parameters of romantic involvement were retained in the equation: 1) age at the time of the first romantic relationship; 2) age of partners in relation to oneself; 3) (log of) number of relationships; 4) (log of) number of broken hearts; 5) (inverse of) average duration; 6) (inverse of) duration of the most recent relationship; 7) time invested each week in a significant relationship; and, 8) sexual status[34]. Significant changes in R^2 were obtained for the first two steps of the equation (Step 1: $\Delta F (2, 898) = 13.19$, $p < 0.001$; Step 2: $\Delta F (8, 890) = 12.41$, $p < 0.001$), as well as when all 16 potential interaction effects with gender or age were considered simultaneously (Step 3: $\Delta F (16, 874) = 1.85$, $p = 0.022$). Consideration of the parameters of romantic involvement in a second step increased the variance accounted for (R^2) by 9.7%.

Table 5. Sequential Regression Analyses Examining the Relationship between Romantic Involvement and Adjustment Indices

N = 901	Regression Results				
Variables entered in each step	B (SE B)	ß	Sign. (p)	R^2 (adj. R^2)	ΔR^2
1	2	3	4	5	6
Academic Performance (DV)					
Step 1				0.029	0.029***
– Age	-0.79 (0,19)	-0.14	0.000	(0.026)	
– Gender (ref. = boys)	1.15 (0,54)	0.09	0.006		
Step 2				0.126	0.097***
– Age	-0.99 (0.22)	-0.17	0.000	(0.116)	
– Gender (ref. = boys)	1.72 (0.60)	0.11	0.004		

[33] This result pertains to equations including the twelve predictor variable considered initially.

[34] A first regression analysis revealed the absence of a main effect for romantic interest, average duration of relationships and current romantic status. With the exception of the average duration for which a significant interaction effect was obtained with age ($p = 0.001$), these variables were omitted from the equation.

(Table 5 continued)

1	2	3	4	5	6
– Age at time of 1st relation.	0.62 (0.12)	0.19	0.000		
– Age of partner	-1.65 (0.48)	-0.12	0.001		
– No. of relationships (log)	2.89 (0.84)	0.13	0.001		
– No. of broken hearts (log)	-2.25 (1.09)	-0.07	0.038		
– Average duration (inv.)	0.33 (2.19)	0.01	0.879		
– Duration signif. relation. (inv.)	-6.09 (1.84)	-0.14	0.001		
– Time invested (signif. relat.)	-0.10 (0.04)	-0.10	0.005		
– 1st sexual relation. (ref = no)	-2.93 (0.64)	-0.18	0.000		
Body Image (DV)					
Step 1				0.069	0.069***
– Age	-0.00 (0.15)	-0.01	0.476	(0.067)	
– Gender (ref. = boys)	-3.52 (0.43)	-0.27	0.000		
Step 2				0.100	0.031***
– Age	-0.16 (0.15)	-0.03	0.304	(0.095)	
– Gender (ref. = boys)	-3.56 (0.43)	-0.27	0.000		
– Interest	1.29 (0.40)	0.10	0.001		
– No. of relationships (log)	1.29 (0.63)	0.07	0.041		
– Current relationship (ref = no)	1.49 (0.48)	0.10	0.002		
Self-esteem (DV)					
Step 1				0.042	0.042***
– Age	0.19 (0.15)	-0.04	0.190	(0.040)	
– Gender (ref. = boys)	-2.53(0.42)	-0.20	0.000		
Step 2				0.070	0.028***
– Age	0.07 (0.15)	0.02	0.660	(0.063)	
– Gender (ref. = boys)	-2.60 (0.46)	-0.20	0.000		
– Interest	0.95 (0.40)	0.08	0.017		
– Age of partner	0.95 (0.40)	0.03	0.417		
– No. of relationships (log)	1.33 (0.61)	0.08	0.028		
– No. of broken hearts (log)	-2.25 (0.87)	-0.09	0.010		
– Duration signif. relation. (inv.)	-3.67 (1.11)	-0.11	0.001		
Behavioural Problems (DV)					
Step 1					0.013
– Age	0.48 (0.15)	0.11	0.001	(0.011)	
– Gender (ref. = boys)	-0.88 (0.46)	-0.07	0.055		
Step 2				0.126	0.113***
– Age	0.28 (0.17)	0.06	0.09	(0.117)	
– Gender (ref. = boys)	-0.88 (0.46)	-0.07	0.055		
– Interest	1.41 (0.38)	0.12	0.000		
– Age at time of 1st relation.	-0.21 (0.09)	-0.09	0.024		
– Age of partner	1.19 (0.37)	0.12	0.001		

(Table 5 continued)

1	2	3	4	5	6
− No. of relationships (log)	1.23 (0.63)	0.07	0.050		
− No. of broken hearts (log)	1.67 (0.83)	0.07	0.045		
− Average duration (inv.)	4.82 (1.36)	0.12	0.000		
− 1st sexual intercourse (ref = no)	2.38 (0.46)	0.19	0.000		

*p < .05; ** p < .01; *** p < .001

Adjusted R^2 corresponded respectively to 2.6% for Step 1 and to 11.6% following Step 2, indicating that 11.6% of involvement in a second step increased the variance accounted for (R^2) by 9.7%. Adjusted R^2 corresponded respectively to 2.6% for Step 1 and to 11.6% following Step 2, indicating that 11.6% of the variance in youths' academic performance was accounted for by the equation. In Step 2, nine variables were associated with regression coefficients (ß) supporting their unique and significant contribution to the prediction: 1) age (ß = -0.17); 2) gender (ß = 0.11); 3) age at the time of the first relationship (ß = 0.19); 4) age of partners (ß = -0.12); 5) (log of) number of relationships (ß = 0.13); 6) (log of) number of broken hearts (ß = -0.07); 7) (inverse of) duration of a more significant relationship (ß = -0.14); 8) time invested in this same relationship (ß = -0.10); and, 9) sexual status (ß = -0.18).

Sixteen additional multiple regression equations were performed to evaluate the existence of interaction effects of either age or gender with each of the romantic involvement parameters retained. Four interaction effects with age proved significant: a) average duration of romantic relationships ($p = 0.001$), duration of a significant relationship ($p = 0.002$), time spent in this same relationship ($p = 0.004$) and sexual activity ($p = 0.019$). These results were examined through repetition of the regression multiple regression equation according to two age groups (ages 12 to 14 and 15 to 16). Between 12 and 14, Steps 1 and 2 of the equation both contributed significantly to the prediction (Step 1: $\Delta F (2, 442) = 6.86$, $p = 0.001$; Step 2: $\Delta F (8, 434) = 10.74$, $p < 0.001$). Change in variance accounted for (R^2) after the second step corresponded to 16,0%, with a cumulative adjusted R^2 of 17,2%, indicating that 17,2% of the variance in academic performance of youths aged 12 to 14 can be predicted by the equation. Between 15 and 17, the equation was also associated with a significant increase in variance accounted for (R^2) after any of in the first two steps of the equation (Step 1: $\Delta F (2, 453) = 4.99$, $p = 0.007$; Step 2: $\Delta F (8, 445) = 4.02$, $p = 0.001$), although the cumulative predictive capacity of this second equation was in fact lower ($R^2 = 6.6\%$). A look at the standardized regression coefficients (ß) for variables interacting significantly with age revealed: 1) an inverse, but non-significant relationship, between academic achievement and (the inverse of) the average duration of romantic relationships for youths aged 12 to14 (ß = 0.04, $p = 0.44$), compared to youths aged 15 to 17 (ß = -0.05, $p = 0.44$); 2) a significant association between academic performance and the duration of a recent most important romantic relationship solely during the second

segment of adolescence (ß = -0.17, p = 0.01), compared to youths aged 12 to 14 (ß = -0.09, p = 0.09); 3) a comparable relationship between academic performance and investment in time for both 12- to 14-year-olds (ß = -0.11, p = 0.028) and 15- to 17-year-olds (ß = -0.11, p = 0.037) ; and, 4) academic performance was more strongly affected by active sexuality at the onset of adolescence (ß = -0.23, $p < 0.001$), compared to youths aged 15 to17 (ß = -0.12, p = 0.034).

Prediction of Body Image Based on Romantic Involvement. A second regression analyse analysis was computed to predict body image based on romantic involvement. In addition to age and gender (Step 1), only three parameters of romantic involvement were retained in the final equation: 1) romantic interest; 2) (log of) number of relationships; 4) current romantic status[35]. Significant changes in variance accounted for (R^2) were obtained in the first two steps of equation (<u>Step 1</u>: Δ F (2, 898) = 33.49, $p < 0.001$; <u>Step 2</u>: Δ F (3, 895) = 10.19, $p < 0.001$); however, the third step of the equation did not support the existence of significant interaction with age and gender (<u>Step 3</u>: Δ F (6, 889) = 0.95, p = 0.462). Consideration of parameters of romantic involvement in the second step of the model enhanced by 3.1% the portion of variance accounted for (R^2). Adjusted R^2 corresponded respectively to 6.7% for Step 1 and 9.5% following Step 2, indicating that 9.5% of the variance of body image during adolescence was accounted for by the equation. In Step 2, four variables were associated to regression coefficients (ß) supporting their unique and significant contribution to the prediction: 1) gender (ß = -0.27); 2) romantic interest (ß = 0.10); 3) (log of) number of relationships (ß = 0.07); and 4) current romantic status (ß = 0.10).

Prediction of Self-esteem Based on Romantic Involvement. A third model was computed for the purpose of predicting self-esteem on the basis of romantic involvement. In total, in addition to age and gender (Step 1), five parameters of romantic involvement were retained in the equation: 1) romantic interest; 2) age of partners in relation to oneself; 3) (log of) number of relationships; 4) (log of) number of broken hearts; and, 5) (inverse of) duration of a recent significant relationship[36]. The first two steps added significantly to the variance accounted for by the equation (R^2) (<u>Step 1</u>: Δ F (2, 898) = 19.83, $p < 0.001$; <u>Step 2</u>: Δ F (5, 893) = 5.33, $p < 0.001$), as well as

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[35] A first regression analysis revealed them absence of a main effect or an interaction effect for seven of the ten independent variables: age at the time of the first romantic relationship, age of the partners, (log of) number of broken hearts, (inverse of) average duration of the relationships, (inverse of) duration of a recent relationship, time invested and sexual status. These variables were omitted from the equation.

[36] A first regression analysis revealed the absence of a main effect for the variables: age at the time of the first romantic relationship, age of the romantic partner, (inverse of) average duration of the relationships, time spend in a more significant relationship, current romantic status and sexual status. With the exception of average age of the romantic partners, a variable significantly interacting with both gender and age (p = 0.01), these variables were omitted from the equation.

when the 10 potential interaction effects with gender and age were entered (Step 3: Δ F (10, 882) = 2.32, p = 0.011). Consideration of parameters of romantic involvement in the second step of the equation enhanced the variance accounted for (R^2) by 2.78% (R^2). Adjusted R^2 corresponded respectively to 4.2% for Step 1 and to 6.3% following Step 2, indicating that 6.3% of the variance in performance at school during adolescence could be predicted by the equation. In Step 2, five variables were associated with regression coefficients (ß) supporting their unique and significant contribution to the prediction: 1) gender (ß = -0.20); 2) romantic interest (ß = 0.08); 3) (log of) number of relationships (ß = 0.08); 4) (log of) number of broken hearts (ß = -0.09); et, 5) (inverse of) duration of a more significant relationship (ß = -0.11).

Ten additional multiple regression equations were performed to evaluate the existence of interaction effects of either age or gender with each of the romantic involvement parameters retained. Two interaction effects with gender and one interaction effect with age proved significant. More precisely, the age of romantic partners in relation to oneself interacted significantly with age (p = 0.010) and gender (p = 0.011), while romantic interest was significantly influenced by gender (p = 0.029). These results were examined though the repetition of the multiple regression equation first according to two age groups (12 to 14 and 15 to 17) and then according to gender. Between ages 12 and 14, the first two steps of the equation were associated with a significant increase in variance accounted for (R^2) (Step 1: Δ F (2, 442) = 14.34, p < 0.001; Step 2: Δ F (5, 437) = 2.78, p = 0.02). The R^2 statistics corresponded to 2,8% after Sstep 2, with a cumulative adjusted R^2 of 7.5%, indicating that 7.5% of the variance in youths' self-esteem between 12 and 14 could be predicted by the equation. Between ages 15 and 17, the two first steps of the equation significantly increased were associated as well with a significant increase in the variance accounted for (R^2) (Step 1: Δ F (2, 453) = 5.93, p = 0.003; Step 2: Δ F (5, 448) = 3.63, p = 0.003); with a slightly higher contribution of step 2 the second step of the equation compared to the first half of adolescence (R^2 = 3.8%) and a cumulative adjusted R^2 of 4.9%. A look at the standardized regression coefficients (ß) for the variable "age of romantic partners" revealed a non-significant, but inverse relation according to age group, with ß = -0.03 (p = 0.528) between 12 and 14 years of age and ß = 0.08 (p = 0.137) between 15 and 17 years of age.

In terms of interaction effects with gender, the second steps of the equation were was associated with a significant change in variance accounted for (R^2) both for boys (Step 1: Δ F (1, 430) = 0.248, p = 0.619; Step 2: Δ F (5, 425) = 4.43, p = 0.001) and for girls (Step 1: Δ F (1, 467) = 1.74, p = 0.188; Step 2: Δ F (5, 462) = 3.75, p = 0.002). For the boys, Step 2 accounted for 4.9% (R^2) of the variance in self-esteem, with a cumulative adjusted R^2 of 3.7%, meaning that only 3.7% of the variance in boys' self-esteem was adequately predicted by the equation. For girls, 3.9% of the variance was accounted for (R^2) by variables entered in the second step of the equation, with a low proportion of variance in self-esteem correctly predicted by the model (adjusted R^2 = 3.0%). A look at the standardized regression coefficients (ß) for the "age of romantic partners" variable again revealed a non-significant, but inverse relation according to

gender, with ß = -0.08 (p = 0.079) for the boys and ß = 0.09 (p = 0.062) for the girls. Finally, romantic interest was significantly associated with self-esteem solely in the case of the boys (ß = 0.17, p = 0.001), and not the girls (ß = 0.006, p = 0.889).

Prediction of Behavioural Problems Based on Romantic Involvement. One last regression analysis was computed to predict behavioural problems based on romantic involvement. In addition to age and gender, seven variables of romantic involvement were retained in the final equation: 1) romantic interest; 2) age at the time of the first romantic relationship; 3) age of the partners; 4) (log of) number of relationships; 5) (log of) number of broken hearts; 6) (inverse of) average duration of the relationships; and, 7) sexual status[37]. Each of the first two steps of the equation served to account for a significant portion of the variance (R^2) in) in predicting behavioural problems (<u>Step 1</u>: Δ F (2, 898) = 6.04, p = 0.002; <u>Step 2</u>: Δ F (7, 891) = 16.45, $p < 0.001$), but not when the 14 potential interaction effects with age and gender were entered (<u>Step 3</u>: Δ F (14, 877) = 1.11, p = 0.345). Consideration of the parameters of romantic involvement in the second step of the equation significantly enhanced the variance accounted for (R^2) by 11,3%. Adjusted R^2 corresponded respectively to 1,1% in Step 1, and 11.7% following Step 2, indicating that 11.7% of the variance in behavioural problems during adolescence could be predicted by the equation. In Step 2, seven variables were associated with regression coefficients (ß) supporting their unique and significant contribution to the prediction: 1) romantic interest (ß = 0.12); 2) age at the time of the first relationship (ß = -0.09); 3) age of the partners (ß = -0.12); 4) (log of) number of relationships (ß = 0.07); 5) (log of) number of broken hearts (ß = 0.07); 6) (inverse of) duration of relationships (ß = 0.12); and 7) sexual status (ß = 0.19).

Summary and Verification of Hypotheses. Supporting Hypothesis 1, regression equations accounted for a significant proportion of the variance in predicting each of the psychosocial adjustment indices under study. However, it was in the prediction of academic performance (1a) and behavioural problems (1d) that a more interesting proportion of variance was accounted for by romantic involvement. As in the case of the correlations, certain parameters of romantic involvement related positively to adjustment indices, while others were negatively associated. For example, if having been involved in several romantic relationships and having experienced several episodes of heartbreak were negatively associated with academic performance, longer-lasting romantic relationships were predictive of significantly superior scholastic achievement. On the other hand, a review of interaction effects only partly supports hypotheses 2 and 3 of this study. Indeed, even if the strength of relations between romantic involvement and academic performance was greater between ages 12 to 14 compared to the second group of adolescents, a look at variables associated with

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[37] The first regression analysis conducted revealed the absence of either a main effect or an interaction effect on three variables: (inverse of) duration of a recent significant relationship, time invested weekly in this relationship and current romantic status. These variables were omitted from the equation.

a significant interaction effect with age was inconclusive. More precisely, solely the fact of being sexually active was predictive of a greater decline in academic perform-ance among 12 to 14-year-olds, while the duration of a recent significant relationship was associated with better academic performance only for youths aged 15 to 17. Partly supporting Hypothesis 3 of the study, results suggested that self-esteem is sig-nificantly affected by gender. However, the results mostly illustrated mainly that romantic interest is positively associated with self-esteem solely in the case of boys, and that if dating older partners is generally indicative of a higher level of self-esteem for girls, the contrary applies to boys.

Discussion

Several authors have maintained that initiation to romantic involvement is a cor-nerstone in adolescent development (Sullivan, 1953; Erikson, 1959; Havighurst, 1972), stressing both the risks and opportunities for growth that might result from it. Yet, very little is known about the meaning of romantic relationships in terms of well-being and psychosocial adjustment during adolescence (Maccoby, 1990; Shulman et al., 1997; Feiring, 1999; Sippola, 1999). Rare are the studies using a multidimen-sional perspective that is adapted to the complexity of the phenomenon. This study provides a response to the need for empirical data in French-speaking Quebec. Following the example of two American studies (Neeman, Hubbard & Masten, 1995; Zimmer-Gembeck, Siebenbruner & Collins, 2001), multiple criteria were used to eval-uate romantic involvement and psychosocial adjustment during adolescence. In the sense of our initial assumptions and in keeping with already existing empirical infor-mation, our data supports the existence of significant associations between different aspects of romantic involvement and the psychosocial adjustment indices. Relationship patterns, both positive and negative, corresponded for the most part with already published data in the field (for example, Zimmer-Gembeck, Siebenbruner & Collins, 2001). Along with the influence of age and gender on certain variables, the relation-ships observed reflect the changing meaning and potentially multiple roles of roman-tic relationships during adolescence (Neeman, Hubbard & Masten, 1995).

Links between Romantic Involvement and Psychosocial Adjustment

All in all, the results support the hypothesis of a negative link between strong romantic involvement during adolescence and academic performance. More precise-ly, it is possible to predict poorer academic performance for by youths involved in romantic relationships at an early age, dating partners on average older than them-selves, experiencing more episodes of heartbreak, investing more time in a recent, more significant romantic relationship and reporting being sexually active. This result may be explained in part by the often strong emotional investment required by romantic encounters and by the potentially long hours spent on the telephone or in

activities outside of school (Neeman, Hubbard & Masten, 1995). The energy channelled towards initiating and maintaining romantic relationships may interfere with the energy, the time and the attention devoted towards academic achievement (Leaper & Anderson, 1997). Likewise, youths showing a greater romantic involvement are further exposed to experiences of breaking up, rejection, heartbreak and conflict, which can lead to a depressive moods that in turn may hamper scholastic achievement (Larson, Clore & Wood, 1999; Monroe et al., 1999; Lafleur, Drolet & Trottier, 1999). Precocity in romantic involvement and dating partners on average older than oneself may be associated with a general tendency to act older than one's age and neglect schoolwork in favour of social involvement with youths often at risk of showing behavioural problems (Neeman, Hubbard & Masten, 1995). Finally, some authors reported that the emergence of active sexuality, particularly precocious sexuality, is associated with a decrease in motivation for schoolwork and generally poorer academic performance (Ostrov et al., 1985; Irwin & Shafer, 1992). On the other hand, our results suggested that having experienced a number of romantic relationships and/or a recent, longer-lasting romantic relationship are is associated with better academic performance between 12 and 17 years of age. These results concur with the observation that a heterosexual context may also prove energizing for youths, compensate for feelings of boredom for some and help mitigate the stress of puberty (Darling et al., 1999). Higher levels of commitment and enthusiasm were also observed (Aneshensel & Gore, 1991); Larson & Asmussen, 1991), as were increased energy levels and greater cognitive complexity (Darling et al., 1999), when adolescents discuss their romantic activities. Furthermore, for many youths, the romantic partner acts as an additional source of support (Furman & Buhrmester, 1992; Connolly & Johnson, 1996) and it is plausible that this might contribute, to a certain extent, to maintaining a positive outlook towards school. On the other hand, in cases where the pattern of engagement is precocious, when episodes of heartbreak occur successively and when relationships last on average longer and involve active sexuality, an inverse relation is obtained between romantic involvement and academic performance.

From another standpoint, although relations were modest, the results supported the existence of positive associations of romantic involvement to with body image and self-esteem. More specifically, a significant proportion of variance in body image canould be predicted by the interest shown in romantic relationships, the average number of romantic relationships and the existence of a current romantic relationship. It is possible that these links might be explained in part by the underlying importance of physical beauty during adolescence. Indeed, physical appearance has a major impact on heterosexual appeal during adolescence (Feiring, 1996), generally contributing greatly to determining feelings of personal value, social status and interpersonal attractiveness during adolescence (Cloutier, 1996). Therefore, it is plausible that physical beauty contributes to popularity with the opposite sex and indirectly reinforces youths' body image. On the other hand, better self-esteem can be predicted during adolescence on the basis of greater romantic interest, more romantic relationships, fewer episodes of heartbreak and recent, longer-lasting significant relationships.

Overall, these results correspond to data suggesting that heterosexual relationships are generally pleasant and enriching areas of the social experience during adolescence (Csikszentmihayli & Larson, 1984; Richards et. al., 1998). It has also been documented that adolescents reported feeling more attractive, competent and important in life in a heterosexual context (Richard et al., 1998). Similarly, experiencing a steady romantic relationship has been associated positively with self-esteem (Long, 1989), greater social competence and a better opinion of one's heterosexual appeal (Zimmer--Gembeck, Siebenbruner & Collins, 2001).

Finally, the results indicated that the characteristics of romantic involvement during adolescence may serve to predict a significant portion of variations in youths' behavioural difficulties. More precisely, it is possible to predict more behavioural problems among youths showing greater romantic interest, having experienced a romantic relationship at an earlier age, generally dating older partners, having had more romantic relationships and suffered more broken hearts and having been sexually active. Same as forSimilar to achievement in school, experiencing romantic relationships of, on average, longer in duration was associated with fewer behavioural difficulties. This may be explained in part by the fact that more committed and serious romantic relationships develop progressively outside the group context during adolescence (Dunphy, 1963; Furman & Wehner, 1994), which might potentially decrease the risk of behavioural problems. On the whole, the results support the existence of links between behavioural difficulties during adolescence (for example, smoking, drinking and using drugs, run-ins with the law), precocious romantic involvement and number of romantic experiences (Neeman, Hubbard & Masten, 1995; Zimmer-Gembeck, Siebenbruner & Collins, 2001). These results correspond to the risks associated with sexual activity during adolescence (Irwin & Shafer, 1992). This may be attributable to a general tendency to adopt behaviour beyond one's age (Neeman, Hubbard & Masten, 1995), which has been associated with consorting within a social network where problems and behavioural difficulties are more prevalent (Jessor et al., 1983). Equally, youths experiencing exhibiting adjustment problems are more likely to have romantic partners experiencing similar difficulties, sharing the same values and engaging in similar social conduct (Capaldi & Crosby, 1997; Quinton et al., 1993). These romantic relationships risk acerbating already existing difficulties (Zimmer-Gembeck, Siebenbruner & Collins, 2001).

The Influence of Age and Gender

Some authors have maintained that the meaning of romantic involvement in psychosocial adjustment during adolescence varies according to age and gender (for example, Zimmer-Gembeck, Siebenbrunner & Collins, 2001). In the sense of the second research hypothesis, results were indicative of a stronger association between academic performance and romantic involvement at the onset of adolescence (ages 12 to14) compared to adolescents of the second age group (ages 15 to 17). However, a look at the variables for which significant interaction with age does exist did not

offer a clear picture. Only four significant interaction effects were obtained, and only two among them were associated with variables contributing significantly to the prediction of academic performance for either of the age groups. More precisely, performance in school was positively related to the duration of a recent and meaningful romantic relationship only during the second half of adolescence; and, the impact on academic achievement of commitment to active sexuality appeared to be more detrimental for youths between 12 and 14, compared to youths between 15 and 17. Other authors as well have documented as well that greater and more precocious romantic involvement is associated with poorer academic performance throughout adolescence (Neeman, Hubbard & Masten, 1995; Zimmer-Gembeck, Siebenbrunner & Collins, 2001). As proposed by Sullivan (1953), intense romantic involvement when youths lack the necessary emotional maturity, such as at the onset of adolescence, might prove to be especially harmful to their adjustment.

Adjustment to a heterosexual reality may create different challenges for boys and girls, and according to Maccoby (1990), this adaptation is particularly difficult for girls. Contrary to hypothesis 3 of this study, our results provided little support for the existence of gender differences. Predictions of body image and self-esteem on the basis of romantic involvement were slightly, or not at all, affected by gender. This undermines the observation whereby girls more often experience a lowering in self-esteem concurring with the emergence of heterosexual networks (Maccoby, 1990; Darling et al., 1999), and that they impart greater importance to heterosexual appeal in their self-definition (Archer, 1992). In this research, the results mostly indicated mainly that girls dating older romantic partners tend to have better self-esteem, while the contrary was observed among boys: their self-esteem appears greater when they date partners who are younger and also when they evince greater interest in romantic relationships. This corresponds to the normative trend of girls to date older boys, while boys tend to date girls who are younger or of the same age (Cloutier et al., 1994). With respect to body image, it is possible that the lack of gender difference mirrors the importance of physical appearance in the eyes of both boys and girls in determining romantic appeal and popularity with the opposite sex (Feiring, 1996). However, it cannot be excluded that boys' self-esteem might reside more in exterior aspects such as romantic interest and the number of girls in their entourage. On the other hand, girls' self-esteem may depend more on intrinsic aspects such as the quality of romantic relationships and feelings of well-being with their partner (Darling et al., 1999).

In conclusion, most youths following a well-adapted adjustment path will initiate romantic relationships during a latter stage of adolescence (ages 15 to 17) and will do so moderately and progressively (Neeman, Hubbard & Masten, 1995). Despite the risk inherent to in precocious romantic involvement, our results offered little support to for the existence of age differences. This may be attributable in part to the range of ages covered (ages 12 to 17). Indeed, according to conclusions reached by Neeman, Hubbard and Masten (1995), it is only when adolescents reach young adulthood that the relation between youths' romantic involvement and psychosocial adjustment

begins to fade. However, many difficulties present during early adolescence tend to persist during adulthood. From another standpoint, the small number of gender differences contrasts with results obtained by other authors (Sharabany, Gershoni & Hoffman, 1981; Lempers & Clark-Lempers, 1993; Connolly & Johnson, 1996; Richards et al., 1998; Shulman & Scharf, 2000). For example, based on a more-at-risk sample and following a longitudinal perspective, Zimmer-Gembeck and his partners (2001) reported more psychosocial difficulties experienced among girls showing greater romantic relationships by age 16, compared to boys of the same age. In this study our report, most of the youths were following a normal psychosocial path, which often means a weaker strength of association. It is therefore plausible that some gender differences may not have been sufficient to prove significant.

Limits and Contributions

Some methodological choices limit the conclusions that can be derived from this study. First, it involved transversal data, implying that a cohort effect might be present and meaning that we cannot draw conclusions as to individual adjustment throughout time in relation to romantic relationships. Secondly, despite the use of multiple measures and criteria in evaluating romantic involvement, all of the information was gathered from the youths themselves. As such, the results depend exclusively on their perception, and it is possible that they might have been influenced by a bias towards social desirability (for example, reporting a greater level of romantic or sexual experience than what really happened). Thirdly, the emphasis was on measuring the place occupied by romantic involvement in youths' lives, and therefore, the study did not delve into the link between the intrinsic characteristics of romantic relationships and youths' adjustment. For example, over and above a given level of experience, the degree of intimacy, or then again the presence of violent behaviour, may affect the functioning and well-being of youths differently. Finally, many other factors can be linked to psychosocial adjustment during adolescence. For example, it is necessary that we acquire a better understanding of the influence of family environment and the impact of change in peer networks of friends on youths' capacity to adapt to the transition towards romantic involvement in adolescence.

On the whole, however, this research allowed us to study the relation between romantic involvement and psychosocial adjustment within a sample of youths in Quebec, based on multiple criteria measures. In keeping with already existing data in the field, romantic relationships during adolescence may have both positive and negative consequences. Notably, if romantic relationships appear to positively influence self-esteem, particularly if the relationships lasts a longer time, it remains a fact a fact that precocious introduction to sexual activity is associated with poorer academic performance and an increased risk of experiencing behavioural problems. This highlights the complexity of associations between different aspects of romantic involvement and psychosocial adjustment during adolescence. Further research may lead to a better understanding of which characteristics of romantic involvement are associated with

a well-adapted psychosocial adjustement path. Among other things, it would be interesting to study the meaning of intrinsic characteristics within romantic relationships characteristics (for example, degree of intimacy, jealousy, conflicts, etc.) on emotional health and well-being during adolescence. Ultimately, work in this field might help us better accompany youths during this important phase of development, since it has a major impact on aspects of social and personal maturity required to face the challenges of adulthood.

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