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To cite this article: Esra Şahin, Joshua J. Turner, J. Scott Crapo, Kay Bradford & Brian Higginbotham (2025) Effectiveness of relationship education among high school youth: the role of context, *International Journal of Adolescence and Youth*, 30:1, 2496446, DOI: [10.1080/02673843.2025.2496446](https://doi.org/10.1080/02673843.2025.2496446)

To link to this article: <https://doi.org/10.1080/02673843.2025.2496446>



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Published online: 24 Apr 2025.



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Effectiveness of relationship education among high school youth: the role of context

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ABSTRACT

Resilience theory suggests that youth under more adversity benefit more from resource-based interventions. Most evaluations focused on majority youth, with few exploring under-represented youth from different contexts of adversity. This mixed method study evaluated the effectiveness of the *Love Notes* curriculum. We compared program outcomes for youth from various educational backgrounds with different levels of disadvantage (urban high schools, alternative education, and behavioural health contexts); also considering demographic differences. Quantitative results indicated that youth from behavioural health contexts had greater gains from the intervention than other groups on some outcomes, indicating resilience. Qualitative analysis of open-ended responses showed that relationship skills, recognizing risks, and sex education were most useful. Least useful aspects were specific course contents, abstinence, and already-known uncomfortable topics. Results emphasize the importance and effectiveness of relationship education among youth from disadvantaged backgrounds, highlighting unique experiences based on context.

ARTICLE HISTORY

Received 27 September 2024
Accepted 16 April 2025

KEYWORDS

Relationship education;
adolescents; resilience;
mixed-method

Introduction

Interpersonal relationships during adolescence play an important role in future relationship quality (Furman et al., 2010; Manning et al., 2014). Youth from disadvantaged backgrounds are often susceptible to challenges such as risky sexual behaviour, teen births, and sexually transmitted infections (STIs) (Markham et al., 2003; Mosack et al., 2010). Given the importance of relationships at this critical developmental period, relationship education (RE) programs for youth have become more prevalent, with results showing their effectiveness for general audiences (Hawkins, 2018). A meta-analysis evaluating effectiveness of RE programs among youth found higher significant medium effect sizes in one-group/pre-post studies compared to control-group studies (Simpson et al., 2018). Another meta-analytic study examining efficacy of youth-focused RE reported support for their general effectiveness in improving relationship attitudes and skills (McElwain et al., 2017).

Scholars have begun investigating how and for whom RE works among diverse participants (Bradford et al., 2023). The literature is limited in addressing its impact for youth with varying levels of disadvantaged backgrounds. Resilience theory posits that individuals can exhibit resilience despite adverse circumstances (e.g. poverty, mental health issues) when they are provided with resources (e.g. well-being, coping skills). Youth RE programs typically aim to enhance relationship confidence, provide useful resources for healthy decision making, and help youth recognize warning signs easier – aims that fit with the basic tenets of resilience and

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strength-based approaches (Zimmerman, 2013). RE programs may help youth who deal with adversity (e.g. high rates of STIs and teen births), but it remains an empirical question regarding the extent to which resource-rich curricula facilitate youth resilience. Thus, it is important to investigate how background differences impact the effectiveness of RE programs among youth. Guided by resilience theory, this mixed-methods study evaluates the effectiveness of a RE program in a western state, targeted towards youth with varying backgrounds of adversity.

Background

Theoretical framework

Resilience theory suggests that the ability to maintain adaptive behaviour following adversity depends on the social context (Ungar, 2010). Resilience has been applied to study youth from differing social contexts (Moore, 2013): Poverty and trauma are risk factors, but parental support, school connectedness, and interventions may buffer adolescents' risk-taking behaviours. Homer (2013) found that adolescents with lower levels of resilience engaged in more sexual risk-taking. Relevantly, resilience has been used as a central concept in strength-based interventions, equipping youth with promotive factors that protect against sexual risk-taking (LoVette et al., 2019; Sanders et al., 2015). Therefore, it is important to evaluate the effectiveness of intervention programs considering context in terms of participant background, especially as it relates to individual and environmental factors.

Adolescent romantic relationships

Time spent with peers increases substantially during adolescence, when romantic and sexual relationships begin to develop (Sawyer et al., 2018). On a positive note: romantic relationship experiences have been linked to competency in conflict management, communication skills, emotional expression, and quality romantic relationships in adulthood (McElwain et al., 2017). However, dating violence among adolescents occurs frequently and has been linked to negative outcomes such as drug use, risky sexual behaviour, depression, and anxiety (Eaton & Stephens, 2018; Exner-Cortens et al., 2013; Garthe et al., 2021). Dating violence is more likely among males (Miller et al., 2013), older youth (Black et al., 2015), and those from families with low educational attainment (Foshee et al., 2015), substance use (Schnurr & Lohman, 2013), and with a single parent serving as head of household (Foshee et al., 2008). More research is needed to better understand contextual dynamics that may pose as risk or promotive factors for adolescent romantic interactions.

Role of context and resilience framework

Researchers studying youth have sometimes adopted deficit models, cataloguing risks and emphasizing problems (Hilliard et al., 2014). Previous literature does indeed identify high-risk groups in need of attention in research and intervention (Isomaa et al., 2013). However, others have criticized the deficit model, and proposed a more strength-based approach, such as resilience (Larson, 2000; Lerner et al., 2013; Zimmerman, 2013). The resilience framework points researchers to positive factors in youth development and focuses on enhancing strengths (e.g. promotive factors). This approach helps scaffold the reasons why some youth may become healthy adults, despite being exposed to risk factors. Still, few studies have explicitly applied resilience theory (Sanders et al., 2015; Shneyderman & Schwartz, 2013), which may help reveal aspects of RE that equip youth with skills that function as promotive factors, potentially reducing the influence of risk factors in romantic relationships.

RE among youth and the role of context

Because of the importance of relationships in adolescence, youth RE has become more prevalent (McElwain et al., 2017; Sanders et al., 2015). RE for adolescents focuses on partner selection, healthy relationship pacing, and healthy relationship skills (Van Epp, 2011), with the goal of supporting informed decisions about dating and mate selection (Helm et al., 2017). Meta-analytic studies show that youth RE helps change faulty relationship beliefs (McElwain et al., 2017) and improve relationship skills (Simpson et al., 2018). Other studies show that RE improves relationship knowledge and helps reduce risks such as cheating or coercion (Bradford et al., 2023).

Research on RE among youth from disadvantaged backgrounds is limited. Antle et al. (2011), found that healthy RE for dating violence prevention among high-risk youth was met with high satisfaction, increases in relationship knowledge, and feelings of greater self-efficacy in conflict resolution. More importantly, research is limited in comparing programmatic gains between groups based on their backgrounds. Sanders et al. (2015), found that positive youth development practices were related to higher levels of resilience and well-being among youth from various backgrounds. However, the authors did not compare youth based on their backgrounds to see whether more disadvantaged groups had greater gains from these positive practices. The limited research in this area indicates a need for a comparative program evaluation (Sutton et al., 2013).

Current study and research rationale

Based on previous literature, disadvantaged backgrounds may pose challenges to developing healthy relationships (Vagi et al., 2013). The major tenets of resilience theory posit that youth who have experienced more adversity may benefit more from resource-based interventions compared to those facing less adversity. The current study (a) comparatively evaluated the effectiveness of a RE program among youth from urban high school, alternative education, and behavioural health contexts, and (b) comparatively examined participant experiences. We expected youth from more disadvantaged backgrounds (i.e. youth from behavioural health contexts and alternative education, respectively) to have higher gains.

Our rationale for conducting this research is guided by the following three main arguments. First, is the lack of RE evaluation studies that have utilized a resilience framework, despite many RE programs among youth utilizing a strength-based approach that fits with the basic tenets of resilience theory. Second is the gap in literature of a comparative program evaluation, which takes into account participants' background, and therefore, potential differences in how much they may benefit from the program. Finally, a comparative evaluation that utilizes a resilience framework would contribute to future program development as well as evaluation efforts, emphasizing the importance of focusing on youth who may need and benefit most from such interventions.

Method

Program description

Consistent with the resilience approach to prevention, the *Love Notes* curriculum is strengths-based, designed to help youth cultivate healthy relationships, increase communications skills, and develop healthy sexual attitudes and behaviours (Barbee et al., 2022).

Participants and procedure

High school youth in contexts disproportionally affected by teen pregnancy and STIs in urban counties of a western state participated in the program (U.S. Census Bureau, 2020; Utah Department of Health, 2020). Target high schools were determined based on census and state-level data that indicated relatively high health disparities in rates of teen births and STIs within a geographical area (U.S. Census Bureau, 2020;

Table 1. Participant characteristics ($n = 2,897$).

	UHS (N = 315)		AHS (N = 833)		BHF (N = 1,749)		Whole sample (N = 2,897)	
	N	%	N	%	N	%	N	%
Gender								
Female	115	45.3	307	36.9	698	40	1,120	47.2
Male	129	50.8	339	40.7	512	29	980	41.3
Transgender	7	2.8	21	2.5	89	5.1	110	4.6
Does not identify	3	1.2	21	2.5	81	4.6	109	4.6
Age								
14	51	16.2	44	6.2	254	18	349	14.6
15	100	31.7	107	15.2	325	23	532	22.2
16	61	19.4	230	32.6	362	25	653	27.3
17	27	8.6	233	33	352	25	612	25.6
18 +	15	5.9	91	12.9	143	10	249	10.5
Race								
White	78	31.6	437	65.6	1,039	59	1,554	67.4
African American	14	5.7	37	5.6	70	4	121	5.2
Asian	10	4	5	0.8	21	1.2	36	1.6
Native American	18	7.3	30	4.5	32	1.8	80	3.5
Pacific Islander	16	6.5	9	1.4	15	0.9	40	1.7
Multiracial	3	1.2	43	6.5	106	6.1	152	6.6
Other	108	43.7	105	15.8	109	6.2	322	14
Ethnicity								
Hispanic/Latinx	174	68.8	275	40.2	311	22	760	67.4
Non-Hispanic/Latino	79	31.2	409	59.8	1,082	78	1,570	32.6
Relationship Status								
Not currently dating	128	40.6	240	55.4	586	65	954	62.8
Dating different people	6	1.9	28	6.5	66	7.3	100	6.6
Dating one person (no commitment)	15	4.8	34	7.9	92	10	141	9.3
Dating one person exclusively	32	10.2	131	30.3	162	18	325	21.4

UHS= Urban high school, AHS= Alternative high school, BHF= Behavioral health facility.

Utah Department of Health, 2020). Such sites are associated with higher rates of poverty, public assistance enrolment, and unemployment (United Health Foundation, 2022). These factors are linked with early sexual initiation (Orihuela et al., 2020), the prevention of which is one of the main goals of *Love Notes*. To reach the population with the greatest need, in order of lower to higher potential adversity, participants were recruited from urban Title I high schools (UHS, $n = 270$), alternative education high schools (AHS, $n = 878$), and behavioural health facilities (BHF, $n = 1,749$).

Following the determination of target high schools based on census and state data that indicated high risk for teen pregnancy and STIs, approval to collect pre- and post-program survey data was received from the corresponding University's Institutional Review Board, outlining the appropriate cautions taken to ensure protection of participants' information. Since the target group were students from designated high schools within a specific geographical area, no additional inclusion or exclusion criteria was implemented as part of the survey collection. University affiliated educators delivered the program over 6 meetings, totalling 13 hours of programming. Participants from the designated high schools, who attended the *Love Notes* program between 2020 and 2023 ($n = 2897$, see Table 1), and gave consent, completed surveys before and after program completion (pre-post design).

Quantitative measures

Three scales of the Relationship Deciding Scale (Vennum & Fincham, 2011) were used to measure relationship confidence, decision making, and recognizing warning signs, all using Likert scale response options ranging from 1' (*Strongly disagree*) to '5' (*Strongly agree*).

Relationship confidence

A four-item subscale measured ability to deal with relationship conflicts, make relationships last, and confidence to have a stable relationship ($\alpha = .87$ pre-test, $.87$ post-test).

Relationship decision-making

Also described as *decide, don't slide*, a three-item subscale assessed ability to weigh pros and cons, make thoughtful decisions, and have healthy discussions ($\alpha = .63$ pre-test, $.72$ post-test).

Recognizing warning signs

A three-item subscale measured whether participants could recognize warning signs of bad relationships ($\alpha = .84$ pre-test, $.81$ post-test).

Control variables

Control variables included age, self-reported GPA, basic needs, intervention format (9 or 13 lessons), race/ethnicity, gender, well-being, expressed anger, school connection, and parental/guardian connection. Due to small sample sizes, race and ethnicity were reduced to four categories: non-Hispanic White, Black or African American, Hispanic, and Other. Having the largest sample size, Non-Hispanic White was chosen as the reference category. Gender was coded as male, female, or transgender/do not identify, with female serving as the reference category. For basic needs such as well-being, expressed anger, school connection, and parental connection, a sum score was calculated for subsequent analyses.

Basic needs. Family's ability to meet needs was assessed with a single question asking 'how difficult is it for your family to get the things it needs (e.g. clothes, food, housing)?', measured from 1 (*very easily*) to 4 (*with a lot of difficulty*).

Well-being. Well-being was measured using the World Health Organization index (WHO-5, Topp et al., 2015), using five items scored on a five-point Likert scale, representing psychological well-being over a two-week period (pre-test $\alpha = .87$, post-test $\alpha = .90$).

Expressed anger. Expressed anger was measured using four items on a five-point Likert scale (Galambos et al., 2006), assessing severity of symptoms in the past few months such as feeling angry or getting into fights or arguments (pre-test $\alpha = .85$, post-test $\alpha = .87$).

School connection. School connection was assessed using three items on a five-point Likert scale, asking about how often schoolwork feels meaningful, how interesting they found their courses, and how important new things learned feel (pre-test $\alpha = .75$, post-test $\alpha = .71$).

Parental connection. Parental connection was measured using two parent/guardian focused subscales of the Network of Relationship Inventory – Relationship Quality Version (NRI-RQV, Buhrmester & Furman, 2008: pre-test $\alpha = .92$, post-test $\alpha = .94$). Six items measured levels of disclosure to and support from parents, on a scale of 1 (*never or hardly at all*) to 5 (*always or extremely much*).

Qualitative measures

For qualitative analyses, two open-ended questions from the post-survey were used: (a) 'What did you find most useful about the course?' and (b) 'What did you find least useful about the course?'

Data analysis

An integrated mixed-methods approach was applied to gain a comprehensive perspective on program impact and participant experiences (Reeping et al., 2019). Quantitative and qualitative

findings were equally considered, allowing for the emergence of converging and diverging findings.

Quantitative

Multi-level modelling was conducted, using the lme4 package (Bates et al., 2015) in R (R Core Team, 2023), allowing for explicit modelling of dependence of data due to nested structures. Three models were estimated, one for each outcome variable. In each model, time was nested in person and person was nested in location (the specific site at which the intervention was offered). A time-by-group interaction was included in the model as the primary term of interest, and as the answer to the research question (groups were UHS, AHS, BHF). Covariates were included as described above. As such, we tested the within-person trajectory change, by group. BHF youth were used as the reference group, with a post-hoc test assessing the difference between UHS and AHS contexts. To facilitate comparisons against the reference group, the lmerTest package (Kuznetsova et al., 2017) was used to obtain significance via Wald testing. Missing data were handled using full-information maximum likelihood (FIML), allowing for an analysis size of $n = 2,395$. Final reported models were estimated using restricted maximum likelihood (REML).

Qualitative

For qualitative analyses, those who participated in the program in the most recent year, between 2022 and 2023 were selected ($n = 1,510$). Participants in this sub-sample had a similar distribution to the overall sample demographically, consisting predominantly of white youth (65.5%) and females as the largest gender group (47.8%). The majority of participants (58.9%) were from behavioural health contexts ($n = 891$). Participant age ranged between 14–20 ($M = 16$, $SD = 1.4$) and the majority of participants (62.7%) were not currently dating at the time of the study.

Of the 1,510 participants, 1,318 responded to what they found most useful about the program, and 1,029 reflected on what they found least useful about the program. Open-ended data were analysed through thematic analysis using NVivo software, utilizing a coding reliability approach to establish accuracy (Clarke & Braun, 2016; Lumivero, 2023). Following data familiarization, a codebook was developed by an experienced qualitative researcher, consisting of detailed definitions of finalized themes, and example participant responses. The codebook was then applied to all data separately by two researchers with previous coding experience. Subsequent calculations showed strong intercoder agreement (Cohen's $\kappa = .87$).

To examine the role of participants' educational background (UHS, AHS, BHF), the frequency of coded responses was examined in NVivo using the *case classification* function, also referred to as framework or case analysis (Bonello & Meehan, 2019). Besides, looking at differences between three educational contexts, we also examined differences in responses based on demographic background (age, gender, and ethnicity) through a series of chi-squared tests.

Results

Quantitative (program outcomes)

Overall, across all groups, the program was significantly effective at improving the three outcomes, relationship confidence ($t [1290] = 15.64$, $p < .001$), relationship decision-making ($t [1285] = 10.24$, $p < .001$), and recognizing warning signs ($t [1287] = 17.53$, $p < .001$). Below we discuss and compare how each improved, by examining significant differences between pre- and post-test scores for each outcome.

Relationship confidence

Results indicated that in terms of change over time, BHF youth significantly differed from those in AHS ($t [1,136] = 2.05$, $p = .040$) and UHS contexts ($t [950.9] = 2.02$, $p = .044$). As can be seen in Figure 1,

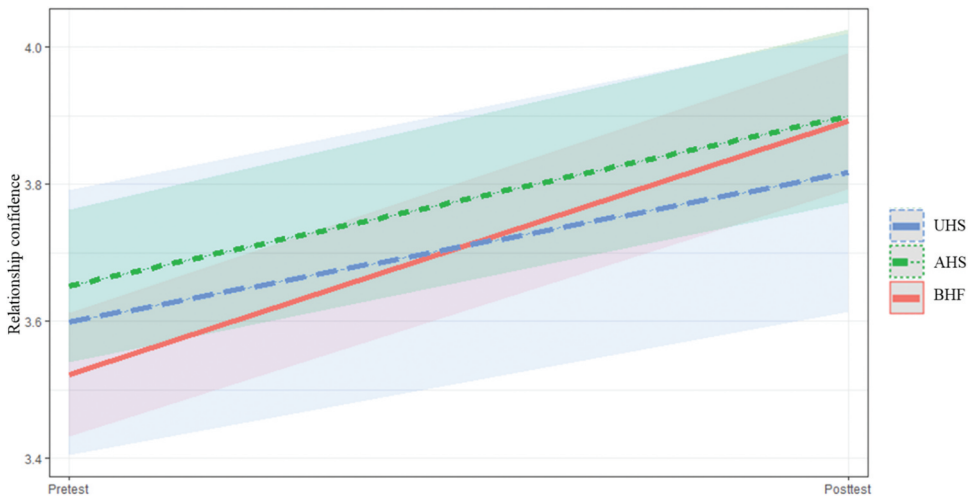


Figure 1. Pretest and posttest change in relationship confidence scores across groups.

from pre-test to post-test, BHF youth had greater gains in relationship confidence than the other two groups. UHS and AHS youth did not differ from each other ($t [994.5] = 0.350, p = .726$). Additionally, examining the role of control variables showed that school connection ($b^* = .04, p = .039$), parental connection ($b^* = .05, p = .017$), and well-being ($b^* = .33, p < .001$) were also predictive of relationship confidence.

Relationship decision-making

Improvement of youth in BHF contexts did not differ from those in AHS ($t [1,241] = 1.95, p = .050$), or UHS contexts ($t [1,039] = 1.91, p = .056$) (see Figure 2). Youth in UHS and AHS contexts also did not differ from each other ($t [1,087] = .336, p = .736$). GPA ($b^* = .05, p = .031$), expressed anger ($b^* = -.07, p = .001$), school connection ($b^* = .11, p < .001$), parental connection ($b^* = .10, p < .001$), and well-being ($b^* = .20, p < .001$) were predictive of better decision-making.

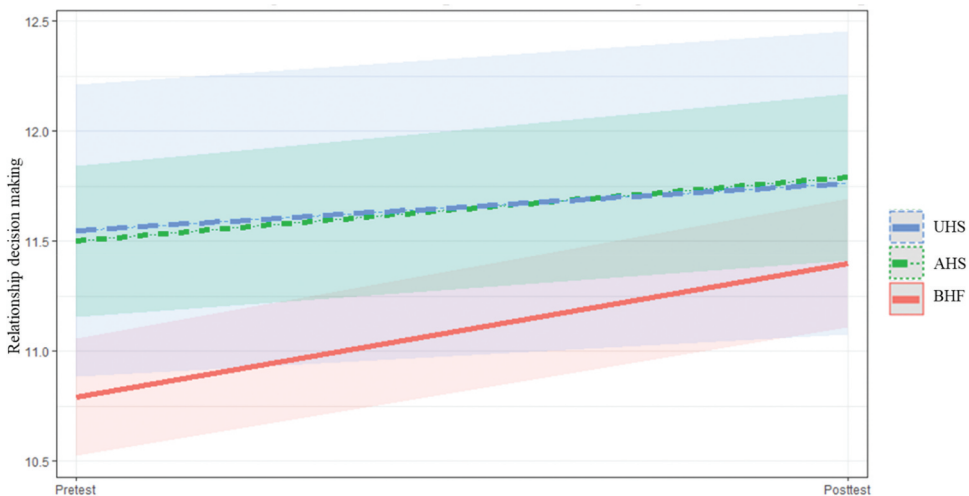


Figure 2. Pretest and posttest change in relationship decision-making scores across groups.

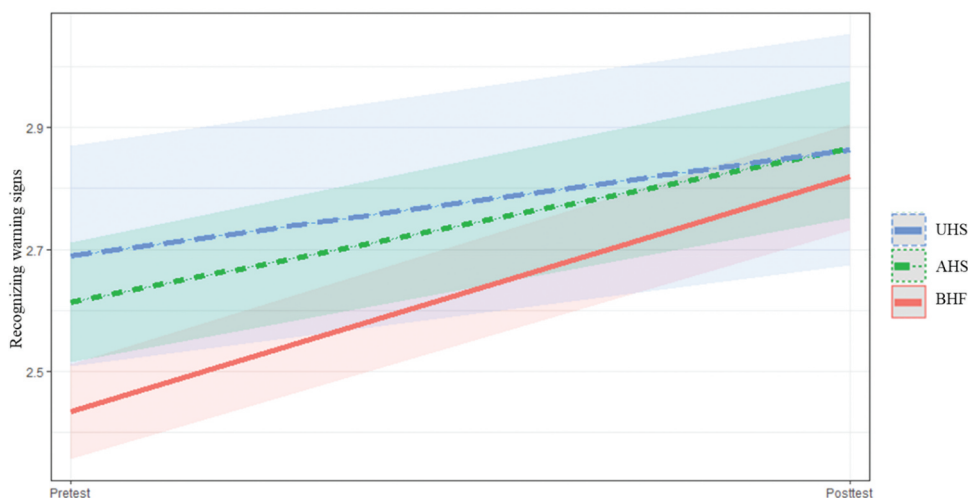


Figure 3. Pretest and posttest change in recognizing warning signs scores across groups.

Recognizing warning signs

In terms of change over time, BHF youth differed from those in AHS ($t [1,193] = 2.51, p = .012$), and UHS contexts ($t [971] = 3.10, p = .002$). From pre-test to post-test, BHF youth had greater gains compared to the other two groups (see [Figure 3](#)). UHS and AHS youth did not differ from each other ($t [1,023] = 1.02, p = .308$). Additionally, parental connection ($b^* = .10, p = .003$), well-being ($b^* = .20, p < .001$), and identifying as Hispanic/Latinx ($b^* = .06, p = .007$) significantly predicted identifying warning signs.

Qualitative (participant experiences)

Among responses to what was least useful, almost half (49.4%) reported finding everything useful, and very few found nothing useful (1.7%), indicating that program experiences with *Love Notes* were positive overall. When differences between groups were examined, BHF youth compared to AHS ($\chi^2 = 4.572, p < .05$), younger participants compared to older ($\chi^2 = 4.026, p < .05$), females compared to males ($\chi^2 = 4.360, p < .05$) and other gender ($\chi^2 = 7.262, p < .01$), as well as those with Hispanic/Latinx ethnic background compared to non-Hispanic/Latinx ($\chi^2 = 23.183, p < .001$) reported finding everything useful significantly more, pointing to their differential need for RE based on their backgrounds (see [Tables 2–5](#)). Three female participants from BHF context provided responses representing how well-received the curriculum was: ‘Everything was very useful. I’ve already used many things I’ve learned from this class in my personal life.’ ‘It was all vital. Don’t take anything out. If anything, add another week.’

Most useful

From the 1,318 responses, three main themes emerged: (a) healthy relationship knowledge and skills (b) unhealthy relationship knowledge and skills, and (c) sex education. A response from a 14-year-old Hispanic male from the UHS context, provides a good summary of common responses.

I learned ... that there are early warning signs whenever the person you are with is a bad person or not. Then, there was a pyramid that showed three stages of a relationship. The first one was operation: where you start talking to the person you love and knowing them. The second one is development: where you start to make boundaries, go out with the person, and get closer to that person. Finally, mature love is where you commit to the person with certain things such as a fun activity on the bed and in some cases, marrying your partner.

Table 2. Frequency of responses that represent each theme across three educational settings.

	UHS		AHS		BHF	
	n	%	n	%	n	%
Most Useful (n = 1,318)						
Healthy relationship knowledge and skills	41	28.3 _a	107	28.5 _a	157	19.7 _b
Healthy relationship course components	26	17.9	64	17.1	156	19.5
Unhealthy relationship knowledge and skills	8	5.5	18	4.8	35	4.4
Unhealthy relationship course components	4	2.8	24	6.4	40	5
Recognizing warning signs and red flags	9	6.2 _a	36	9.6 _{a,b}	95	11.9 _b
Safe sex education	47	32.4 _{a,b}	105	28 _a	277	34.7 _b
Everything was useful	7	4.8 _{a,b}	17	4.5 _a	18	2.3 _b
Nothing was useful	3	2.1	4	1.1	20	2.5
<i>Total</i>	<i>145</i>	<i>100</i>	<i>375</i>	<i>100</i>	<i>798</i>	<i>100</i>
	UHS		AHS		BHF	
	n	%	n	%	n	%
Least Useful (n = 1,029)						
Specific course components	20	14.3	33	12	95	15.4
Safe sex education	13	9.3 _a	34	12.4 _a	110	17.9 _b
Abstinence only focus	1	0.7	7	2.6	18	2.9
Inapplicable or already known information	12	8.6	24	8.8	77	12.5
Uncomfortable topics or negative aspects	4	2.9 _{a,b}	10	3.6 _a	45	7.3 _b
Everything was useful	89	63.6 _a	164	59.9 _a	255	41.5 _b
Nothing was useful	1	0.7	2	0.7	15	2.4
<i>Total</i>	<i>140</i>	<i>100</i>	<i>274</i>	<i>100</i>	<i>615</i>	<i>100</i>

UHS= Urban high school, AHS= Alternative high school, BHF= Behavioral health facility.

Percentages that do not share a subscript are significantly different.

Table 3. Frequency of responses that represent each theme across age groups.

	14–15		16–17		18–20	
	n	%	n	%	n	%
Most Useful (n = 1,174)						
Healthy relationship knowledge and skills	100	22.1	152	24.6	20	19.2
Healthy relationship course components	80	17.7 _a	109	17.7 _a	28	26.9 _b
Unhealthy relationship knowledge and skills	23	5.1	24	3.9	6	5.8
Unhealthy relationship course components	20	4.4	31	5	6	5.8
Recognizing warning signs and red flags	47	10.4	67	10.9	14	13.5
Safe sex education	155	34.2	199	32.3	28	26.9
Everything was useful	17	3.8 _a	24	3.9 _a	0	0 _b
Nothing was useful	11	2.4	11	1.8	2	1.9
<i>Total</i>	<i>453</i>	<i>100</i>	<i>617</i>	<i>100</i>	<i>104</i>	<i>100</i>
	14–15		16–17		18–20	
	n	%	n	%	n	%
Least Useful (n = 915)						
Specific course components	56	15	65	14.2	13	15.5
Safe sex education	58	15.5	69	15.1	7	8.3
Abstinence only focus	3	0.8 _a	15	3.3 _b	5	6 _b
Inapplicable or already known information	40	10.7	48	10.5	13	15.5
Uncomfortable topics or negative aspects	29	7.8 _a	16	3.5 _b	7	8.3 _a
Everything was useful	179	48	242	52.8	37	44
Nothing was useful	8	2.1	3	0.7	2	2.4
<i>Total</i>	<i>373</i>	<i>100</i>	<i>458</i>	<i>100</i>	<i>84</i>	<i>100</i>

Percentages that do not share a subscript are significantly different.

Compared to youth in BHF contexts, healthy relationship knowledge and skills were found more useful by UHS ($\chi^2 = 11.480, p < .001$) and AHS youth ($\chi^2 = 5.473, p < .05$). Participants found it useful to learn how to establish and maintain relationships along with the sub-theme of *healthy relationship course components* related to pacing (e.g. 3-6-9 months guideline), trust, and communication. The sub-theme of healthy relationship course components was found useful by older youth (18–20),

Table 4. Frequency of responses that represent each theme across genders.

	Male		Female		Other	
	n	%	n	%	n	%
Most Useful (n = 1,174)						
Healthy relationship knowledge and skills	114	24.5	132	23.7	20	17.7
Healthy relationship course components	73	15.7	110	19.7	24	21.2
Unhealthy relationship knowledge and skills	21	4.5	27	4.8	4	3.5
Unhealthy relationship course components	24	5.2 _{a,b}	23	4.1 _a	10	8.8 _b
Recognizing warning signs and red flags	34	7.3 _b	74	13.3 _a	15	13.3 _a
Safe sex education	172	37 _b	162	29.1 _a	33	29.2 _{a,b}
Everything was useful	17	3.7	17	3.1	6	5.3
Nothing was useful	10	2.2	12	2.2	1	0.9
Total	465	100	557	100	113	100
Least Useful (n = 915)						
Specific course components	57	16	60	13.6	11	12.9
Safe sex education	56	15.7 _{a,b}	57	13 _a	19	22.4 _b
Abstinence only focus	13	3.6	8	1.8	0	0
Inapplicable or already known information	32	9 _b	50	11.4 _{a,b}	15	17.6 _a
Uncomfortable topics or negative aspects	22	6.2	22	5	5	5.9
Everything was useful	169	47.3 _b	241	54.8 _a	33	38.8 _b
Nothing was useful	8	2.2 _b	2	0.5 _a	2	2.4 _{a,b}
Total	357	100	440	100	85	100

Other: transgender, does not identify, prefer not to respond. Percentages that do not share a subscript are significantly different.

Table 5. Frequency of responses that represent each theme across ethnicity.

	Hispanic/Latinx		Non-Hispanic/Latinx	
	n	%	n	%
Most Useful (n = 1,174)				
Healthy relationship knowledge and skills	96	25.3	170	22.3
Healthy relationship course components	59	15.5	150	19.7
Unhealthy relationship knowledge and skills	22	5.8	31	4.1
Unhealthy relationship course components	11	2.9 _a	44	5.8 _b
Recognizing warning signs and red flags	39	10.3	85	11.1
Safe sex education	125	32.9	248	32.5
Everything was useful	22	5.8 _a	18	2.4 _b
Nothing was useful	6	1.6	17	2.2
Total	380	100	763	100
Least Useful (n = 915)				
Specific course components	35	11.3 _a	95	16.5 _b
Safe sex education	37	12	95	16.5
Abstinence only focus	2	0.6 _a	19	3.3 _b
Inapplicable or already known information	26	8.4	71	12.3
Uncomfortable topics or negative aspects	17	5.5	32	5.5
Everything was useful	189	61.2 _a	255	44.2 _b
Nothing was useful	3	1	10	1.7
Total	309	100	577	100

Percentages that do not share a subscript are significantly different.

significantly more so than their 14–15 ($\chi^2 = 4.643$, $p < .05$), and 16–17-year-old ($\chi^2 = 4.955$, $p < .05$) counterparts. Two example responses are as follows: ‘What a good relationship looks like and how we can take the best decisions.’ (16-year-old UHS female) and ‘That both partners should have clear communication, mutual respect, respect of values.’ (15-year-old female from BHF context).

Under the main theme of unhealthy relationship knowledge and skills, two sub-themes emerged: (a) *unhealthy relationship course components*, and (b) *recognizing warning signs and red flags*.

Unhealthy relationship course components (e.g. decide, don't slide, listener/speaker skills, and controlling emotions to deal with conflict) were found useful more so by participants in the other gender category, compared to males ($\chi^2 = 4.470, p < .05$), as well as by non-Hispanic/Latinx youth compared to their Hispanic/Latinx counterparts ($\chi^2 = 4.568, p < .05$).

A 16-year-old transgender non-Hispanic/Latinx adolescent from the BHF context responded: 'Decide, don't slide. Make clear decisions and wait for the chemistry to surface.' Compared to UHS youth, significantly more youth from BHF contexts found recognizing warning signs and red flags useful ($\chi^2 = 4.060, p < .05$). Similarly, compared to males, more females ($\chi^2 = 9.569, p < .01$), and participants from the other gender group ($\chi^2 = 4.165, p < .05$) found recognizing risks useful. A 20-year-old white female from the BHF context responded: 'The most useful thing was learning to identify red flags and toxic relationships.'

Sex education was the third main aspect that was considered most useful by participants, specifically including topics such as safe sex, consent, STIs/STDs, and birth control. More participants in BHF contexts compared to those in AHS contexts ($\chi^2 = 5.233, p < .05$) and more males compared to females ($\chi^2 = 7.198, p < .01$), found sex education useful. Exemplary responses from two 17-year-old males from BHF contexts were: 'Learning about birth control and safe sex,' 'About STDs; it helped me realize that I need to ask my partner(s) if they have any.'

Least useful

Among 1,029 eligible responses, three main themes emerged: (a) specific course components, (b) sex education, and (c) uncomfortable topics or negative aspects.

Some participants found certain course components least useful, especially those related to relationship pacing overall (i.e. 3-6-9 months guideline, decide don't slide rule). Significantly more non-Hispanic/Latinx youth found these course components less useful than their Hispanic/Latinx counterparts ($\chi^2 = 4.243, p < .05$). Some youth perceived these course components to be restrictive of their behaviour in romantic interactions, especially as it related to setting boundaries. A 17-year-old non-Hispanic male AHS student responded: 'What stages you should do things at.' Similarly, a 14-year-old Hispanic female from BHF context said: 'What date you should kiss on.' Some participants found course components to be lengthy and confusing, including a 17-year-old non-Hispanic male from BHF context who responded with: 'There's a lot of metres that didn't make sense.' A 15-year-old non-Hispanic male from UHS context said: 'What different neurotransmitter chemicals did. I understand knowing the concept that they can blind your perception will prove useful, but it was unnecessary to explain the function of each.'

Love Notes includes a comprehensive sex education component that teaches a variety of topics, including (but not limited to) abstinence. The specific topic of sex education was found to be least useful, especially by youth in BHF contexts compared to UHS ($\chi^2 = 6.185, p < .05$) and AHS youth ($\chi^2 = 4.189, p < .05$), as well as by those who identified as other in terms of gender, compared to females ($\chi^2 = 5.083, p < .05$). Example responses from participants who identified as other gender in BHF contexts are as follows: 'Straight sex,' 'About how guys don't care as much about sex.' Subthemes that emerged under sex education were: (a) abstinence-only focus and (b) inapplicable or already known information, reflecting the two main reasons why the topic was met with dislike. Older youth (18-20) found the abstinence-only focus less useful than younger youth between ages 14-15 ($\chi^2 = 10.565, p < .01$). Similar findings emerged when comparing non-Hispanic/Latinx participants to those with Hispanic/Latinx backgrounds ($\chi^2 = 4.087, p < .05$). Responses from two 18-year-old non-Hispanic/Latinx participants represent how an abstinence-only focus to sex education was found least useful among this group of youth: 'How you should be married to have a kid,' 'The lessons on abstinence from sex.'

For some, sex education was inapplicable due to various reasons, more so by youth who identified as other gender, compared to males ($\chi^2 = 5.448, p < .05$). Example responses from these participants were 'STD's because I'm waiting on sex,' and 'Learning about sex because I'm personally asexual.' Participants also indicated that they already knew about the main topics covered, such as

consent, STIs, and birth control. A 15-year-old participant in a BHF context who identified as other gender responded with: 'What birth control does and the different types because I have had discussions about all of them before.' Similarly, a 14-year-old female from BHF context responded with: 'The consent lesson because it's just common sense to not rape someone.'

Finally, some topics were considered less useful because they were considered uncomfortable and negative aspects related to potential risks that portrayed romantic interactions negatively such as red flags, details about toxic relationships, and pornography addiction, as well as potentially triggering topics such as abuse and sexual assault. These were found least useful especially by youth in BHF contexts compared to those in AHS contexts ($\chi^2 = 4.393$, $p < .05$); by older youth (18–20) compared to middle-aged youth between ages 16–17 ($\chi^2 = 4.092$, $p < .05$); as well as by younger youth (14–15) compared to middle-aged participants ($\chi^2 = 7.357$, $p < .01$). The following response from a 15-year-old participant in a BHF context, 'Triggers,' represents how such topics can be uncomfortable and not as useful. Similarly, two 14-year-old participants from a BHF context responded with 'Abusive relationships,' 'I didn't get why we needed to learn about pornography.'

Discussion

Guided by the resilience framework, we used multilevel modelling to investigate the overall impact of *Love Notes* for participants from three distinct educational backgrounds of potential disadvantage, while also examining the influence of control variables related to demographic context and background. Qualitative analyses that involved thematic coding, as well as a comparative case analysis followed by chi-square testing, supplemented these analyses by examining and comparing participant responses related to their experiences with the program, specifically, what they found most and least useful.

Evaluation of findings

Quantitative analyses

Relationship confidence. As expected, youth in BHF contexts benefited significantly more from the program compared to those in UHS or AHS contexts. This result is consistent with resilience theory, proposing that those subject to more adversity can exhibit greater gains upon receiving promotive factors (i.e. relationship skills through intervention) compared to those from less adverse backgrounds (Moore, 2013). Youth in BHF contexts, despite presumably dealing with behavioural health challenges, displayed greater gains, indicating their need for resources and an ability to rebound from adversity. In addition, higher well-being, and higher levels of school and parental connection were related to better relationship confidence. This result is consistent with developmental theories proposing that for youth, personal well-being, as well as positive relationships with parents, are critical in the development of healthy romantic relationships (Collins et al., 2009; Gómez-López et al., 2019; Walper & Wendt, 2015). In addition, recent cross-cultural research shows a positive relationship between healthy parental attachment patterns and romantic relationship quality (Gorla et al., 2024). Although peer relationships are influential in romantic interactions (Furman et al., 2010), few studies have explicitly examined the relationship between school identity and romantic relationships, one study, however, found no connection (Branje et al., 2014). Our results, indicating that higher school connection predicts better relationship confidence, could be linked to peer relationships or academic success, impacting romantic relationship experiences through other mediating or moderating variables. More research is needed to unravel the connection between school and romantic relationship confidence.

Relationship decision making. Although all groups benefited from the program, the three groups of youth from different educational contexts did not differ in their program gains in decision making. This finding contradicted our expectations, as well as the tenets of resilience theory, which argues

that individuals who experienced adversity can display adaptive behaviour following interventions (Ungar, 2010). One potential reason for insignificant differences between groups could be due to measure reliability, indicated by the low Cronbach's alpha of pre-test scores of relationship decision making subscale ($\alpha = .63$). However, youth with higher levels of expressed anger, school and parental connection, and well-being had greater gains in decision making. Well-being, parental connection, and school connection can be expected to have a positive influence on relationship outcomes, as previously explained (Gómez-López et al., 2019; Walper & Wendt, 2015). Expressed anger, on the other hand, was found to be related to decision making overall (Litvak et al., 2010) and has also been connected to intimate partner violence decision making processes among adult samples (Nedegaard & Sbrocco, 2014). Our results extend these existing findings, and show that expressed anger impacts relationship decision making among adolescents as well.

Recognizing warning signs. Similar to relationship confidence, and consistent with resilience theory, youth in BHF contexts benefited more from the program compared to those in UHS and AHS contexts. Youth with higher levels of parental connection and well-being, as well as Hispanic/Latinx youth were better at recognizing warning signs. This result is consistent with literature emphasizing the role of parental involvement in adolescent sexual risk behaviours as well as risk reduction intervention benefits (Guilamo-Ramos et al., 2012; Wang et al., 2014). Research has illustrated the influence of gender and ethnicity on parental attitudes towards dating (Reid et al., 2019), with Latina girls reporting being subject to stricter rules about dating and sex than boys (Raffaelli & Ontai, 2004). Thus, it may not be surprising that Latinx youth were more aware of warning signs, due to parenting practices that might serve as a promotive factor.

Overall, our results emphasized the role educational background and social context play in RE outcomes. Youth from BHF contexts benefited more from the program in terms of improving their relationship confidence and recognizing warning signs, but not decision making. Youth in UHS and AHS contexts did not differ from each other. These results indicate that youth coming from more disadvantaged backgrounds with behavioural health problems displayed greater gains from promotive factors provided through strength-based relationship education. Parental connection and well-being predicted all outcomes positively, indicating that having a close relationship with parents, as well as a healthy psychological well-being may work as promotive factors among youth coming from different backgrounds of disadvantage.

Qualitative analyses

More than half of participants who provided responses about the least useful aspects of the program indicated enjoying everything, which shows that youth attending the *Love Notes* program had positive experiences, indicating its effectiveness among youth from different backgrounds. These qualitative results complement quantitative findings, showing that all youth who attended the program, regardless of their background, showed significant improvement in relationship outcomes. In addition, youth in BHF contexts, younger youth, females, and those with Hispanic/Latinx ethnic background reported enjoying everything more than other groups – which shows that background characteristics matter in participant experiences. Youth who expressed overall positive experiences with the program are from groups subject to more potential adversity due to their gender, educational and ethnic background (females, youth in BHF contexts, Hispanic/Latinx youth), or with less romantic relationship experiences (younger youth). Therefore, due to their contextual circumstances that may put them at more need for resources, we can expect these youth to benefit more from similar interventions.

Most useful. Overall, youth found healthy and unhealthy relationship skills and knowledge as well as sex education most useful. These results, along with complementary quantitative findings showing gains in relationship outcomes, point to the effectiveness of RE programs focusing on providing resources and skill building, as opposed to RE programs that may take more of a deficit approach.

Guided by resilience theory, participant responses were evaluated based on contexts that encompassed educational background, as well as social and demographic characteristics. Healthy relationship knowledge and skills was found more useful by UHS and AHS youth. This finding contradicts our quantitative findings, which indicated more gains by BHF youth, a finding consistent with resilience theory. On the other hand, compared to their counterparts, significantly more BHF youth and more females found recognizing warning signs and red flags more useful. This finding was as expected and was also consistent with quantitative findings on the outcome of recognizing warning signs. These results indicate that even though learning about healthy relationship skills was found to be useful overall, unhealthy relationship skills, specifically recognizing red flags was favoured more by females and youth under more adversity. This may point to these groups' specific needs in mitigating potential risks of romantic interactions, potentially more so than learning what is healthy. Sex education was found more useful by participants in BHF contexts, and by males. This result is to be expected considering previous findings of high-risk sexual behaviour among youth with mental health disorders (Adan Sanchez et al., 2019), as well as earlier initiation of sex among young males (Kahn & Halpern, 2018).

Least useful. Overall, specific course components were reported to be least useful along with sex education and uncomfortable or negative aspects (e.g. abuse, addiction). Significantly more non-Hispanic/Latinx participants disliked course components that can be considered restrictive, such as relationship pacing, as well as abstinence only focus, compared to their Hispanic/Latinx counterparts. This could be because Hispanic/Latinx youth may have already been exposed and used to values such as *familism*, which can similarly frame dating as a threat during adolescence, especially for Latina girls (Raffaelli & Ontai, 2004). Non-Hispanic/Latinx youth disliked this refraining from romantic interactions approach (i.e. pacing or abstinence) because they may not be as used to such messages from older adults when compared to Hispanic/Latinx youth. These results further emphasize the importance of focusing on skill building instead of a deficit approach that can be perceived as restrictive and not useful, especially by non-Hispanic/Latinx youth.

The topic of sex education was considered to be more useful by some participants (BHF youth, males) and less useful by others (BHF youth, other gender). Although it emerged as a theme for responses to both questions, we evaluate this result with caution, emphasizing the fact that the aspects of sex education that were considered to be useful (e.g. consent, STDs/STIs, birth control) were different than aspects reported to be less useful (e.g. abstinence, common sense or unapplicable). The fact that sex education was considered both more and less useful mainly by BHF youth might be attributed to their unique background, which may include more adverse past experiences than other groups (Finkelhor et al., 2021). Therefore, it can be expected for some BHF youth to find certain components of sex education, such as signs of sexual assault and abuse, less useful (Lucenko et al., 2015).

In addition, sex education was found useful by males but not so useful by youth who identified as other gender. Based on their responses, it can be inferred that those who identified as other gender disliked the heteronormative focus of topics related to sex. Guided by these findings, future intervention efforts should consider being more inclusive of the experiences of non-binary youth.

Differences between sex education content found to be useful and not useful points to the attentiveness of youth receiving RE in recognizing various aspects of the program. Furthermore, some participants found certain sex education topics least useful (e.g. consent) due to familiarity, which also shows the resourcefulness of these adolescents in recognizing non-useful information. Future interventions should keep this in mind when considering audience characteristics and needs.

Finally, some aspects of the program were considered uncomfortable and negative by participants, and reported to be least useful, especially by BHF youth. Considering their contextual background, youth coming from BHF contexts may have had adverse experiences related to abuse and sexual

assault. Their responses (i.e. 'Trigger') confirm this possibility. In the light of this finding, future intervention efforts aimed at youth who may have such experiences should consider a more past-trauma sensitive approach to discussing risks and the negative aspects of romantic/sexual interactions.

Limitations and future directions

The limitations of this study can inform future research. First, this study was conducted in a single state, among a sample with some variation in race and ethnicity. Future studies that look at multiple states with more diverse youth populations could help the field gain a broader perspective on the experiences of youth in RE.

The framework of resilience provides a useful background for considering how promotive factors are important for encouraging positive youth development. Our study utilized the resilience framework without administering a resilience scale, which can be considered a limitation. However, as Zimmerman (2013) also pointed out, resilience is not an adolescent trait that can be fully measured by a self-report questionnaire. Rather, resiliency posits relationships and processes, therefore in our study we chose to investigate the role of overall context, by examining differences between participants based on their educational and demographic backgrounds. This approach is consistent with research focusing on the cumulative effects of multiple promotive or risk factors across ecological domains to reflect the complex nature of influences on adolescents' gains from RE programs (Stoddard et al., 2020).

Our study was cross-sectional which can be considered a limitation. We also relied on self-report questionnaires focusing on attitudes more than specific behaviours in program outcomes. RE researchers should consider including more behaviour-focused scales as well as follow-up data in their data collection plans, to better estimate longitudinal outcomes of such programs.

Finally, abstinence only focus may have been disliked by youth overall, due to facilitator approach, which our study did not specifically examine. Future studies investigating facilitator skills and attitudes as part of an educational approach, can look into the influence of variables related to educators of RE programs.

Implications for practice and research

From a practical perspective, understanding the unique experiences of youth from different backgrounds can help improve strength-based interventions geared towards similar populations. For youth from more disadvantaged backgrounds, RE can hold greater and different benefits when compared to less disadvantaged youth, considering these youth have been shown to be more susceptible to risk factors such as early sexual intercourse (Orihuela et al., 2020).

Focusing on resource building and resilience instead of a deficit approach could help youth improve their understanding of relationships, while also providing promotive factors that can mitigate the negative effects of risk factors. Our results also showed that higher levels of expressed anger led to better relationship decision making skills among youth. This is an important finding, especially for intervention curriculum designers, pointing to the importance of incorporating anger control lessons into RE programs.

Our results emphasize the similar needs of youth in learning relationship skills, while also emphasizing their differences in regard to context. In terms of research, this study supports existing literature on resilience, stressing the importance of contextual factors.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by the Office of Population Affairs.

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