



Development and validation of the Relational Skills Inventory for Adolescents

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ARTICLE INFO

Keywords:

Adolescence
Healthy relational skills
Positive dating relationships
Instrument development
Validation

ABSTRACT

Introduction: Dating violence prevention initiatives are intended, not only to reduce the occurrence of violent behaviors, but also to promote the development of positive dating relational skills starting in adolescence. However, despite the growing interest in examining adolescent relational skills in adolescents, no specific measure is yet available to assess post program gains relative to dating violence prevention and intervention. The current study addressed this important gap in dating relationships research by developing and validating a new measure of relational skills for adolescents.

Methods: Exploratory and confirmatory factor analyses were conducted on two samples of French-speaking dating adolescents from Quebec, Canada ($n_1 = 384$; $n_2 = 687$).

Results: Exploratory factor analysis revealed a three-factor structure reflecting constructs of Assertiveness, Support and Individuality ($\alpha = 0.69$ – 0.81). Results also support evidence of convergent validity with related measures. The three-factor structure was cross-validated among a second sample ($\alpha = 0.74$ – 0.79). Two-way ANCOVAs were also conducted to examine differences in levels of relational skills as a function of sex and previous dating violence perpetration. Results indicated that girls reported higher levels of assertiveness than boys, and that adolescents who reported the use of dating violence also reported lower levels of all relational skills.

Conclusion: The validation of the Relational Skills Inventory for Adolescents (RSI-A) will help researchers assess the effectiveness of interventions aimed at promoting the development of positive dating relationships during adolescence.

1. Introduction

Prevalence of dating violence (DV) is alarmingly high among adolescents. It is also during this developmental period that the highest rates of violence in intimate relationships are observed (Johnson et al., 2015). A representative study conducted in Quebec, Canada reveals that approximately one out of two adolescents report having experienced at least one form of DV in the past 12 months (Hébert et al., 2017). Considering the deleterious repercussions of DV on the physical and mental well-being of adolescents, many studies have been conducted over the last few decades to better understand the risk factors of DV. These studies have identified numerous risk factors, including childhood maltreatment, at-risk behaviors, affiliation with deviant peers, having witnessed parental violence, exposure to violent or pornographic media, and depressive or anxiety symptoms (for a comprehensive review see Garthe

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et al., 2017; Hébert et al., 2019; Park & Kim, 2018; Vagi et al., 2013). On the other hand, there is currently little data available regarding the possible protective factors of DV. Several scholars have raised concerns and argued that more attention should be paid to these protective factors as they may mitigate the influence of specific risk factors associated with DV (Exner-Cortens et al., 2018; Vagi et al., 2013).

Since adolescents engage to varying degrees in abusive behaviors in their dating relationships (Wincentak et al., 2017; Ybarra et al., 2016), DV may be viewed as a continuum from healthy to unhealthy relational behaviors. While identifying risk factors that are amenable to change is of particular importance, it is imperative to also examine protective factors and to foster the development of healthy relational skills during adolescence. To that end, several DV prevention efforts are now focusing on promoting the development and maintenance of positive dating relationships in adolescence (Exner-Cortens et al., 2019; Levesque et al., 2017; Miller et al., 2020; Niolon et al., 2019).

Prevention initiatives are mainly directed at reducing the occurrence of violent behaviors, while promotion efforts are focused on improving the general health and well-being of adolescents (World Health Organisation, 2002). Both these components are key in the reduction of DV and serve different objectives. Still, the resulting outcomes of prevention and health promotion initiatives may be similar. For instance, an intervention aimed at promoting the development of positive dating relationships during adolescence may also help reduce the incidence of DV behaviors. As such, both approaches are being combined more and more frequently in DV intervention programming (Crooks et al., 2019; Janssens et al., 2020; Lee & Wong, 2020; Niolon et al., 2016; Russell et al., 2021). Yet, programs targeting the development of positive relational skills still do not have access to suitable and reliable tools to assess the effectiveness of their interventions (Exner-Cortens et al., 2016). Hence, the development of such an instrument is essential to simultaneously assess the reduction of DV behaviors and the improvement of healthy relational skills. In addition, including a measure of relational skills in adolescent research projects may allow for a better understanding of dating dynamics as well as developmental pathways of violent and aggressive behaviors over the course of adolescence (Exner-Cortens, 2018).

1.1. Objectives

The main purpose of this study was to validate the newly developed Relational Skills Inventory for Adolescents (RSI-A), an assessment tool used to assess positive dating behaviors such as respect, positive communication, authenticity, individuality and support. To that end, two studies were conducted. The first study aimed to explore the factor structure of the RSI-A, examine the convergent validity with related constructs, and provide psychometric properties of the instrument. It was expected to find a five-factor structure reflecting subscales of respect, communication, authenticity, individuality, and support which were also expected to demonstrate convergence with healthy behaviors and perceptions, and divergence with destructive behaviors and relationship difficulties. The second study was conducted to confirm the factor structure in a different sample of dating adolescents, as well as to examine differences in levels of relational skills between boys and girls, and between adolescents who reported using DV in the last 12 months and those who did not.

2. Study 1

2.1. Method

2.1.1. Participants and procedures

The sample consisted of 384 participants (Girls = 54.2%) selected based on the following inclusion criteria: 1) being aged between 14 and 19 years ($M = 16.11$, $SD = 1.29$) and 2) having experienced a dating relationship in the past 12 months. Most of the participants considered themselves as Quebecer (81%) and were living with both their parents (58.1%) at the time of the study. The majority reported a heterosexual orientation (72.1%) and a cisgender identity (95.6%). Among all respondents, 67.9% were currently in a relationship while 32.1% were involved in a dating relationship over the past 12 months.

Recruitment for this study was voluntary and was conducted exclusively online during the summer of 2020. Recruitment posters were shared on various platforms (e.g., Facebook, Instagram, Reddit). The questionnaires required approximately 15 min to answer. Participants were eligible to win one out of 25 Amazon gift certificates (25\$ each). Ethical approval for the project was granted by the

Table 1

Key positive relational skills in dating relationship.

Construct	Definition
Respect	Taking into consideration the feelings, needs, and desires of another person. It also means accepting them as they are with their qualities, flaws, and differences. In a healthy relationship, both partners are treated equally and have the same rights and freedoms.
Authenticity	Being true to oneself: not trying to change their personality to please the other, not saying things or adopting behaviors that do not match their values. To be authentic, one must learn to understand themselves and being sincere about their feelings, limits, desires, needs, and aspirations.
Communication	Sharing one's opinions, feelings, expectations, needs, and so on. In a healthy relationship, partners can communicate respectfully, assert themselves, and establish their limits in the relationship.
Individuality	Each partner is considered a whole and independent person outside of the relationship. In a healthy relationship, each partner can make choices according to their own needs and pursue their projects and aspirations outside of the relationship.
Support	Taking care of the other person, being present and available for them in important situations. It also means accepting the other person's life choices, listening to and comforting them when needed.

institutional human research ethics committee of the Université du Québec à Montréal.

2.1.2. Measures

Demographics. Various information was collected to provide a socioeconomic overview of the current sample. Variables measured included: sex assigned at birth, age, ethnocultural identification, family structure, parental educational level, gender identity, sexual orientation, relationship status, and length of the current or previous dating relationship.

Adolescent relational skills. Relational skills were assessed using the Relational Skills Inventory for Adolescents (RSI-A). This new measure of healthy relational skills for dating adolescents was developed based on the guidelines proposed by DeVellis (2016). Following a literature review on the characteristics of positive relationships, a large pool of 56 items was developed. The instrument was conceptualized to assess five theoretical subscales of respect, authenticity, communication, individuality, and support (see Table 1). A preliminary evaluation was conducted: 1) four adolescents evaluated the clarity of the items, 2) four caseworkers evaluated the relevance of the items, and 3) four researchers evaluated the level of correspondence between the items and their theoretical construct. Following this preliminary evaluation, 35 items with 6–8 potential items per subscale were retained and administered to the current sample. Adolescents indicated the frequency with which they engaged in various healthy relational behaviors in the past year on a 5-point Likert scale ranging from 1 (never) to 5 (always).

To assess the convergent validity of the RSI-A, five other measures were included:

Dating violence. Victimization and perpetration were measured using a French translation of the short version of the Conflict in Adolescent Dating Relationships Inventory (CADRI-S; Fernandez-Gonzalez et al., 2012; Wolfe et al., 2001). This 10-item instrument measures five forms of DV: psychological (e.g., "Speaking in a hostile, mean tone"), physical (e.g., "Hitting, punching"), sexual (e.g., "Forcing sex"), relational (e.g., "Spreading rumours"), and threatening behaviors (e.g., "Threatening to hit or throw something"). Participants answered each item twice to indicate how often they have experienced or engaged in the various violent behaviors in the past 12 months using a 4-point Likert scale ranging from 0 (never) to 3 (6 or more times). Given the low incidence of DV, the victimization and perpetration subscale scores were dichotomized to indicate whether adolescents had experienced or perpetrated at least one act of any form of DV.

Romantic attachment. Romantic attachment insecurities were measured using the French translation of the short version of the Experience in Close Relationships questionnaire (ECR; Lafontaine & Lussier, 2003; Wei et al., 2007). The instrument comprises 12 items answered using a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The items are subdivided into two subscales of anxiety (e.g., "I worry a lot about losing my partner") and avoidance (e.g., "I don't feel comfortable opening up to my partner"). The internal consistency of the subscales is good ($\alpha = .79$ and $.87$).

Conflict management strategies. Conflict management strategies were measured using the French-Canadian adaptation of the Conflict Resolution Styles Inventory (CRSI; Fortin et al., 2020; adapted from Kurdek, 1994) which has been previously validated among an adolescent population (Fortin et al., 2020). The instrument consists of 16 parallel items that participants answered to report both on their own and on their partner's use of the different strategies during conflictual situations in the past 12 months using a 5-point Likert scale ranging from 1 (never) to 5 (always). The scale distinguishes between three strategies of positive problem solving (e.g., "Finding solutions acceptable to everyone"), conflict engagement (e.g., "Insulting or making hurtful remarks") and withdrawal (e.g., "Remaining silent for a long period of time"). In this study, only the respondent items were administered. Internal consistency is good and ranges from 0.71 to 0.85 subscales.

Self-esteem. Self-esteem was measured using five items from the *Self-Description Questionnaire* (SDQ; Marsh, 1992; French translation by Statistique Canada, 2007). Items are answered on a 5-point Likert scale ranging from 1 (false) to 5 (true). A sample item is: "In general, I like being the way I am". The scale presents good internal consistency ($\alpha = 0.86$).

Subjective well-being. Adolescents' well-being was measured using the subjective well-being scale developed by Hamby et al. (2018; French translation by Hébert et al., 2019). The seven items (e.g., "I feel really good about my life") are answered using a 5-point Likert scale ranging from 1 (false) to 5 (true). The internal consistency is excellent with a Cronbach's alpha of $.90$.

2.2. Results

2.2.1. Exploratory factor analysis

Preliminary analyses were conducted using the R software (R Core Team, 2020). The following R packages were used: *corrplot* (Wei & Simko, 2017), *MissMech* (Jamshidian et al., 2014), *pastecs* (Grosjean & Ibanez, 2018), *parameters* (Lüdtke et al., 2020), *psych* (Revelle, 2020), and *tidyverse* (Wickham et al., 2019). Inspection of descriptive statistics indicated that less than 2% of data was missing on each variable. As such, full information maximum likelihood (FIML; Arbuckle, 1996; Enders, 2001) was used to estimate the missing data. To reduce the length of the RSI-A, items' distribution and corrected item-total correlations were examined which led to the selection of 18 items for further analyses. All items from the Respect subscales were removed based on these preliminary steps, and therefore, a 4-factor structure was explored with the EFA.

An initial exploratory factor analysis (EFA) was conducted on these 18 items to examine the latent structure of the instrument. Oblique rotation and minimum residuals extraction methods were selected to allow the latent factors to correlate with one another and to take into account the use of ordinal measurement scales. Inspection of loading coefficients revealed that two items had loadings

smaller than 0.40. These two items were removed and a second EFA was conducted on the remaining 16 items. Contrary to the four expected factors, the second EFA converged toward a 3-factor model, with items from the two theoretical constructs of authenticity and communication combined under a new construct we called Assertiveness.¹ Inspection of the loading coefficients showed a simple factor structure (Table 2). The model explained 78% of the variance, the KMO index of 0.86 indicated good sampling adequacy (KMO individuals: 0.74–0.91), the Bartlett sphericity test was significant ($\chi^2 = 1722.18, p < .001$) and a determinant coefficient of 0.01 was observed (>0.00001). To determine the optimal factor structure, we used the method agreement procedure, which compares results from multiple convergence indicators (e.g., Optimal coordinates, Parallel analysis, Kaiser criterion, Velicer's MAP). Results of the method agreement procedure supported the choice of a 3-factor structure reflecting subscales of Assertiveness, Support, and Individuality by 12 methods out of 23 (52.17%). The fit based upon off diagonal values indicated excellent adequation (0.99). Reliability of each subscale was adequate with Cronbach's alpha ranging from 0.69 to 0.81 (see Table 2).

2.2.2. Convergent/divergent validity

Table 3 presents the Pearson's correlations between scores from each of the RSI-A subscales, conflict management strategies, DV victimization and perpetration, romantic attachment insecurities, self-esteem, and subjective well-being. Significant correlations all converged in the expected direction: self-esteem, subjective well-being and problem-solving conflict management strategies were all positively associated with relational skills whereas conflict engagement and withdrawal conflict management strategies, attachment anxiety and avoidance as well as experienced of DV were negatively associated with relational skills. However, no significant associations were found between subscales of assertiveness and conflict engagement or DV victimization, as well as support and anxiety or self-esteem.

Given the developmental changes occurring from early to late adolescence, the differences in coefficient correlations between younger (14–17 years) and older (18–19 years) adolescents were examined using Fisher's r -to- z transformation test. Significant differences were found regarding the strength of associations between conflict engagement and individuality (younger -0.32 vs older $-0.03, p = .021$), withdrawal and individuality (younger -0.27 vs older $-0.01, p = .041$), DV victimization and support (younger -0.12 vs older $-0.46, p = .004$), self-esteem and assertiveness (younger 0.35 vs older $0.65, p = .002$), well-being and assertiveness (younger 0.35 vs older $0.64, p = .003$), and well-being and support (younger 0.11 vs older $0.37, p = .008$).

3. Study 2

3.1. Method

3.1.1. Participants and procedures

The sample consists of 687 adolescents (Girls = 65.9%) aged between 14 and 19 years ($M = 16.75, SD = 1.45$) who mostly considered Quebec as their only ethnocultural background (82.5%). Adolescents largely reported a heterosexual orientation (70.7%) as well as a cisgender identity (95.5%). While most participants reported currently dating (71.9%), 28.1% reported having been involved in a dating relationship in the last 12 months. Adolescents were recruited online through social networks during the winter of 2021. The eligibility criteria and the procedures were the same as those in Study 1.

3.1.2. Measures

Study 2 was designed to cross-validate the factor structure of the RSI-A in a second sample. Demographics and the CADRI-S (Fernandez-Gonzalez et al., 2012; Wolfe et al., 2001) were also included to examine sex differences in levels of relational skills and to compare adolescents who reported having perpetrated DV in the last 12 months to those who did not. Again, the perpetration subscale was dichotomized to indicate whether participants reported using any form of DV in the past 12 months.

3.2. Results

3.1.1. Confirmatory factor analysis

The factor model extracted by the EFA in study 1 was cross-validated using a confirmatory factor analysis (CFA). The analyses were conducted with R software (R Core Team, 2020) using the robust maximum likelihood (MLR) estimator. The following R packages were used: *Haven* (Wickham & Miller, 2020), *Lavaan* (Rosseel, 2012), *MissMech* (Jamshidian et al., 2014), *MVN* (Korkmaz et al., 2014), *pastecs* (Grosjean & Ibanez, 2018), *SemPlot* (Epskamp, 2019), and *tidyverse* (Wickham et al., 2019). Inspection of descriptive statistics indicated that less than 1% of data was missing on each variable. Missing data were therefore managed using full information maximum likelihood (FIML; Arbuckle, 1996; Enders, 2001). Several fit indices were examined to assess correspondence between the theoretical and observed models (Hair et al., 2010; Hooper et al., 2008; Sahoo, 2019). Values of the 3-factor model met the standard cut-offs, thus indicating good model fit: $\chi^2/df = 3.27$, root mean square error of approximation = 0.06, 90%CI [0.06, 0.07], standardized root mean square residual = 0.06, comparative fit index = 0.90, and adjusted goodness-of-fit statistic = 0.99. The internal consistency of each subscale was adequate, varying from 0.71 to 0.79. The final version of the questionnaire and the scoring procedure are available as supplementary material.

¹ We define assertiveness as the ability to both stay true to oneself and express one's opinions, feelings, and needs in the relationship.

Table 2
Means, Standard Deviations, and Factor loadings ($n = 384$).

Items	M (SD)	Factor loadings		
		F1	F2	F3
I tell my partner what displeases me or what I don't like about our relationship [<i>J'exprime à mon-ma partenaire ce qui me déplaît ou ne me convient pas dans la relation</i>]	3.94 (0.99)	.769		
I discuss my concerns and issues with my partner [<i>Je discute de mes préoccupations et de mes problèmes avec mon-ma partenaire</i>]	4.12 (0.90)	.686		
I tell my partner when he-she has hurt my feelings [<i>Je le dis à mon-ma partenaire quand il-elle a blessé mes sentiments</i>]	3.60 (1.05)	.686		
I consider my own needs when making decisions about my relationship [<i>Je prends en considération mes propres besoins lorsque je dois prendre des décisions concernant ma relation</i>]	3.97 (0.99)	.493		
When I am with my partner, I act accordingly to my feelings, needs and expectations [<i>Quand je suis avec mon-ma partenaire, j'agis en accord avec mes sentiments, mes besoins et mes attentes</i>]	4.26 (0.83)	.467		
I recognize my strengths as well as my weaknesses in my relationship [<i>Je reconnais mes forces tout comme mes faiblesses dans ma relation</i>]	4.08 (0.90)	.439		
I comfort my partner when he-she needs it [<i>Je réconforte mon-ma partenaire quand il-elle en a besoin</i>]	4.74 (0.51)		.713	
I am there for my partner, no matter what situation he-she might need me for [<i>Je suis présent-e pour mon-ma partenaire, peu importe la situation pour laquelle il-elle pourrait avoir besoin de moi</i>]	4.65 (0.64)		.656	
I help my partner through difficult times [<i>J'aide mon-ma partenaire à traverser des moments difficiles</i>]	4.70 (0.59)		.661	
I have a hard time being there for my partner when he-she is going through difficult times [<i>J'ai de la difficulté à être présent-e pour mon-ma partenaire lorsqu'il-elle vit des moments difficiles</i>]	4.13 (0.96)		.510	
I check on how my partner is feeling if I think I may have hurt his-her feelings [<i>Je vérifie comment mon-ma partenaire se sent si je crois avoir blessé ses sentiments</i>]	4.57 (0.64)		.523	
I help my partner find solutions to cope with his-her difficulties [<i>J'aide mon-ma partenaire à trouver des solutions pour faire face à ses difficultés</i>]	4.58 (0.66)		.415	
I have my own friendships outside of my relationship [<i>J'entretiens mes propres amitiés en dehors de ma relation</i>]	4.38 (0.89)			.733
I take the time to do things that I enjoy outside of my relationship [<i>Je prends le temps de faire des activités que j'aime en dehors de ma relation</i>]	4.24 (0.88)			.666
I don't spend enough time with my friends since I have been in a relationship [<i>Je ne passe plus assez de temps avec mes ami-es depuis que je suis en relation</i>]	3.53 (1.21)			.571
I pursue my future plans and goals outside of my relationship [<i>Je poursuis mes projets et mes buts futurs en dehors de ma relation</i>]	4.53 (0.74)			.445
Eigenvalue		2.506	2.312	1.823
Variance explained (%)		.47	.18	.13
Cronbach's alpha		.81	.75	.69

Note. F1 = assertiveness; F2 = support; F3 = individuality. Only coefficients greater than 0.40 are presented. French translation is provided in brackets. Scores of items #8–9 are reversed.

Table 3
Convergent validity of the relational skills inventory for adolescents ($n = 384$).

	Relational Skills			Total
	Assertiveness	Support	Individuality	
<i>Conflict management strategies</i>				
Conflict engagement	.02	-.20**	-.25**	-.19**
Withdrawal	-.28**	-.39**	-.21**	-.38**
Problem-solving	.48**	.49**	.29**	.56**
<i>Romantic attachment</i>				
Anxiety	-.26**	-.07	-.23**	-.27**
Avoidance	-.57**	-.47**	-.14**	-.53**
<i>Dating violence</i>				
Victimization	-.08	-.17**	-.14**	-.17**
Perpetration	-.23**	-.16**	-.14**	-.25**
Self-esteem	.41**	.08	.33**	.40**
Subjective well-being	.41**	.14*	.32**	.42**

Note. * $p < .05$, ** $p < .01$. Point-biserial correlations were computed for DV perpetration and victimization (dichotomous variable).

3.2.2. Analysis of covariance

Three two-way ANCOVAs were conducted using the SPSS software (IBM Corp, 2020) to determine the effect of adolescents' sex and DV perpetration on the use of various relational skills (i.e., assertiveness, support, and individuality; see Table 4). Adolescents' age, sexual orientation, gender identity and length of their relationship were controlled for in all models. All three dependent variables were negatively skewed indicating that most adolescents reported high levels of assertiveness, support, and individuality. Scores were first reflected, then a log transformation was applied to the assertiveness and individuality subscales, while a reverse transformation

Table 4

Adjusted means, standard error, and analysis of covariance results for adolescent relational skills as a function of sex and dating violence perpetration.

	Sex		DV		Sex		DV		Sex * DV	
	Girls (n = 448)	Boys (n = 232)	Perpetrators (n = 350)	Non-perpetrators (n = 330)						
	M (SE)	M (SE)	M (SE)	M (SE)	F	p	F	p	F	p
Assertiveness	3.97 (0.03)	3.86 (0.04)	3.83 (0.04)	4.00 (0.04)	4.883	.027	13.837	< .001	2.342	.126
Support	4.55 (0.02)	4.45 (0.03)	4.45 (0.03)	4.55 (0.03)	9.773	.002	9.600	.002	2.706	.100
Individuality	4.02 (0.03)	3.93 (0.05)	3.84 (0.04)	4.11 (0.04)	2.618	.106	21.055	< .001	0.051	.821

Note. Adolescents' age, sexual orientation, gender identity and length of their relationship were controlled for in all models. All analyses were performed using the transformed variables, but the adjusted means and standard errors of the original variables are presented for ease of interpretability.

was required for the support subscale. Homogeneity of variances was assessed by Levene's test, which was nonsignificant in all three models.

No significant two-way interaction was found between adolescents' sex and DV perpetration for any of the relational skills. Therefore, the main effects of sex and DV perpetration were examined. Overall, girls reported using higher levels of assertiveness than boys ($F(1, 672) = 4.883, p = .027, \eta^2 = 0.007$). Girls also reported higher levels of support towards their dating partner compared to boys ($F(1, 672) = 9.773, p = .002, \eta^2 = 0.014$). The main effects of DV indicated that adolescents who reported using DV in their dating relationship also reported, as expected, lower levels of assertiveness ($F(1, 672) = 13.837, p < .001, \eta^2 = 0.020$), support ($F(1, 671) = 12.022, p = .001, \eta^2 = 0.014$), and individuality ($F(1, 668) = 21.055, p < .001, \eta^2 = 0.031$) than non perpetrators.

4. Discussion

First dating experiences can have a long-lasting impact on adolescents' well-being and future romantic relationships (Gómez-López et al., 2019a, 2019b). Therefore, it is of the utmost importance to promote the development of positive dating relationships during adolescence. This study was conducted to provide a first analysis of the psychometric properties of a newly developed measure of healthy relational skills.

The instrument was initially developed to distinguish between five theoretical subscales of respect, authenticity, communication, support, and individuality. Investigation of items' distribution and corrected item-total correlations suggested removing items corresponding to the Respect subscale. Respecting your partner's needs and wishes might be a skill found in positive relationships that is not expressed through individual behaviors but that is rather characterized by the overall dynamic between partners. This would explain why the proposed items did not adequately represent this construct. As such, analyses were conducted on 18 items reflecting constructs of authenticity, communication, support, and individuality. However, the current findings did not support the four theoretical constructs, but rather revealed a 3-factor structure. In addition to support and individuality, the theoretical constructs of authenticity and communication merged to form a single factor labelled as assertiveness. This finding is actually not that surprising since it makes sense that adolescents who are true to themselves will do so by asserting their needs and opinions to their dating partner, thus also reflecting good communication skills. In addition, results from the CFA on the 16 items retained by the EFA confirmed the existence of three dimensions of relational skills with good fit between the model and the data.

The current findings also provide evidence of the reliability and the validity of the RSI-A. All three subscales presented good internal consistency as reflected by Cronbach's alpha coefficients values over the 0.70 threshold. As expected, subscales of the RSI-A were linked to theoretically related constructs. All relational skills demonstrated convergence with indicators of healthy behaviors and perceptions, as well as divergence with indicators of destructive behaviors and relationship difficulties. Individuality was significantly associated with all related measures. Maintaining friendships and pursuing projects of their own outside of their dating relationship is often one challenge that many adolescents face (Connolly et al., 2014). In the current study, adolescents who managed to balance between several relationships and activities also reported better relational and personal functioning. Assertiveness and support were associated with most of the related measures, but not all. No associations were found between support, self-esteem, and attachment anxiety, suggesting that regardless of one's level of self-esteem or anxiety, adolescents still perceived themselves as offering support and comfort to their partner. As for assertiveness, being able to respectfully express one's needs and opinions was surprisingly not associated with getting carried away or making hurtful comments during conflictual interactions. This lack of association could be explained by adolescents' emotional immaturity, which might explain why their ability to respectfully assert themselves in their relationship does not make a difference when they are experiencing strong negative emotions during conflicts (Lantagne & Furman, 2017). However, assertiveness was negatively associated to DV perpetration, suggesting that this relational skill might still serve as a protective factor for conflict escalation into DV. Interestingly, lack of assertiveness was not associated with DV victimization, suggesting that difficulties in communicating one's needs appropriately is not a risk factor for victimization. Notably, this demonstrates that regardless of the victim's level of assertiveness, responsibility for the violent behaviors falls solely on the perpetrator.

Variations in the strength of associations between the RSI-A's scores and related measures suggest developmental changes from

early to late adolescence. Assertiveness and support were more strongly associated with older adolescents' well-being and self-esteem. In late adolescence, forming a strong emotional bond with a romantic partner becomes increasingly important (Seiffge-Krenke, 2003). Romantic experiences in late adolescence also gain in intensity and duration, which could explain the stronger association between relational skills and adolescents' well-being and self-esteem (Connolly et al., 2014). Whereas no significant association was found between support and DV victimization in younger adolescents, providing emotional support to one's partner was associated with fewer reports of victimization in late adolescence. The experience gained by older adolescents could allow them to provide adequate support compared to younger teenagers, thus enhancing the quality of their relationship (Poulsen, 2016), which could lead to fewer DV victimization episodes. It is also likely that adolescents with better interpersonal skills end up engaging in healthier relationships over time. Moreover, as less individuality was associated with more destructive conflict management strategies in early adolescence, these associations were no longer significant in older adolescents. Since many adolescents are struggling with questions of identity and balance, younger teenagers might rely more than older adolescents on their partner to develop their sense of self, which could impair their ability to resolve conflicts in a way that balances their own needs with those of their partner. (Connolly et al., 2014). Altogether, these results highlight the importance of adolescents developing healthy relational skills to foster well-being and self-esteem and reduce the occurrence of destructive behaviours in their relationships.

Literature on interpersonal processes would suggest that scores on the RSI-A should distinguish between boys and girls. As expected, and supporting construct validity of the RSI-A, differences between boys and girls for relational skills were observed with girls reporting higher levels of assertiveness and support. This is consistent with previous research suggesting gender differences favouring girls on general interpersonal skills during adolescence (Persich et al., 2020; Salavera et al., 2019). Our results further suggest that the RSI-A could be of great use to distinguish between violent and non-violent adolescents. Indeed, adolescents who resorted to violent behaviors in the past year also showed poorer relational skills compared to those who did not.

The RSI-A development stems from the observation that DV prevention initiatives emphasize the importance of positive dating relationships, but that no measure was yet available to assess the effectiveness of health promotion interventions on relational skills. This study thus addressed an important gap around dating relationships research by developing and validating a new instrument to assess healthy dating relational skills during adolescence. However, some limitations need to be considered. First, the RSI-A's subscales scores were fairly high in the current sample and showed low variability, which could hinder the instrument ability to detect significant changes in levels of relational skills after an intervention. However, even if the effect sizes were small, variability in the current sample was sufficient to detect significant differences between groups (boys vs girls and perpetrators vs non-perpetrators). Second, the use of a cross-sectional design did not allow to assess the temporal validity of the RSI-A. As such, future studies should conduct a test-retest procedure to draw conclusions on the stability of the instrument. Moreover, conducting longitudinal studies would be relevant to examine the temporal influence of DV experiences in the use of relational skills during adolescent years.

In sum, the current findings provide preliminary evidence that the RSI-A is a reliable and valid measure of healthy relational skills in adolescent dating relationships. The RSI-A holds a great potential to contribute to the evaluation of DV prevention programs by allowing researchers to document both the reduction in the use of violent behaviors and the improvement in relational skills during adolescence. A measure of relational skills could also help achieve a better understanding of adolescent dating dynamics and provide useful information to inform health promotion initiatives that focus on the formation of positive dating relationships during adolescence.

Funding

This research was supported by a grant from the Public Health Agency of Canada (#P000594) and the Canada Research Chair Program awarded to Martine Hébert.

Declaration of competing interest

None.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.adolescence.2021.10.005>.

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