

The Relationship Between School–Leisure Conflict and Educational and Mental Health Indexes: A Motivational Analysis

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The purpose of the present study was to test a motivational model that explains the relationship between school–leisure conflict and indicators of educational functioning and mental health using structural equation modeling with a sample of college students. Results provided support for the proposed model. Experiencing a conflict between education and leisure contexts was negatively predicted by having a self-determined motivation for school, while self-determined motivation for leisure activities was unrelated to the experience of such a conflict. A school–leisure conflict, in turn, was associated with poorer academic consequences (poor concentration at school, academic hopelessness, few intentions of pursuing in school), which were associated with higher levels of depression and low life satisfaction. Importantly, the proposed theoretical model was supported for both men and women. Results are discussed in terms of self-determination theory (Deci & Ryan, 1985, 1991, 2000) and the hierarchical model of intrinsic and extrinsic motivation (Vallerand, 1997).

Julianne is a senior high school student. She is involved with several extra-curricular activities at school. For example, she is in charge of the graduation ball, she hosts a show at the school radio, and she plays on the school volleyball team. All of these activities impinge on her studying time to the point that Julianne often finds herself neglecting her homework in order to meet with friends or play volleyball. It seems that whenever she starts studying, there is

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always a fun leisure activity presenting itself to her. Although she is aware that her leisure interferes with her school, she cannot help but feel tempted by these activities. When she takes a moment to really think about it, her motivation toward school is quite low, which makes her feel torn between what she really likes to do (i.e., play volleyball, host her radio show) and what she should do (i.e., go to school, do her homework). Not surprisingly, her grades have been worsening, her concentration at school is poorer, and her willingness to stay in school has weakened greatly. As a result, recently she has started to feel depressed and much less satisfied with her life in general.

The following example illustrates a conflict between two life domains; namely, education and leisure. All of us have experienced, at one time in our life, a conflict between two domains, be it between school and leisure, family and work, school and work, and so forth. Up to now, little research in the motivational literature examined such a conflict and its outcomes. The present study aims to study the motivational bases of such a conflict, as well as its relation to indexes of functioning at contextual (life domain) and general (dispositional) levels. The theoretical perspective underlying the present research is the hierarchical model of intrinsic and extrinsic motivation (Vallerand, 1997; Vallerand & Ratelle, 2002), which derives from self-determination theory (SDT; Deci & Ryan, 1985, 1991, 2000).

Hierarchical Model of Intrinsic and Extrinsic Motivation

Stemming from SDT, Vallerand (1997) proposed a hierarchical model of intrinsic and extrinsic motivation (HMIEM), a theoretical framework for integrating a large portion of the literature on intrinsic and extrinsic motivation, as well as proposing new research avenues. According to SDT, humans have three basic psychological needs that they strive to satisfy: competence, autonomy, and relatedness. These three needs promote optimal functioning of humans' natural tendencies for growth and integration, as well as social development and personal well-being (Deci & Ryan, 2000; Ryan & Deci, 2000).

Within SDT, it is possible to distinguish between self-determined and non-self-determined forms of motivation. *Self-determined motivation* implies engaging in an activity or behavior out of autonomy (versus control). More specifically, self-determined motivation can be observed when a person engages in an activity or a behavior for its own sake, for the pleasure and satisfaction inherent in it. For example, Julianne can be said to have a self-determined motivation toward playing volleyball because she finds it pleasurable and satisfying. Self-determined motivation also can be observed when one engages in a behavior out of choice and personal values. Such a motivation is observed when, for example, Julianne decides to get involved in the graduation committee because it is important for her to have an input in this major event.

On the other hand, *non-self-determined motivation* implies engaging in an activity or behavior for controlled (versus autonomous) reasons. Non-self-determined motivation can be observed when one performs a behavior in order to attain a positive end state (e.g., obtaining a reward) or to avoid a negative end state (e.g., avoiding a punishment). As such, when Julianne wakes up in the morning to go to school in order to avoid her mother's criticism, she behaves in a non-self-determined fashion. Non-self-determined motivation also can be observed when there is a relative absence or lack of motivation. It operates when individuals do not perceive contingencies between their own behaviors and their outcomes. A likely outcome of such a motivational tendency is the cessation of the behavior (Vallerand, 1997; Vallerand & Ratelle, 2002).

One of the postulates of the HMIEM is that motivation exists at three different levels of generality: global (personality), contextual (life domain), and situational levels. *Global motivation* refers to the person's general orientation toward interacting with the environment and is the most stable form of motivation. *Contextual motivation*, on the other hand, refers to one's relatively stable motivational orientation toward one's different life domains, such as work, education, leisure, and family. Finally, motivation can exist at the *situational* level, which represents the most specific level of analysis. It focuses on the motivation to engage in a specific activity at a particular time. For example, the motivation to brush one's teeth at 7:00 a.m. can be described as situational. For the present study, the focus is on contextual motivation. Within each level, it is proposed that motivation can be self-determined or non-self-determined. Moreover, we focus on how motivations for different contexts can come to interact with one another and sometimes even enter into conflict.

Motivational Conflict and Its Outcomes

Because students must juggle several life domains that have high importance in their lives, it is possible that eventually activities in one domain will require more resources in time or effort, leaving the students in a conflictual situation in which they must devote their resources in more than one domain at the same time. Several researchers have documented the existence of such interdomain conflicts, as well as their negative outcomes from various indexes of individual functioning.

Research from Sénécal, Vallerand, and Guay (2001) showed that two important domains can come to be in conflict with each other. Their results also suggested that the motivational style characteristic of each domain is an important predictor of such a conflict. In their study, Sénécal et al. found that self-determined contextual motivations were negatively associated with the experience of interdomain conflict. These findings suggest that the more individuals feel self-determined toward activities and behaviors performed in these two

important life domains, the less they will experience conflict between the two domains.

Although Senécal et al.'s (2001) research dealt with different life domains (i.e., work and family) than those in which we are interested for the present study, it nevertheless highlights the importance of considering individuals' motivation toward life contexts in order to predict the interplay among them. Senécal et al. also found that interdomain conflicts have important (and negative) outcomes for individuals. Specifically, work-family conflict was found to have significant emotional costs. In a similar vein, conflict among different life goals can lead to negative consequences, such as poor physical health (Emmons & King, 1988). Hence, these findings underscore the importance of harmoniously negotiating one's life domains.

In the educational literature, research also has called attention to the important costs of interdomain conflicts. For instance, research on school-work conflict has suggested that juggling these two important domains can be quite consequential for students. Indeed, experiencing a conflict between school activities and work demands was found to predict negative school outcomes, such as absenteeism (Greenberger, Steinberg, & Vaux, 1981), spending less time on school work, low grade point average, cutting class (Barling, Rogers, & Kelloway 1995), school unreadiness (i.e., low class attendance, less effort and preparedness; Barling et al., 1995; Markel & Frone, 1998), and school dissatisfaction (Hammer, Grigsby, & Woods, 1998). Hence, having students integrate their work activities with their school obligations appears to be of prime importance if we want students to complete their education successfully. We believe that similar considerations pertain to the negotiation of leisure activities with school obligations.

The Present Study

The purpose of the present study is to examine the motivational determinants of a conflict between leisure and education contexts, as well as its relation to educational outcomes and general well-being using a theoretical model based on previous conflict research. Specifically, it is predicted that a conflict between leisure and educational activities will result from the joint influence of students' motivational orientations toward school and leisure.

Self-determined contextual motivations toward leisure and education are expected to be associated with lower instances of conflict. The experience of a school-leisure conflict in turn will predict lower levels of academic functioning at cognitive (poorer concentration), behavioral (fewer intentions of persisting at school), and affective (feelings of hopelessness) levels. Finally, negative academic outcomes are hypothesized to be associated with poorer indexes of mental health (depressive symptoms, global life satisfaction). The motivational model to be tested is presented in Figure 1.

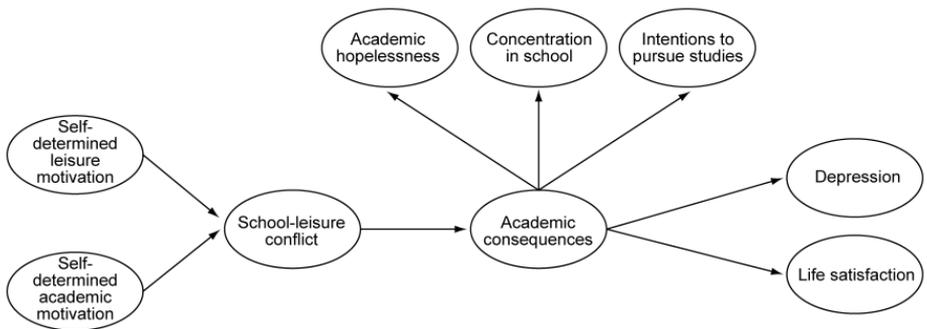


Figure 1. A motivational model of school–leisure conflict: postulated model.

Method

Participants

A total of 658 college students (367 male, 291 female), recruited in cegeps (i.e., junior college) from the Montreal area, took part in this study. The students were recruited in classrooms and were asked to complete a questionnaire. Their mean age was 18 years, and 86% had French as their first language.

Procedure

Participants were attending class when the experimenter came in and asked for their participation in a study about their attitudes and behaviors in educational and leisure domains. The questionnaire includes scales assessing academic motivation, motivation toward leisure, conflict between leisure and education, educational outcomes (concentration at school, intention to stay in school, academic hopelessness), as well as indexes of mental health (depressive symptoms, life satisfaction). The questionnaire took about 20 min to complete. Afterward, the study's purpose and hypotheses were explained to the participants.

Measures

Motivation toward leisure. Students' self-determined motivation toward leisure activities was measured with the Leisure Motivation Scale (LMS; Pelletier, Vallerand, Green-Demers, Blais, & Brière, 1996). This 16-item multidimensional scale assesses four different types of reasons (four items each) for doing leisure activities. Students indicated the extent to which each reason corresponded to why they do leisure activities on a 7-point Likert scale ranging from 1 (*not at all*) to 7 (*completely*). Items include intrinsic motivation (e.g., "Because

Table 1

Means, Standard Deviations, and Cronbach's Alphas for Scales

	<i>M</i>	<i>SD</i>	α
Leisure motivation ^a	10.44	4.25	.86
Academic motivation ^a	6.97	4.63	.89
School-leisure conflict ^b	4.32	1.31	.74
Academic consequences			
Intention to pursue one's studies ^c	4.61	0.57	.71
Concentration at school ^c	3.02	0.82	.80
Academic hopelessness ^b	1.86	0.91	.86
Depression ^c	1.37	1.11	.80
Life satisfaction ^b	4.92	1.23	.86

Note. $n = 658$.

^aRange = -18 to 18. ^bRange = 1 to 7. ^cRange = 1 to 5.

I experience pleasure and satisfaction learning new things”), identified regulation (e.g., “Because it’s the means that I choose to acquire abilities in other domains that are important to me”), external regulation (e.g., “To show to others that I am a dynamic person”), and amotivation (e.g., “Honestly I don’t know; I have the impression that I’m wasting my time doing leisure activities”). The LMS has demonstrated acceptable psychometric qualities in several past studies (e.g., Pelletier et al., 1996; Pelletier, Green-Demers, Vallerand, Blais, & Brière, 1995). In the present study, alphas of .86 and .84 were obtained for the intrinsic motivation and identified regulation subscales, while external regulation and amotivation subscales yielded lower scores ($\alpha = .60$ and $.68$, respectively). Descriptive statistics are presented in Table 1.

Academic motivation. The abridged version of the Academic Motivation Scale (AMS; Vallerand, Blais, Brière, & Pelletier, 1989; Vallerand et al., 1992, 1993) was used to assess participants’ contextual self-determined motivation toward education. This multidimensional scale assesses four different types of reasons (four items each) for engaging in the educational domain. Participants had to indicate on a 7-point scale the extent to which they attended cegep out of intrinsic motivation (e.g., “For the pleasure of knowing more on the subjects that entice me”), identified regulation (e.g., “Because I think that a post-secondary education will help me better prepare for the career I choose”), external regulation (e.g., “To get a prestigious job later”), and amotivation (e.g., “I don’t know, I can’t really understand what I’m doing in cegep”).

Previous studies have found high levels of reliability and validity for the AMS (Vallerand, 1997; Vallerand et al., 1989, 1992, 1993). Indexes of internal consistency for the different subscales were acceptable, ranging from .89 for the intrinsic motivation subscale to .70 for the external regulation subscale, with the exception of the identified regulation subscale, which was lower ($\alpha = .60$).

In order to assess self-determined motivation in education and leisure domains, the present study made use of the Self-Determination Index. This index has been used successfully in the past (e.g., Grolnick & Ryan, 1987; Vallerand & Bissonnette, 1992; for more information on this topic, also see Vallerand, 1997).

The goal of using such an index is to have a single score to represent self-determined motivation. This was done by assigning a weight of +2 to the intrinsic motivation subscale, since this construct represents the highest level of self-determination. A weight of +1 was assigned to the identified regulation subscale. A weight of -1 was allocated to the external regulation subscale because it represents a negatively self-determined motivation. Finally, a weight of -2 was awarded to the amotivation subscale since this construct represents the lowest level of self-determination (Deci & Ryan, 1985, 1991). Multiplying the scores for each subscale by its corresponding weight and adding all the products yields an index for the individual's contextual self-determined motivations toward education and leisure. The more self-determined motivation is, the higher the score on this index will be. Cronbach's alpha for the self-determination index was high for both leisure ($\alpha = .86$) and academic ($\alpha = .89$) domains.

School-leisure conflict. The School-Leisure Conflict Scale, which was developed for the present study, is composed of six items (see Appendix) designed to measure the extent to which leisure activities interfere with academic activities. Participants had to indicate on a 7-point scale the extent to which they agreed with items such as "I often intrude on my homework time to do my leisure activities." The School-Leisure Conflict Scale was found to have an acceptable level of internal consistency ($\alpha = .74$).

Concentration at school. This scale, developed by Vallerand et al. (1989), is used to measure the extent to which individuals can concentrate in the educational setting. The scale contains four items that are measured on a 5-point scale. A sample item is "I am generally concentrated in my classes." The present scale has been used frequently and has evidenced good psychometric qualities (Vallerand et al., 1989). For the present study, a Cronbach's alpha of .80 was obtained.

Intention to pursue studies. Participants' intention to stay in school was assessed by a scale developed by Vallerand et al. (1989). This scale is composed of six items, each measured on a 5-point scale. A sample item assessing behavioral intention is "I want to finish my college education." Past research has reported good psychometric qualities for the present scale (Vallerand, Fortier, & Guay, 1997). For the present study, a Cronbach's alpha of .71 was obtained.

Academic hopelessness. The Academic Hopelessness Scale, which was adapted from the Beck Hopelessness Scale (BHS; Beck & Steer, 1988), is used to measure individuals' tendency to generally feel hopeless in the academic domain. The scale contains six items that are assessed on a 7-point scale. A sample item is "My academic future holds nothing good." This scale was found to be reliable ($\alpha = .86$).

Depression. The 10-item depression subscale of the Hopkins Symptom Check List (HSCL—shortened version; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) was used to measure depressive patterns in participants. Participants indicated on a 5-point scale ranging from 0 (*not at all*) to 4 (*extremely*) how much they had been indisposed by several symptoms, such as "lack of interest for everything." The Cronbach's index of internal consistency for this scale was found to be satisfying ($\alpha = .80$).

Life satisfaction. A French validation by Blais, Vallerand, Pelletier, and Brière (1989) of the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) was used to measure individuals' general satisfaction with life. The SWLS includes five items that are measured on a 7-point scale. A sample item is "I am satisfied with my life." The internal consistency of the scale was found to be acceptable ($\alpha = .86$).

Statistical Analyses

The proposed theoretical model was analyzed using structural equation modeling (SEM). This type of analysis is quite flexible, allowing the examination of relationships among factors while removing the impact of measurement error. Hence, this analytical method is particularly suited for testing a model such as the one proposed in the present study.

The proposed model was submitted to the EQS model-fitting program (Bentler, 1992) using maximum likelihood (ML) estimation. To determine the fit of the model, we considered different indexes of fit. First is the generalized likelihood ratio, which, in large samples, is interpreted as a Pearson chi-square statistic. This fit index is similar to the least-squares criterion of regression. Drawbacks to using this statistic include the fact that there is no upper bound and that it is affected by sample size. However, a solution to reducing the impact of large sample size is to divide the chi-square value by its degrees of freedom (χ^2/df), resulting in a lower value. Although there is no clear guideline as to the value of this ratio, a value less than 3 is preferred (Kline, 1998).

Second are incremental fit indexes (Bentler-Bonett non-normed fit index [NNFI], Bentler & Bonett, 1980; Bentler comparative fit index [CFI], Bentler, 1990). This family of indexes examines the amount of improvement in the model fit in comparison to the null model. While the CFI is less affected by sample size than is the NNFI (also known as the *Tucker-Lewis Index*), the latter corrects for

model complexity. Possible values range from 0 to 1, although values for NNFI can fall outside of this range. However, it is suggested that values above .90 reflect an acceptable fit (Schumacker & Lomax, 1996).

Finally, we examine the root mean squared error of approximation (RMSEA), a Jöreskog–Sörbom index (Jöreskog & Sörbom, 1996) that represents a summary of covariance residuals (i.e., the differences between observed and postulated covariances). A perfect model fit corresponds to an RMSEA of 0, while a value of .05 approximates an acceptable fit, and values close to .08 indicate reasonable errors of approximation (Browne & Cudeck, 1993; also see Jöreskog & Sörbom, 1993).

Results

The data collected for this study were analyzed with the EQS model-fitting program (Bentler, 1992). Because the number of participants who provided data for the study was large, the postulated model can be analyzed with respect to both its structural and its measurement components. This constitutes an important advantage to using SEM when testing regression models because both the measurement of constructs and the relationships among them are assessed.

Before these steps were executed, the data were screened to ensure that they met basic statistical assumptions. Five items were found to be moderately skewed and leptokurtic, so a logarithmic transformation was performed on these items. Also, it was possible to identify more than 100 multivariate outliers. The decision was made to keep all participants in the sample.² The multivariate abnormality of the sample will be taken into account in the analyses. Table 2 presents correlational coefficients for the variables of the study. Gender differences were then examined.

Gender Differences on Measures of the Model

We then proceeded to examine whether male and female students had similar perceptions across the measures included in the model. A significant MANOVA

²More in-depth analyses allowed us to identify variables on which the large majority of participants scored extremely high or extremely low. Participants scored very low on variables such as hopelessness in education and depression. Contrastingly, they scored very high on variables such as intention to stay in school and life satisfaction. Because the sample is composed of college students, it is realistic to expect high indexes of mental health (i.e., low depression, high life satisfaction) since these individuals are not considered to be at risk. It is also reasonable to expect them to want to pursue their studies since they are not obligated to stay in school like they were in high school (college is not compulsory in Québec). Thus, those who are still in school intend to persevere in their education. Low hopelessness scored is also realistic for the same reasons. Thus, the decision was made to include the multivariate outliers in the analyses, while taking into account this non-normality.

Table 2
Correlations for Model Variables

Measure	2	3	4	5	6	7	8
1. Leisure motivation	.41***	-.18***	.13**	.23***	-.29***	-.10*	.18***
2. Academic motivation		-.33***	.45**	.41***	-.46***	-.07*	.28***
3. School-leisure conflict			-.21***	-.47***	.33***	.14***	-.22***
4. Intention to pursue one's studies				.19***	-.38***	-.03	.20***
5. Concentration at school					-.32***	-.13**	.21***
6. Academic hopelessness						.22***	-.42***
7. Depression							-.43***
8. Life satisfaction							

Note. $n = 658$.

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

(Wilks's $\Lambda = .88$; $df = 14, 618$; $p < .001$) suggests that male and female students differed in their perceptions across several measures. Univariate tests were then performed and indicate that, in comparison to men, women were generally more self-determined in school and leisure domains, experienced less conflict between these two domains, reported more positive indexes of functioning at school (evidenced by more intention to persist, higher levels of concentration, and fewer feelings of hopelessness). However, women were found to report more depressive symptoms than men. Across these measures, the gender effect explained between 8% and 23% of the variance.

Given these differences between men and women, gender will be considered in further analyses. The next step was to test the measurement model underlying the proposed hybrid model, followed by the testing of a structural model.

Indicators for Latent Factors

Indexes of self-determined motivation. In order to test SEM models, we computed four indexes of self-determined motivation. These indexes offer the possibility to integrate scores on each motivation subscale under a single score, thus reducing the number of variables in the tested models. These indexes are depicted in Figures 2 and 3 under labels MOTIV1, MOTIV2, MOTIV3, and MOTIV4.

Following the procedure commonly used in the literature on self-determination theory (e.g., Blais, Sabourin, Boucher, & Vallerand, 1990; Fortier, Vallerand, & Guay, 1995; Grolnick & Ryan, 1987; Vallerand et al., 1997), subscale items were used to compute these indexes by subtracting non-self-determined forms of motivation from self-determined forms of motivation. These motivational indexes thus represent individuals' relative levels of self-determination, with higher scores indicating higher levels of intrinsic and identified regulation relative to external regulation and amotivation. We used the formula presented in the *Measures* section:

$$(2 \times \text{intrinsic motivation}) + (1 \times \text{identified regulation}) - \\ (1 \times \text{external regulation}) - (2 \times \text{amotivation})$$

For both leisure and academic motivations, we computed the first index (see label MOTIV1 in Figures 2 and 3) by taking the first item of the four AMS and LMS subscales, respectively. To compute the three remaining indexes (MOTIV2, MOTIV3, and MOTIV4), we used the second, third, and fourth item of each subscale, respectively. There were four items per subscale; thus, four self-determination indexes were computed for both the AMS and the LMS. For the SEM analyses, all indicators were centered to forgo multicollinearity problems (Kline, 1998).

Other constructs. Because the nonmotivational constructs included in the model were unidimensional, we computed three indicators for each factor by

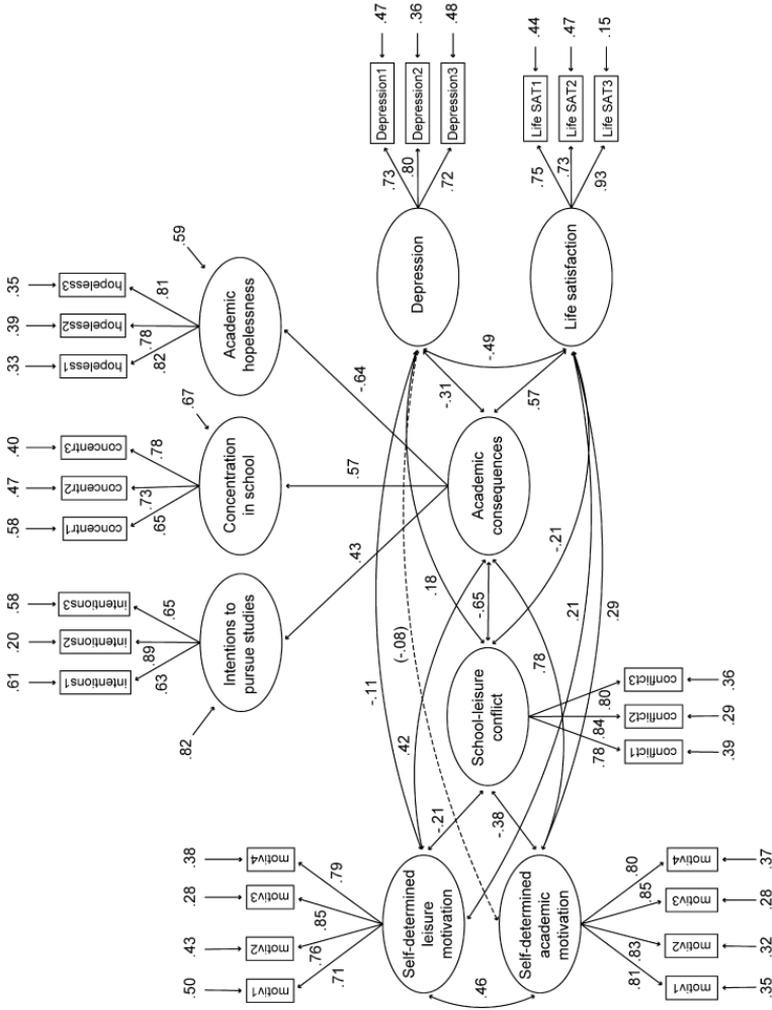


Figure 2. A motivational model of school-leisure conflict: measurement model. Nonsignificant path coefficients are in parentheses.

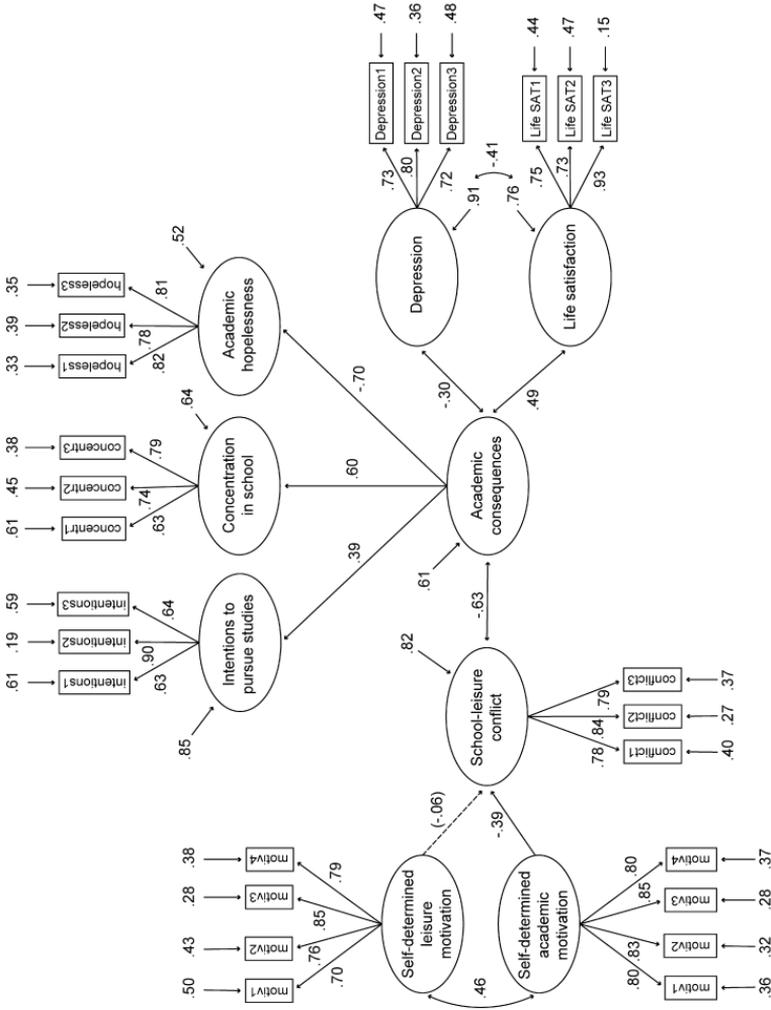


Figure 3. A motivational model of school-leisure conflict: obtained hybrid model. Nonsignificant path coefficients are in parentheses.

averaging items by two or three (depending on the total number of items). Such a procedure reduces the number of indicators per factor and, according to Marsh and Yeung (1997), results in a more valid and reliable assessment of indicators.

Testing the Measurement Component of the Model

The postulated measurement model (Figure 2) is composed of nine latent variables, of which eight are first-order factors. These first-order factors are contextual self-determined motivation toward education, contextual self-determined motivation toward leisure, conflict between education and leisure, behavioral intention to pursue studies, concentration in school, hopelessness in education, life satisfaction, and depression. A second-order factor, representing academic outcomes, was also postulated and is composed of three first-order factors (behavioral intention to pursue studies, concentration in school, hopelessness in education).

In order to scale the first-order factors, one factor loading was fixed to 1 for each factor. The scaling of the second-order factor was done by fixing its variance to 1. When examining the measurement aspect of a SEM model, no hypotheses were formulated as to the relations among the various constructs of the model. For this reason, latent variables are assumed to covary with each other, which is why covariances are estimated among all factors of the model (Kline, 1998). Specific hypotheses will be tested within a hybrid model.

The model was thus submitted to the model-fitting program. ML estimation was used in conjunction with the Satorra-Bentler (S-B) statistic, which is a rescaled goodness-of-fit chi-square.³ The S-B chi-square for this proposed measurement model had a value of 510.31 ($df = 281$) and was found to be statistically significant ($p < .001$). The chi-square ratio was below 3 (1.82), and the fit of the model was acceptable (NNFI = .95, robust CFI = .96, RMSEA = .04). As reported in Figure 2, the second-order Confirmatory Factor Analysis (CFA) model was supported. Indeed, the latent factor representing academic consequences (i.e., the second-order factor) was measured adequately by intention to stay in school ($\beta = .43$), concentration in school ($\beta = .57$), and academic hopelessness ($\beta = -.64$), which are first-order factors. In turn, these first-order factors were measured adequately by their respective indicators. Similar findings were obtained for the other first-order factors. All covariances and all factor loadings were found to be statistically significant. Thus, we can conclude that the measurement model was supported empirically.

³This particular statistic adjusts the standard chi-square downward by a constant, reflecting the kurtosis observed in the sample. The decision to use the Satorra-Bentler chi-square, instead of an estimation method that assumes normality, was based on the finding that the Satorra-Bentler chi-square was found to be the most reliable one for evaluating covariance structure models with different distributions and sample sizes (Byrne, 1994).

Since it is possible that other versions of this model exist, equivalent CFA models were tested in order to make sure that the proposed model was the most appropriate. Because of the large number of variables included in the model, an enormous number of equivalent models would have had to be verified.⁴ Although not all possible models were tested, the several that were tested did not yield better estimates of the constructs of interest. This finding provides us with additional confidence regarding the factorial validity of our latent factors.

In sum, a second-order measurement model was tested. This model includes eight first-order factors and one second-order factor. The results reveal an adequate fit for the proposed model, which increases our confidence in the factorial validity of our factors. Thus, we can conclude confidently that the constructs of interest were assessed adequately.

Testing a Second-Order Hybrid Model

The structural aspect of the proposed model was tested in a hybrid model, which incorporates both structural and measurement components. In line with the CFA model tested previously, the proposed hybrid model is composed of eight first-order factors and one second-order factor. There are seven endogenous factors (school–leisure conflict, academic consequences, intention to pursue studies, concentration in school, academic hopelessness, life satisfaction, depression) and two exogenous factors (leisure, academic self-determined motivations). An unanalyzed association between the two mental health indexes (via their disturbances) was postulated because the two are significantly (and negatively) related. Similarly, a covariance was estimated between academic and leisure self-determined motivations, since these two constructs were related positively. As was the case for the CFA model, first-order factors were scaled by fixing one of their factor loadings to 1. Furthermore, fixing the variance of the second-order factor to 1 enabled us to scale this factor.

The model was analyzed under ML estimation with the S–B chi-square statistic, $\chi^2(289, N = 658) = 640.61, p < .001$. The χ^2/df ratio was below 3 (2.22), and the yielded fit indexes were satisfying (NNFI = .93, robust CFI = .94, RMSEA = .05). The solution for the proposed hybrid model is depicted in Figure 3.

The results indicate that experiencing a conflict between school and leisure was influenced negatively by a self-determined academic motivation ($\beta = -.39$), but not by self-determined leisure motivation ($\beta = -.06, ns$). That is, the more academic motivation was based on external pressures and introjected values, the

⁴We make the following distinction between equivalent and alternative SEM models. Equivalent models are models that yield the same predicted correlations using a different configuration of paths between variables. Alternative models have a different number and configuration of paths between variables (basically they are different models; Kline, 1998).

more school-leisure conflict was reported. These two contextual motivations were positively related ($\beta = .46$). Thus, being self-determined toward school activities predicted lower instances of a school-leisure conflict. The results also indicate that the experience of a school-leisure conflict predicted poor educational outcomes ($\beta = -.63$).

Academic consequences were composed of behavioral intention to pursue studies ($\beta = .39$), concentration at school ($\beta = .60$), and academic hopelessness ($\beta = -.70$). Enjoying positive consequences in the educational context was found to be a predictor of life satisfaction ($\beta = .49$) and low depression ($\beta = -.30$). A moderate relationship was reported between the two mental health indicators ($r = -.41$). All path coefficients and covariances were found to be statistically significant, except for the path from self-determined leisure motivation to school-leisure conflict.

As reported earlier, there were significant differences in how men and women evaluated the various constructs of the model. For this reason, we examined whether the postulated model applied equally to men and to women. Multi-group analyses thus were performed in which the model was tested in men and women separately. First, we found that the relationships among variables of the model were nearly identical for men's and women's models. Second, when we constrained the links of the model to equality between men's and women's models, the fit indexes were the same as those obtained for the postulated model (NNFI = .93, CFI = .93, RMSEA = .04), suggesting that although men and women differed in the intensity to which they evaluated the constructs of the model, the relationships among these variables were the same for both genders.

The next step involved the testing of equivalent and alternative hybrid models (see Footnote 4). Because of the large number of variables in this model, it would have been impossible to test all possible equivalent models. Of those that were tested, none were found to be superior in terms of statistical fit to the proposed theoretical model. For example, a model was tested whereby a school-leisure conflict predicted school and leisure self-determined motivations, which predicted academic outcomes and, in turn, indexes of mental health. The fit indexes were identical to those obtained for the proposed model (NNFI = .93, robust CFI = .94, RMSEA = .05).

On a statistical basis uniquely, it is not possible to establish that one of these two equivalent models is superior. However, the proposed model rests on theoretical grounds and is consistent with previous research on interdomain conflict. For this reason, we believe that the proposed model, which is supported by the present data, prevails over equivalent models. In addition, several alternative models were tested, but none were found to be superior to the proposed version. For example, a model was tested in which mental health predicted contextual motivation, and both predicted interdomain conflict. Conflict, in turn, was associated with negative academic outcomes. Fit indexes for this model were

poorer (NNFI = .91, robust CFI = .92, RMSEA = .06). Thus, the proposed model was considered to provide the most accurate estimation of the data.

In sum, a second-order hybrid model was tested using the S-B chi-square statistic. The results obtained under ML provide empirical support for the postulated model. Thus, a self-determined contextual motivation toward education (but not toward leisure) was a negative predictor of a school-leisure conflict. Such a conflict predicted poor educational consequences (intention to drop out, difficulty concentrating at school, academic hopelessness), which, in turn, were related negatively to mental health (depression, low life satisfaction). Finally, the model applied equally to male and female students.

Discussion

The purpose of the present study was to test a motivational model of a conflict between two life domains and its relation to contextual and mental health functioning. This model hypothesized that a school-leisure conflict would be influenced by contextual motivations toward leisure and school. In turn, this school-leisure conflict would predict negative academic functioning at cognitive (poor concentration at school), affective (hopelessness toward school), and behavioral (low intention to pursue studies) levels. These negative contextual outcomes were postulated to be negatively related to indicators of mental health.

Results from SEM provide support for the proposed model. First, experiencing a conflict between education and leisure contexts was negatively predicted by having a self-determined motivation for school. Alternatively, self-determined motivation for leisure activities was unrelated to the experience of such a conflict. Second, the experience of a school-leisure conflict was associated with poorer academic consequences and was manifested by poor concentration at school, academic hopelessness, and few intentions of persisting at school. Third, a positive relation was obtained between academic consequences and indexes of mental health such that reporting negative academic consequences was associated with higher levels of depression and low life satisfaction. Importantly, the proposed theoretical model was supported for both men and women.

Implications

The present findings lead to a number of implications for theory and research on intrinsic and extrinsic motivation, especially in the educational domain. First, our findings have important theoretical implications for research on motivational conflict. Previous research has shown that motivation toward two domains can clash with one another and can have important and negative consequences (e.g., Emmons & King, 1988; Senécal et al., 2001). In the present study, we replicated these findings and generalized them to another type of motivational conflict, opposing school and leisure domains.

Hence, our findings suggest that when motivations toward two life contexts interact with each other, the outcomes of such interplay can be negative to the extent that motivations are non–self-determined. Importantly, it appears to be true for several different life domains (work, family, school, leisure). Moreover, our findings reveal that a motivational conflict can have emotional costs, as was the case for the Senécal et al. (2001) study, but also cognitive and behavioral ones. Indeed, in the present study, a school–leisure conflict was found to predict academic hopelessness, poor concentration, and little intention to persist at school. We also showed that the negative contribution of contextual conflict on academic functioning could, in turn, have detrimental effects on psychological health. Thus, motivational conflict among important life domains predicts poor adjustment in individuals within contexts as well as for general well-being.

These findings, together with previous research on interdomain conflict, suggest that the outcomes of a motivational conflict between two important life contexts are comparable across domains. Nevertheless, we can ask ourselves what it is about interdomain conflicts that leads to such negative outcomes. Our findings, as well as those of Senécal et al. (2001), suggest that considering individuals' motivation toward these contexts is a key element in understanding the outcomes of such a conflict. Specifically, individuals' self-determined motivational orientations toward each domain predict whether or not there will be conflict. In the present study, we found that academic motivation was most influential in predicting the intensity of a contextual conflict. Such a finding might be explained by the fact that this context is less self-determined than leisure, although individuals nevertheless must engage in it. Hence, the nature of contextual conflict has to do with the obligation of engaging in something that is not as fun or important (i.e., self-determined) as some other activities. Repeatedly engaging in activities that are non–self-determined when other more pleasurable activities are available can thus lead to such feelings of conflict, which over time lead to poorer indexes of functioning within this context and generally in terms of psychological well-being.

A second area for which the present findings have important implications is the educational literature. Research on students' conciliation of work and study suggests that managing these two important life domains can lead students to experience conflict and, ultimately, negative outcomes at school (Barling et al., 1995; Greenberger et al., 1981; Hammer et al., 1998; Markel & Frone, 1998; Vallerand, 1997). Here, we focused on a different type of educational conflict, which opposes school to leisure. We found that self-determined motivation toward school might act as a protective factor against a conflict with leisure, a domain that is found to be more pleasurable and important than school. Thus, to the extent that students perceive pleasure and importance in pursuing school activities, this area of their life should not come into conflict with activities from another domain, such as leisure. Thus, maintaining a self-determined motivation

toward school appears to be beneficial for promoting a coherent and harmonious integration of students' other life domains within the self. For this reason, we would expect that self-determined academic motivation should facilitate the conciliation of work and study, as well as other important domains, such as interpersonal relationships (e.g., friends, boyfriend/girlfriend) or sports.

Finally, our findings also lend support to self-determination theory (Deci & Ryan, 1985, 1991, 2000) and, more specifically, to the hierarchical model of intrinsic and extrinsic motivation (Vallerand, 1997; Vallerand & Ratelle, 2002). For instance, our findings support the postulate that motivation leads to important consequences and that the most positive outcomes will be associated with self-determined motivation. These findings are in line with past research that used experimental designs (for reviews, see Deci & Ryan, 1985; Vallerand, 1997; Vallerand & Ratelle, 2002). Furthermore, these relations were obtained with different types of outcomes, supporting the proposition that motivational outcomes can be categorized reliably into affective, cognitive, and behavioral dimensions (Vallerand, 1997; Vallerand & Ratelle, 2002). As suggested by Vallerand (1997), this distinction is important because these types of outcomes may not necessarily be influenced in the same manner by self-determined motivation. For instance, Ryan, Koestner, and Deci (1991) showed that while introjection undermined affective outcomes, it also facilitated behavioral outcomes. By distinguishing the three types of outcomes, it would then become possible to determine more clearly the effect of motivation on different types of outcomes.

Our findings also imply that motivational consequences in a context are not only the result of motivation in that context but also of the dynamic interplay between this context and other domains. Hence, to the extent that this interplay is harmonious, the outcomes should be positive (absence of conflict, positive contextual outcomes). In addition, the results of our model are in line with the proposition of the HMIEM that motivation at one level (e.g., life domain or contextual) could have bottom-up effects on the higher level (e.g., global/personality level). We found that motivational conflict predicts poor academic functioning and negative indexes of psychological well-being. Everyday events would seem to support this hypothesis. For instance, when things go bad for students, it is not rare to see them eventually be a little depressed. Thus, contextual functioning could predict global indexes (mental health). The present findings provide indirect support for this perspective, with positive academic outcomes predicting indexes of psychological well-being (low depression, high life satisfaction), although replication with multiple measurements would be needed.

Limitations

It is important to consider the limitations of our study when interpreting these findings. A first limitation of the study deals with the correlational nature

of our research design. Because no experimental control was exerted on the variables, we cannot clearly establish the direction of causality among the variables. Thus, it would be useful to replicate our results in a laboratory setting in which experimental control is imposed. Another related limitation is that all measures were assessed at the same time. It is thus possible that the order of the variables can vary over time. Therefore, future research should use a prospective or longitudinal design in order to determine more clearly the issue of causality. Measuring contextual motivations and conflict using repeated measures would provide a better understanding of the relationships between these two contexts.

The present study aimed at examining the outcomes of a motivational conflict between school and leisure on indicators of academic functioning and general well-being. The model suggested that self-determined motivation toward school was associated negatively with the experience of contextual conflicts. School–leisure conflict was found to predict poor academic functioning, which was associated with low mental health. This study highlights the importance of promoting a self-determined motivation for school in students, as it appears to act as a protective factor against the experience of a contextual conflict. As a result, students who feel self-determined toward pursuing their studies should more coherently integrate their life spheres within their self-structure, fostering adjustment in their life contexts and global psychological well-being as well.

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Appendix

School-Leisure Conflict Scale

- I sometimes have difficulty choosing between my leisure activities and studying.
- I never hesitate to say “Yes” when someone asks me to do a leisure activity, even if I have an exam to prepare for the next day.
- I often impinge on my study hours to do leisure activities.
- I sometimes realize that I should be studying when I’m doing something else.
- I often think that I dedicated too much time to my leisure and not enough to my studies.
- I often feel annoyed when I have to choose between studying for an exam and doing leisure activities.