



Childhood Predictors of Adult Intimate Partner Violence Perpetration and Victimization

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Accepted: 2 October 2022 / Published online: 3 November 2022
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Abstract

Purpose This systematic review is a 5-year update of a previously conducted review on the longitudinal predictors of domestic violence perpetration and victimization. This review adopted the term ‘Intimate Partner Violence (IPV)’ to align with current literature and addressed two aims: to identify any novel longitudinal risk factors since the previous review, and to determine if a distinction could be drawn between risk factors for perpetration and victimization (a limitation identified by the previous review).

Methods Twelve studies met the inclusion criteria of prospectively investigating childhood/adolescent predictors (prior to age 18) for adulthood IPV perpetration and victimization. Peer-reviewed papers were identified via the following databases in November 2020: MEDLINE, APA PsycINFO, SocINDEX, EMBASE, and Scopus. Study quality was assessed using the Cambridge Quality Checklists.

Results Consistent with the previous review, child and adolescent abuse, family of origin risks, child and adolescent behavioral problems, and adolescent peer risks were identified as significant predictors of IPV perpetration and victimization. The current review, however, adds nuance to these findings, identifying potential moderating and/or mediating factors and additional risk factors, including mental health and cultural and attitudinal risks.

Conclusion This review re-emphasizes the importance of developmental risk factors for adulthood IPV perpetration and victimization, and their role in prevention and intervention efforts.

Keywords Intimate partner violence · longitudinal predictors · systematic review · intervention · prevention

Intimate Partner Violence (IPV) impacts approximately 16% of individuals in population-based studies (Langhinrichsen-Rohling et al., 2012) and is associated with a range of negative physical health outcomes (e.g., injury, chronic pain, and gastrointestinal problems), as well as negative

mental health outcomes (e.g., substance use and depressive symptoms) (Campbell, 2002; Coker et al., 2002). Despite these well-established adverse outcomes, there remains a lack of evidence for effective prevention and intervention options (Graham et al., 2021; Karakurt et al., 2019). This

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relative paucity of evidence likely results from both the complexity of, and interplay between, the multitude of risk and protective factors that have been identified in both IPV perpetration and victimization, as well as a need to better understand the etiology of IPV (Capaldi & Langhinrichsen-Rohling, 2012). Prospective longitudinal studies can identify key developmental patterns, experiences, and influences which inform early prevention efforts, or intervention efforts, throughout the life-course.

Understanding the key developmental factors and influences on experiences of IPV in adulthood is critical to ensure effective prevention efforts (for a summary of this literature, see Costa et al., 2015). In 2015, Costa et al. identified 25 studies within five domains in their systematic review focusing on longitudinal predictors of IPV perpetration and victimization. The first domain, *experiencing abuse in childhood and adolescence*, was associated with an increased likelihood of perpetrating physical abuse and psychological aggression and experiencing victimization in an adult romantic relationship. The second domain, *experiences of adversity in the family of origin* (e.g., poor parent-child relationship; witnessing parental violence), increased the likelihood of both IPV perpetration and victimization as an adult. Similarly, the third domain, *behavioral risks* (e.g., aggressive behavior; alcohol and drug use) increased the likelihood of IPV perpetration and victimization in adulthood. The fourth domain, *adolescent peer risks* (e.g., conflict with peers), predicted IPV perpetration and victimization as an adult. The last domain, *sociodemographic risks*, including family of origin and low socioeconomic status, were also found to be consistent predictors of both physical and psychological IPV perpetration and victimization.

Costa et al., (2015) highlighted the consistent overlap between IPV victimization and perpetration in adulthood indicating it might be difficult to identify unique predictors for each, suggesting that this interrelationship may be a result of common risk factors and via reciprocal IPV. As such, the current systematic review provides an update on, and extension of the Costa et al. (2015) systematic review, highlighting recent evidentiary advancements for the role of longitudinal influences on IPV perpetration and victimization. Specifically, this systematic review aimed to identify if, since the Costa et al. review, there were newly identified developmental predictors of IPV perpetration and victimization that could be used to inform prevention and intervention efforts. While a significant proportion of IPV is bidirectional (as much as 68% in some population studies), IPV is also often unidirectional (Langhinrichsen-Rohling et al., 2012). Thus, we also aimed to explore whether risk factors for IPV perpetration and victimization can be distinguished from one another.

Method

A systematic literature review was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Checklist (Page et al., 2021).

Eligibility criteria

Couched within a developmental perspective, this review focused on risk factors identified in childhood and adolescence that contribute to subsequent IPV experienced in the context of adult romantic relationships. To be included for review, studies were required to report IPV within current or recent romantic relationships in adulthood. Thus, studies that assessed the occurrence of at least one type of adult IPV (e.g., sexual, emotional, psychological, or physical), via a single item or scale score (self-reported or partner-reported) were included for review. Specifically, in line with Costa et al., articles were included in the review if they met the following inclusion criteria: (a) were published in English from January 2015 to November 2020; (b) were peer reviewed; (c) described a longitudinal study (i.e., minimum two waves of data collection; where the first data collection occurred prior to age 18, and at least one follow-up assessment was made in adulthood); (d) empirically tested the strength of one or more childhood/adolescent predictors of IPV perpetration and/or victimization in adulthood; and (e) the full text was accessible. No limits were placed on sample size or recruitment methodology.

Information sources

Peer-reviewed papers were identified by searching electronic databases: MEDLINE, APA PsycINFO, SocINDEX with full text, EMBASE, and Scopus.

Search strategy

All available records were searched using the following combination of search concepts (and their related terms; see Supplementary material 1 for full search syntax) in the title or abstract of the article: *'intimate partner violence'*, *'interpersonal relationships'* and *'longitudinal predictors.'* Each search concept was created by first developing a list of search terms relevant to each concept (e.g., for the *'intimate partner violence'* concept search terms included *'interpersonal violence'*, *'domestic abuse'*, *'maltreatment'*, etc.), with this process continuing until all keywords for each concept were identified. To create each concept, the search terms were searched collectively using the operator 'or'. Each concept was then combined into the final search by using the operator 'and'. Search terms included indexed

terms unique to each database, as well as terms used in previous reviews (e.g., Costa et al., 2015).

To minimize the impact of indexing errors, several journals were identified for hand searching based on these journals publishing a high volume of IPV studies. These journals included *Journal of Family Violence* and *Journal of Interpersonal Violence*. Our hand searches did not reveal any further relevant articles for inclusion beyond our database searches, and as such we opted not to conduct any further hand searches in specific journals. Reference lists of eligible studies and review articles were also searched for additional studies that were not captured in the database searches.

Selection process

All relevant titles and abstracts identified through the searches were exported into Covidence (Veritas Health Innovation, 2014), a systematic review support program for screening. The title and abstract of all articles were screened by one author (BP) to assess suitability for inclusion. Author SH independently screened 25% of the titles and abstracts. The inter-rater agreement between the two researchers was 96% and any differences were resolved by Author AC. Author BP conducted screening of full-text articles for inclusion. Author RB independently screened 10% of the full-text articles with no disagreement found. See Fig. 1 for PRISMA flowchart.

Data collection process

Data was collected from articles by Author TH and cross-checked by Author AC for accuracy. Data was populated into a summary table (see Table 1).

Quality assessment

The quality of the studies included in the current review were assessed using the Cambridge Quality Checklists (Jolliffe et al., 2012; Murray et al., 2009). Points were allocated to each study based on three domains: Correlate (5 points; sample/sampling method, response rate, reliability of measures), Risk Factor (3 points; study design), and Causal (7 points; attribution of causality; see Supplementary Table 1 for detail).

Results

Study selection

After removal of duplicates a total of 3,619 articles were retained, and the abstracts were read to assess if the article

met the inclusion criteria. During this process, 3,510 papers did not meet the inclusion criteria and were removed (Fig. 1). The remaining 109 papers were read in full whilst applying the inclusion criteria, at which point a further 97 papers were excluded. The remaining 12 papers were identified as relevant to the research aim.

Study characteristics

Table 1 shows the citation, cohort, country, participants, and length of follow up for each study listed by cohort. Nine of the studies collected data from both males and females (Abajobir et al., 2017; Goodnight et al., 2017; Grest, Amaro, et al., 2018; Grest, Lee, et al., 2018; Handley et al., 2019; Herrenkohl & Jung, 2016; Milaniak & Widom, 2015; Narayan et al., 2017; Neppel et al., 2019), two from only females (Vézina et al., 2015; Zamir et al., 2018), and one from only males (Theobald et al., 2016). The sample sizes within the cohorts ranged from 80 (Zamir et al., 2018) to 3322 (Abajobir et al., 2017), with an average sample size of 752. The studies were from 10 longitudinal cohorts (see Table 1). Three studies from two cohorts (Narayan et al., 2017; Theobald et al., 2016; Zamir et al., 2018) were based on different waves of data from cohorts that were included in the Costa et al., (2015) review., and which were published within the timeframe of the current review.

Table 2 shows the characteristics of the 12 studies included in the current review, including study cohort, predictor variables, outcome measures, and predictors. Five studies focused on both perpetration of IPV and victimization by IPV in adulthood (Grest, Amaro, et al., 2018; Grest, Lee, et al., 2018; Handley et al., 2019; Herrenkohl & Jung, 2016; Narayan et al., 2017), four focused on perpetration only (Goodnight et al., 2017; Milaniak & Widom, 2015; Neppel et al., 2019; Theobald et al., 2016), and three on victimization only (Abajobir et al., 2017; Vézina et al., 2015; Zamir et al., 2018). Nine of the 12 studies were conducted in the USA (Goodnight et al., 2017; Grest, Amaro, et al., 2018; Grest, Lee, et al., 2018; Handley et al., 2019; Herrenkohl & Jung, 2016; Milaniak & Widom, 2015; Narayan et al., 2017; Neppel et al., 2019; Zamir et al., 2018), and one each in the UK (Theobald et al., 2016), Australia (Abajobir et al., 2017), and Canada (Vézina et al., 2015).

Outcome Measures

Eight studies utilized a version of the Conflict Tactics Scale (Abajobir et al., 2017; Goodnight et al., 2017; Grest, Amaro, et al., 2018; Grest, Lee, et al., 2018; Herrenkohl & Jung, 2016; Narayan et al., 2017; Theobald et al., 2016; Zamir et al., 2018). Two studies utilized the 14-item Conflict Tactics Scale – Short Form (CTS-SF) (Grest, Amaro, et al., 2018;

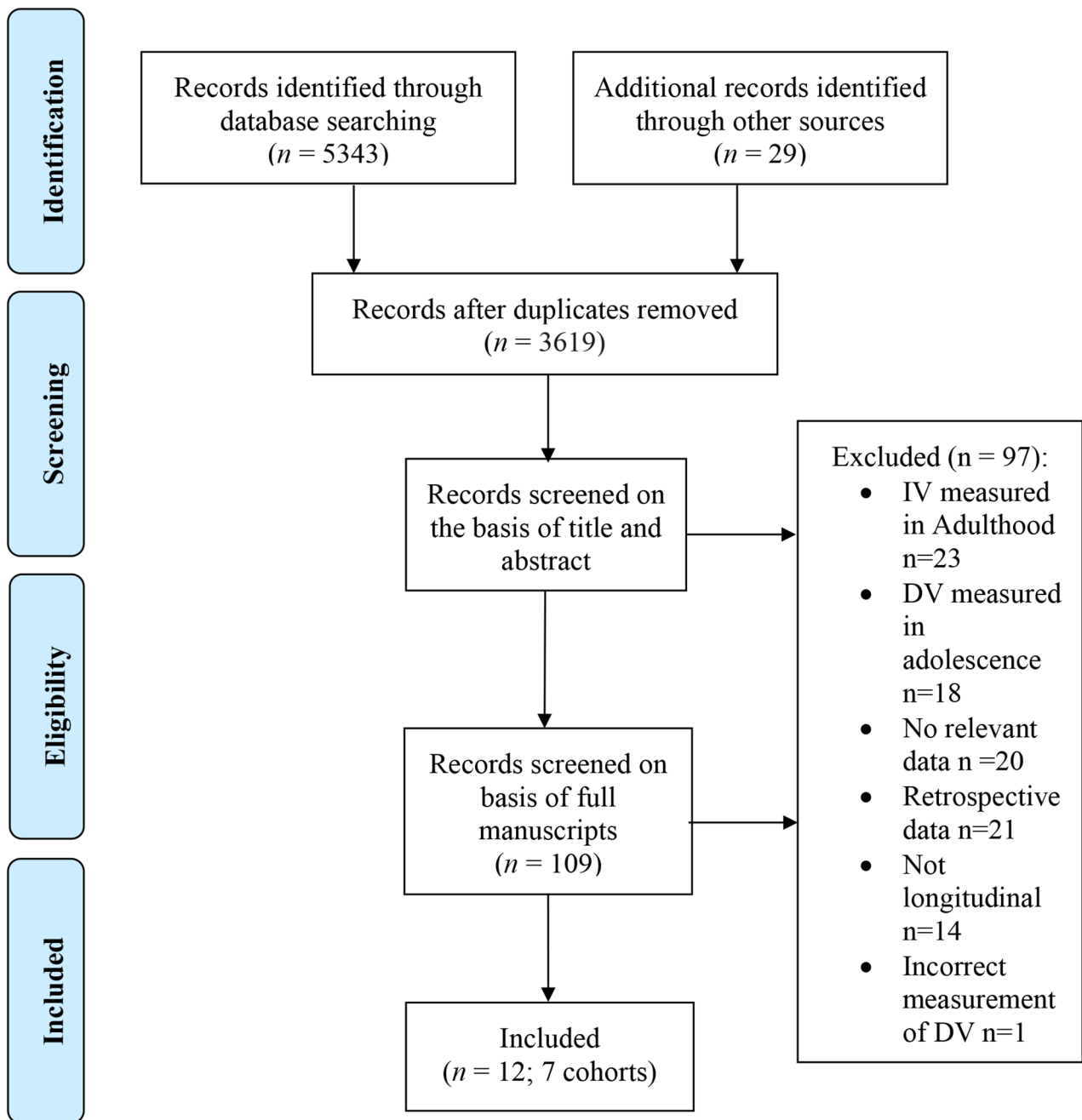


Fig. 1 PRISMA

Grest, Lee, et al., 2018), one study used the full CTS (Theobald et al., 2016), four utilized a modified version of the full CTS, including a 7-item (Abajobir et al., 2017), 8-item (Zamir et al., 2018), 10-item (Narayan et al., 2017), and a 33-item version (Herrenkohl & Jung, 2016), and one study utilized a shortened version of the CTS 2 (15-item (Goodnight et al., 2017)). Two studies used a one-item measure of IPV in adulthood (Milaniak & Widom, 2015), one study used a 4-item partner and observer report scale (Handley et

al., 2019), and one study combined two existing IPV measures (including the CTS 2) (Vézina et al., 2015).

Studies were mixed in terms of the type of IPV they assessed in adulthood. Ten of the 12 studies specifically measured physical IPV (Abajobir et al., 2017; Goodnight et al., 2017; Grest, Amaro, et al., 2018; Grest, Lee, et al., 2018; Herrenkohl & Jung, 2016; Milaniak & Widom, 2015; Narayan et al., 2017; Theobald et al., 2016; Vézina et al., 2015; Zamir et al., 2018), six measured psychological IPV

Table 1 Summary of reviewed studies

Study/cohort (country)	Participants	Length of follow up (number of waves)	Waves in current study	Cohort in Costa et al.?
1. Cambridge Study in Delinquent Development (CSDD; UK)				
Theobald et al., (2016)	411 males aged 8 at T1 and followed up to age 48 (n = 365).	40 years (9 waves)	5 waves (age 8–10, age 18, age 32, age 48)	Yes
2. Minnesota Longitudinal Study of Risk and Adaptation (MLSRA; USA)				
Narayan et al., (2017)	93 males and 86 females followed from birth up to 32 years old.	36 years (24 waves)	11 waves (all from 12–54 months and at least 1 of 3 adulthood waves from ages 23, 26, 32)	Yes
Zamir et al., (2018)	80 females followed from birth to age 32.	36 years (24 waves)	15 waves (all waves between birth–17.5 years, waves from ages 19–32)	Yes
3. Child development project (USA)				
Goodnight et al. (2018)	226 males and 240 females aged 5 at T1 and followed to age 23.	23 years (23 waves)	18 waves (yearly from age 5–23)	No
4. Family Transitions Project (FTP; USA)				
Neppl et al., (2019)	93 males and 100 females; average age 12.7 at T1, followed to age 29.	17 years (17 waves – 2nd generation only)	9 waves (ages 13–16, 18, 19, 21, 23, 29)	No
5. Project RED (USA)				
Grest et al., (2018)	345 males and 478 females aged 13.9 to 16.9 at T1 and followed to age 21.8–24.2.	6 years (6 waves)	Wave 2 and Wave 6	No
Grest et al., (2018)	418 males and 642 females aged 13.9–17.7 at T1 and followed to age 21.6–24.2.	6 years (6 waves)	Wave 2, Wave 3 Wave 4, and Wave 6,	No
6. Lehigh Longitudinal Study (USA)				
Herrenkohl & Jung (2016)	248 males and 209 females aged 18 months to 6 at T1, followed for 34 years.	34 years (4 waves)	3 waves (preschool, adolescent, adult)	No
7. Mater Hospital-University of Queensland Study of Pregnancy (MUSP; Australia)				
Abajobir et al. (2017)	1495 males and 1827 females followed from birth to age 21.	30 years (7 waves)	5 waves (birth – 21 years)	No
No Cohort Listed				
8. Vezina et al. (2015)	443 females aged 6 at T1 and followed to age 21 who had been dating during at least 2 weeks in the past year.	15 years (3 waves)	All	No
9. Milaniak & Widom (2015)	613 males and 582 females followed from birth to age 19–40.7	22 years (2 waves)	All	No
10. Handley, Russotti, Rogosch and Ciccetti (2019)	392 males and females aged 11 at T1 and followed to age 20.	10 years (2 waves)	All	No

(Abajobir et al., 2017; Grest, Amaro, et al., 2018; Grest, Lee, et al., 2018; Herrenkohl & Jung, 2016; Neppl et al., 2019; Vézina et al., 2015), four measured sexual IPV (Grest, Amaro, et al., 2018; Grest, Lee, et al., 2018; Herrenkohl & Jung, 2016; Vézina et al., 2015), three measured injury from IPV (Grest, Amaro, et al., 2018; Grest, Lee, et al., 2018; Herrenkohl & Jung, 2016), one study measured verbal IPV (Narayan et al., 2017), and one study measured

any experience of, or perpetration of IPV in the past 12 months (Handley et al., 2019).

The proportion of IPV experienced within the studies varied, with perpetration of physical IPV ranging from 4.9% (Grest, Amaro, et al., 2018) to 38.4% (Milaniak & Widom, 2015). One study reported psychological IPV was perpetrated by 78.6% of the sample, and 75.2% of the sample had been victimized by psychological IPV (Herrenkohl & Jung, 2016).

Table 2 Summary of predictor variables, outcome measures, and findings

Study/cohort (country)	Predictor variables measured in childhood and adolescence	Outcome measures	Predictors/pathways from childhood and adolescence
1. CSDD (UK)			
Theobald et al., (2016)	Criminal parent; harsh erratic discipline; parental disagreement; low-income family; low non-verbal and verbal IQ; nervous father or mother; neuroticism; impulsivity; disrupted family; poor supervision	IPV perpetration • CTS – interviewed female partner nominated by the man at age 48	↓ harsh erratic parenting (OR = 0.27, 95% CI[0.10, 0.73]); ↑ impulsivity (OR = 2.82, 95% CI[1.32, 6.00])
2. MLSRA (USA)			
Narayan et al., (2017)	Developmental timing of exposure to interparental violence (EIPV) within early childhood; abuse/neglect Control variables: Child sex (female); socioeconomic status; maternal age	IPV perpetration & IPV victimization • 10-item CTS (2 verbal, 8 physical) administered at ages 23, 26, 32.	Perpetration and victimization: ↑ EIPV in toddlerhood (perpetration: $\beta=0.23, p < .01$; victimization: $\beta=0.25, p < .01$), but not infancy (Perpetration: $\beta=0.00, p > .05$; victimization: $\beta=-0.07, p > .05$), predicts new IPV cases at age 23 and a pattern of increasing IPV between ages 26 and 32, compared to desisting IPV (OR = 1.37, 95% CI[1.07, 1.76]) and non-violent patterns (OR = 1.41, 95% CI[1.15, 1.72])
Zamir et al., (2018)	Childhood sexual or physical abuse, timing of abuse Control variables: childhood socioeconomic status; occupational prestige; educational attainment; race	IPV victimization • 8-item CTS at age 23, 26, 32 (physical items only)	Direct effects: ↑ physical or sexual abuse in childhood/adolescence ($\beta=0.27, p = .007$) Indirect effects: ↑ physical or sexual abuse in childhood/adolescence ($\beta=0.26, p = .020$) → ↑ dissociation at age 19 ($\beta=0.30, p = .003$) → victimization
3. Child development project (USA)			
Goodnight et al. (2018)	Individual factors: temperamental resistance of control; psychopathic traits; antisocial behavior Social and environmental factors: maternal warmth; maternal monitoring; parent-adolescent problem solving; friend antisocial behavior; family stress Control variables: Sex; race/ethnicity; socioeconomic status	IPV perpetration (physical/threat of physical) • Shortened CTS2–15 items at 18, 22, 23 years of age	Main effects: ↑ psychopathic traits ($b=0.28, p = .001$ [intercept]); ↑ resistance to control temperament ($b=0.02, p = .031$ [slope]); ↑ friend antisocial behavior ($b=0.05, p = .011$ [slope]); ↓ higher socioeconomic status ($b=-0.15, p = .041$ [intercept]) Interaction effects: ↓ parent-teen relationship only at levels of resistance to control temperament 2.2 SD above average ($b=-0.11, p = .028$ [slope]); ↑ friend antisocial behavior for males, not females ($b=-0.06, p = .011$ [slope]); ↑ friend antisocial behavior when levels of resistance to control temperament 1 SD above average ($b=0.03, p = .025$ [intercept]), but not 1 SD below average
4. FTP (USA)			
Neppl et al., (2019)	Parental psychological violence in early adolescence	IPV perpetration (psychological) • Partner and observer report of behavior to partner. 4 items covering psychological violence.	↑ Parental psychological violence in early adolescence ($\beta=0.29, p < .001$) → ↑ psychological violence towards partner in adolescence → ↑ perpetration in emerging adulthood ($\beta=0.26, p < .001$) and adulthood ($\beta=0.37, p < .001$)
5. Project RED (USA)			

Table 2 (continued)

Study/cohort (country)	Predictor variables measured in childhood and adolescence	Outcome measures	Predictors/pathways from childhood and adolescence
Grest et al., (2018)	Acculturation; traditional gender role attitudes; substance use; depressive symptoms Control variables: childhood abuse; witnessing domestic violence before 18	IPV victimization (physical, psychological, injury, sexual) & IPV perpetration (physical, psychological, injury, sexual) • CTS-SF – 14 items	Main effects (perpetration) Psychological: ↑ alcohol use (AOR = 1.31, 95% CI[1.12, 1.54]); ↑ witnessed domestic violence (AOR = 2.25, 95% CI[1.29, 3.93]) Physical: ↑ alcohol use (AOR = 1.37, 95% CI[1.12, 1.68]); ↓ Hispanic-oriented acculturation (AOR = 0.70, 95% CI[0.50, 0.99]) Injury: ↑ traditional gender roles (AOR = 1.21, 95% CI[1.03, 1.41]); ↓ Hispanic-oriented acculturation (AOR = 0.37, 95% CI[0.18, 0.75]) Sexual: ↑ traditional gender roles (AOR = 1.07, 95% CI[1.01, 1.13]); ↑ history of child abuse (AOR = 3.27, 95% CI[1.82, 5.88]) Main effects (victimization) Psychological: ↑ traditional gender roles (AOR = 1.08, 95% CI[1.02, 1.14]); ↑ alcohol use (AOR = 1.20, 95% CI[1.03, 1.39]) Physical: ↑ traditional gender roles (AOR = 1.13, 95% CI[1.05, 1.22]) Injury: ↑ traditional gender roles (AOR = 1.18, 95% CI[1.03, 1.35]); ↓ Hispanic-oriented acculturation (AOR = 0.49, 95% CI[0.27, 0.88]); ↑ depressive symptoms (AOR = 1.05, 95% CI[1.00, 1.10]) Sexual: ↑ history of child abuse (AOR = 2.77, 95% CI[1.69, 4.54]) Interaction effects (perpetration) Psychological: ↑ traditional gender roles for males only (AOR = 1.16, 95% CI[1.03, 1.29]); ↑ alcohol use for females only (AOR = 1.67, 95% CI[1.34, 2.09]) Physical: ↑ traditional gender roles for males only (AOR = 1.28, 95% CI[1.09, 1.49]); ↑ US-oriented acculturation for males only (AOR = 3.15, 95% CI[1.13, 8.76]) Interaction effects (victimization) Psychological: ↑ alcohol use for females only (AOR = 1.57, 95% CI[1.26, 1.96])
Grest et al., (2018)	Acculturation Control variables: childhood abuse; witnessing domestic violence before 18	Bidirectional IPV (Psychological, sexual, multiform) • CTS-SF – 14 items	Sexual: ↑ childhood abuse (OR = 2.85, 95% CI[1.82, 4.45]) Multiform: ↑ childhood abuse (OR = 5.39, 95% CI[1.58, 18.41])
6. Lehigh Longitudinal Study (USA)			
Herrenkohl & Jung (2016)	Child abuse/maltreatment (parent-report and substantiated) Control variables: age; gender; socioeconomic status	IPV victimization (physical, psychological, injury, sexual) & IPV perpetration (physical, psychological, injury, sexual) • CTS (33 items)	Perpetration Sexual: ↑ child maltreatment ($b = 1.21, p < .05$) Injury: ↑ child maltreatment ($b = 2.56, p < .05$)
7. MUSP (Australia)			
Abajobir et al. (2017)	Childhood maltreatment/abuse (sexual, physical, emotional, neglect)	IPV victimization (emotional, physical, harassment, combined/severe) • Modified CTS – 7 items	Emotional IPV: ↑ any abuse (AOR = 1.84, 95% CI[1.31, 2.57]); ↑ physical abuse (AOR = 1.84, 95% CI[1.11, 3.03]); ↑ emotional abuse (AOR = 3.19, 95% CI[1.99, 5.14]); ↑ neglect (AOR = 2.64, 95% CI[1.58, 4.42]) Physical IPV: ↑ any abuse (AOR = 2.14, 95% CI[1.51, 2.99]); ↑ sexual abuse (AOR = 2.31, 95% CI[1.27, 4.18]); ↑ physical abuse (AOR = 1.76, 95% CI[1.06, 2.92]); ↑ emotional abuse (AOR = 2.76, 95% CI[1.72, 4.43]); ↑ neglect (AOR = 2.74, 95% CI[1.62, 4.63]) Harassment: ↑ emotional abuse (AOR = 1.63, 95% CI[1.02, 2.59]) Combined/severe IPV: ↑ any abuse (AOR = 2.12, 95% CI[1.28, 3.51]); ↑ emotional abuse (AOR = 3.97, 95% CI[2.74, 7.04]); ↑ neglect (AOR = 4.62, 95% CI[2.51, 8.52])
No Cohort Listed			

Table 2 (continued)

Study/cohort (country)	Predictor variables measured in childhood and adolescence	Outcome measures	Predictors/pathways from childhood and adolescence
8. Vezina et al. (2015)	Parental monitoring; affiliation with deviant peers; childhood behavior problems; high-risk behaviors	IPV victimization (physical/sexual, psychological) • Combination of Violence faite aux Filles dans les Fréquentations à l'Adolescence and CTS2 (2 items from CTS2, edited)	Psychological (victimized in both early adulthood and adolescence – i.e., revictimized): ↑ childhood behavior problems (OR = 1.10, 95% CI[1.03, 1.18]), ↑ high-risk behaviors (OR = 1.75, 95% CI[0.99, 3.11]) Psychological (victimized in early adulthood only): ↑ childhood behavior problems (OR = 1.09, 95% CI[1.01, 1.17])
9. Milaniak & Widom (2015)	Childhood physical abuse, sexual abuse, and neglect	IPV Perpetration • One item from Antisocial Personality Disorder module of DIS-III-R “have you ever hit or thrown things at your partner?”	↑ Abuse/neglect (AOR = 1.54, 95% CI[1.10, 1.97])
10. Handley, Russotti, Rogosch and Ciccetti (2019)	Childhood maltreatment; childhood antisocial behavior; childhood relational aggression	T2: IPV involvement • One item assessing whether participants had experienced or perpetrated domestic violence in the past 12 months.	↑ Childhood maltreatment ($t = -3.60, p < .05$)

↓ negative association with outcome, ↑ positive association with outcome, → interaction pathway, odds ratio (OR), adjusted odds ratio (AOR), confidence interval (CI), standard deviation (SD)

Synthesis of Results

Predictors

The majority of predictors identified in the current review were consistent with the five risk domains identified in the Costa et al., (2015) review: child and adolescent experiences of violence and abuse (8 studies, 67%), family of origin risks (3 studies, 25%), behavioral and personality risks (5 studies, 42%), adolescent peer risks (2 studies, 17%), and sociodemographic risks (5 studies, 42%). The current review identified one additional domain: cultural and attitudinal risks (2 studies, 17%). Consistent with Costa et al., risk factors for both IPV perpetration and victimization for both males and females will be discussed within each of these domains.

Child and Adolescent Exposure to Violence and Abuse Experiences

Experiences of abuse, neglect, and maltreatment in childhood and adolescence were consistently reported as increasing the risk of involvement in IPV in adulthood. Regarding perpetration, the experience of abuse prospectively predicts an increase in the likelihood of reporting physical, sexual, and psychological IPV in adulthood. Abuse also predicts bidirectional sexual and bidirectional multiform IPV (i.e., involving more than one type of violence). The association with psychological IPV perpetration only appears to hold when the individual has experienced

psychological childhood abuse specifically (Neppl et al., 2019), suggesting homogeneity of violence type continuity from childhood to adulthood. Indirect exposure to violence (i.e., witnessing violence in the home) was also shown to increase the likelihood of both psychological (Grest, Amaro, et al., 2018), verbal and physical IPV (Narayan et al., 2017) in adulthood.

However, Grest, Amaro, et al. (2018) did not replicate the association with physical IPV. This was despite the two studies possessing the same methodological quality and using a similar measure of IPV. Further, there appears to be no association with bidirectional IPV (Grest, Lee, et al., 2018). As such, the timing of this exposure may be important; Narayan et al., (2017) found that exposure to violence in the home did not impact adult IPV when it occurred during infancy (birth–24 months), only that which occurred during toddlerhood (25–64 months of age) increased the risk of IPV.

Regarding victimization in adulthood, results from this review suggest there may be differential associations between abuse/neglect and IPV depending on the form of violence experienced. Physical, sexual, and emotional abuse in childhood/adolescence is associated with an increased risk of experiencing physical and sexual IPV. Emotional IPV victimization does not appear to be related to childhood sexual abuse, but associations with physical and emotional abuse remain. However, despite these associations, Abajobir et al. (2017) reports that the most consistent predictor

across forms of IPV victimization, when controlling for other abuse, is the experience of childhood neglect.

As with perpetration, there are inconsistencies in the replicability of these effects. Indeed, Grest, Amaro, et al. (2018) found that a history of child abuse only predicted sexual IPV victimization, with no links to physical or psychological IPV victimization in adulthood. Further, Herrenkohl & Jung (2016) found no significant associations between child abuse or substantiated maltreatment and IPV victimization. Herrenkohl & Jung (2016) used a robust process to distinguish serious physical and emotional abuse, which would have isolated only the most serious abuse cases, yet compared to Abajobir et al. (2017) - who reported several significant associations - Herrenkohl & Jung (2016) had far lower rates of IPV victimization in their cohort (e.g., physical victimization: 39.4% vs. 16.4%, respectively). Given the sample in Abajobir et al. (2017) reported twice the rate of victimization compared with the sample in Herrenkohl & Jung (2016), it may be that those in the Abajobir et al. (2017) study represent a highly traumatized sample that may not be obtainable or replicable in other longitudinal studies of a similar design. Whilst this may limit the generalizability of the Abajobir et al. findings, they remain an important contribution to the development of a wholistic understanding of IPV. Similarly, Narayan et al., (2017) found no significant associations while looking at patterns of IPV over time in adulthood and using a robust measure of abuse/neglect. Indeed, abuse and neglect frequently co-occur with exposure to inter-parental violence in the home, which Narayan et al., (2017) demonstrated to be a more prominent predictor of increasing patterns of IPV victimization. Alternatively, the prospective effect on victimization may be partially mediated by the individual's response to the trauma of the event(s). Zamir et al., (2018) demonstrated that physical or sexual abuse led to increases in symptoms of dissociation in young adulthood, which increased the risk for physical IPV victimization in adulthood.

Family of Origin Risks Three studies explored the prospective effect of factors related to the family system during childhood and adolescence, however many of these factors were not significantly predictive of IPV in adulthood. Parent-factors, such as criminal background, nervousness, as well as disagreement between parents do not impact the likelihood of IPV in adulthood. Instead, dyadic parent-child factors are more impactful, although not with the anticipated effect; Theobald et al., (2016) found that harsh and erratic parenting *reduced* the likelihood of IPV perpetration. However, this effect was unique to those who perpetrated family violence only, with the absence of any general violent offending. For those who reported both general violent offending as well as family violence, the effect was in the

anticipated direction, whereby increases in harsh and erratic discipline *increased* the likelihood of violence in adulthood. Other dyadic factors, including warmth and monitoring/supervision had no effect on adult IPV, although a positive parent-child relationship (which included aspects of monitoring) reduced the risk of IPV but only in young people with an impulsive and unmanageable temperament (Goodnight et al., 2017; Vézina et al., 2015). Further, Vézina et al., (2015) speculate that parental monitoring could have an indirect effect on IPV victimization in girls through association with deviant peers and behavioral problems, which were positively associated with monitoring and IPV.

Behavioral and Personality Risks There was mixed evidence regarding the impact of antisocial behaviors in childhood on IPV in adulthood. Although Handley et al., (2019) demonstrated no significant relationship between adolescent antisocial behavior and IPV *involvement*, more nuanced evidence suggests that antisocial behavior may predict victimization of IPV (specifically psychological forms; Vézina et al., 2015), but not IPV perpetration (Goodnight et al., 2017; Vézina et al., 2015) found that young girls who displayed problematic behaviors (e.g., disruptiveness) at age six, or high-risk behaviors at age 15 (e.g., risky sexual activity), were at increased risk of experiencing a pattern of psychological IPV victimization in adulthood (as well as adolescence). While Goodnight et al., (2017) found no prospective association between antisocial behaviors at age 16 and patterns of IPV perpetration in adulthood, their model also incorporated co-occurring psychopathic traits, which was found to be positively predictive. It may be that psychopathic traits are a mechanism for both antisocial behaviors in adolescence as well as IPV in later life. Regarding other personality factors, impulsivity was also demonstrated to be influential by one study. Theobald et al., (2016) found that higher impulsivity in late childhood were nearly three times more likely to report perpetrating physical family violence in adulthood. This association was unique to family violence and did not carry through to the perpetration of general violence.

One study has explored the prospective association of alcohol use and depressive symptoms in adolescence and IPV in adulthood. Grest, Amaro, et al. (2018) found that alcohol use in adolescence increased the risk of perpetrating physical and psychological IPV in adulthood. However, the association with psychological IPV perpetration was only found in females. Further, for victimization, alcohol use increased the likelihood of psychological IPV, but not other forms (and again, only for females). Neither marijuana, nor tobacco consumption, had any effect on victimization or perpetration. Regarding mental health, symptoms of

depression increased the risk of injury from IPV victimization in adulthood (Grest, Amaro, et al., 2018).

Adolescent Peer Risks Two studies have investigated the influence of peer relationships in adolescence on the likelihood of perpetrating IPV in adulthood. Negative peer influence appears to increase the likelihood of physical IPV perpetration (Goodnight et al., 2017), but not IPV victimization in girls (Vézina et al., 2015). Indeed, these effects may be gender specific; Goodnight et al., (2017) found that levels of peer antisocial behavior in adolescence led to physical IPV, but only in males. This effect was also stronger in those who displayed impulsive and unmanageable behaviors in early childhood.

Cultural and Attitudinal Risks The degree to which a young person held gender normative beliefs (i.e., adherence to traditional conceptualizations of male and female roles) was a more consistent predictor of victimization than perpetration, across violence forms. Using a Latino sample, Grest, Amaro, et al. (2018) identified a 7% increase in the risk of sexual IPV perpetration, and a 21% increase in the likelihood of causing injury for the overall sample. However, when the results were stratified by gender these findings were no longer significant, and instead, being male and holding gender normative beliefs was associated with a 16% increase in the risk of perpetrating psychological IPV and a 28% increase in the risk of perpetrating physical IPV. Further, these attitudes predicted victimization from psychological and physical violence, as well as the likelihood of injury, but not sexual IPV (Grest, Amaro, et al., 2018).

In two related studies using Latino samples, Grest, Amaro, et al. (2018) and Grest et al., (2018) also explored the effect of developmental acculturation on IPV in adulthood. Although acculturation did not predict any bidirectional forms of IPV (Grest, Lee, et al., 2018), the prospective associations for victimization and perpetration independently were more nuanced. Growing up in a Hispanic-oriented culture reduced the risk of perpetrating physical IPV and reduced the likelihood of injury from victimization. In contrast, a United States acculturation during childhood increased the risk of perpetrating physical IPV in adulthood, but as with gender normative beliefs, only for males.

Sociodemographic Risks Socio-economic status (SES) during childhood was not a reliable predictor of IPV perpetration or victimization in adulthood. Four studies found no significant association with IPV outcomes (Herrenkohl & Jung, 2016; Narayan et al., 2017; Theobald et al., 2016). While Goodnight et al., (2017) found that SES reduced the risk of physical violence perpetration, they, unlike other

Table 3 Cambridge Quality Checklists Ratings

Study	Correlate Score	Risk Factor Score	Causal Score
Theobald et al., (2016)	4	3	5
Narayan et al., (2017)	3	3	5
Zamir et al., (2018)	3	3	5
Milaniak and Widow (2015)	3	3	5
Handley, Russotti, Rogosch and Ciccetti (2019)	1	3	5
Goodnight et al. (2018)	5	3	5
Neppl et al., (2019)	3	3	5
Abajobir et al. (2017)	3	3	5
Grest et al., (2018)	3	3	5
Grest et al., (2018)	3	3	5
Herrenkohl & Jung (2016)	2	3	5
Vezina et al. (2015)	1	3	5

studies, were not measuring concurrent abuse or maltreatment, which may therefore be a more important predictor than SES, as evidenced by the findings in the other four studies that included SES.

Quality of studies

Table 3 shows the overall ratings on the Cambridge Quality Checklists (Murray et al., 2009) independently completed by Authors AC and TH, with a 96% agreement rate. All disagreements were resolved in consultation with Author RB.

Only one study reached the highest score for the Correlate domain (Goodnight et al., 2017), whereas all studies reached the highest rating (3) for the risk factor domain. All studies included in this review received a 5 out of 7 for the causal score, reflective of a lack of clear comparison groups or randomized control designs in this area.

Discussion

The current review updated the previous longitudinal review conducted by Costa et al. in 2015. In doing so, the review intended to address two key aims: (1) whether there were any newly discovered developmental predictors of IPV perpetration and victimization that could be used to inform prevention and intervention efforts, and (2) whether risk factors for IPV perpetration and victimization could be distinguished from one another.

Predictors of IPV

The current review found that experiences of abuse during development had a consistent impact on both IPV victimization and perpetration. Broadly, this finding is consistent with

Costa et al., (2015) however the current review adds much needed specificity regarding the forms of abuse experienced and the forms of IPV predicted (noted by Costa et al. as being underexplored at the time). Regarding perpetration, there appears to be homogeneity between the type of abuse experienced, and the type of IPV perpetrated (e.g., those who experience psychological abuse as a child are more likely to perpetrate psychological IPV). For victimization, the review identified mixed relationships with abuse forms which depend on the type of IPV experienced in adulthood. The most reliable predictor across all adulthood IPV forms being childhood neglect. There was some evidence to suggest, however, that variation (i.e., individual differences) in how a person responds to trauma (i.e., levels of dissociation) may mediate the relationship between childhood predictors and victimization.

Regarding family of origin risk factors, parent-child relationships and discipline were important factors in predicting IPV in adulthood. While Costa et al., (2015) found that harsh parenting was not associated with IPV in adulthood for males, the current review provides more clarity here; for males, harsh parenting may reduce the likelihood of adult IPV offences in isolation, but increase the likelihood of IPV offences which form a part of a more general pattern of offending. Furthermore, Costa et al. reported that weak parent-child attachment and negative interactions were a strong and consistent predictor of both IPV perpetration and victimization across genders. We add that this effect may interact with the temperament of the young person; a positive parent-child relationship protects against IPV only when the young person has a difficult temperament (Goodnight et al., 2017).

In contrast to Costa et al., (2015), a history of antisocial behavior in childhood did not emerge as a strong or consistent predictor of IPV. Antisocial behavior in adolescence was only demonstrated to predict a greater likelihood of psychological IPV victimization, not perpetration, and only in females (Vézina et al., 2015). Instead, the findings of the current review suggest that it may be more important to consider the co-occurring psychopathic traits and early temperament than the delinquency likely facilitated by these factors, when predicting IPV perpetration in adulthood. Young people with psychopathic traits likely belong to a population whose use of violence does not cease in adolescence (i.e., adolescent-limited) and instead continues into adulthood (i.e., life course persistent aggressors) (Moffitt et al., 2002), putting them at particular risk for perpetrating adult partner violence.

In terms of substance use, the only study to assess this found that alcohol use as an adolescent increased the likelihood of perpetrating both physical and psychological IPV as an adult, consistent with Costa et al., (2015). However,

this same study found that alcohol use in adolescence was only related to psychological IPV perpetration in females (in contrast to Costa et al.). Further, the association between alcohol use and victimization was only evident for females and psychological victimization, again conflicting with the Costa et al. review which found consistent relationships between perpetration and victimization of IPV, and substance use. Importantly, one study in the current review identified the role of mental health, noting that depressive symptoms increased the likelihood of experiencing injury from IPV victimization in adulthood. This is a new risk factor identified by the current review as no studies included in the Costa et al. review discussed or identified the role of mental health of the participant.

The current review identified that adolescent peer risks were associated with IPV, but only male perpetration, differing from the Costa et al., (2015) review which found that poor quality adolescent peer networks were associated with both perpetration and victimization for males and females. Further to this, the current review identified that this association was stronger for males who exhibited impulsive and unmanageable behaviors in early childhood, suggesting that a difficult temperament may predispose susceptibility to negative peer influence in adolescence, which then predicts the perpetration of physical IPV in adulthood. Similarly, the pathway from poor parental supervision may also be mediated through negative peer influence.

A new domain of longitudinal risk factors for IPV was identified in the current review: cultural and attitudinal risks. The Costa et al., (2015) review did not identify any cultural or attitudinal risks, however these have important implications for prevention and intervention for IPV. Specifically, one study utilizing a culturally and socioeconomically specific sample (Latino high-school students in Southern California) (Grest, Amaro, et al., 2018) identified that holding gender normative beliefs as a young person (male or female) was related to a small increase in the risk of perpetrating sexual IPV and in the likelihood of causing injury to others. Importantly, Grest, Amaro, et al. (2018) also identified comparable rates of IPV perpetration and victimization for males and females in their sample, consistent with findings identifying the bidirectional nature of intimate partner violence (Caetano et al., 2004; O’Leary et al., 2008; Renner & Whitney, 2012; Ulloa & Hammett, 2016). The bidirectional nature of IPV aligns with two types of IPV as discussed by Johnson (2006a); situational couple violence and mutual violence. *Situational couple violence* describes IPV in which the violence occurs in a dyadic context, however neither partner is violent and controlling (i.e., violence occurs as a result of the ‘situation’), whereas *mutual violence* refers to IPV in which both partners are both violent and controlling.

For males specifically, holding gender normative beliefs was associated with an increase in perpetrating physical and psychological IPV. These associations may reflect the increased severity of IPV which commonly characterizes another of Johnson's (2006a) typologies -- *intimate terrorism*, in which only one member of the relationship is violent and controlling (usually the male), and suggests that the attitudes underpinning intimate terrorism may originate early in life. Further, such attitudes also predicted psychological and physical victimization, which may suggest that some intimate terrorism could be bi-directional, consistent with the findings of Johnson et al., (2014). However, to further understand the relationship between gender normative beliefs and victimization, specifically, person-based analysis is required.

In terms of acculturation, the current review highlighted a reduced risk of perpetrating physical IPV and injury from IPV victimization if a young person was raised in a Hispanic-oriented culture specifically. However, being raised as a male with a United States acculturation increased the risk of perpetrating physical IPV in adulthood. It is important to note that this finding is from two studies within the same longitudinal cohort which specifically followed a Latino sample, and as such investigating acculturation in future longitudinal studies will be crucial to identifying the role that these risk factors play in IPV perpetration and victimization, and in determining which specific cultural factors may be contributing. It is possible that young Latinos who retain a Hispanic-oriented culture experience protective factors common within Latino families, such as a strong family network (Dupont-Reyes et al., 2015), which reduces the risk of violent relationships in adulthood.

In terms of sociodemographic risk factors, the current review found that socio-economic status (SES) during childhood was not associated with either IPV perpetration or victimization, in contrast with Costa et al., (2015) who found that low SES was a significant predictor of domestic violence in two studies. It appears that the studies included in the current review found that other predictors included in their predictive models were stronger predictors of IPV perpetration and victimization than SES, which is consistent with the findings from Fergusson et al., (2008) in the Costa et al. review. Further, the measures used to assess SES in the studies identified within the current review focused on a combination of income and education, whereas the two studies in Costa et al., that reported SES as a significant predictor of IPV experiences utilized either income (Manchikanti Gómez, 2010), or only occupation (Magdol et al., 1998), with the operationalization of SES potentially resulting in differing findings across the studies.

Distinguishing between victimization and perpetration

Given the smaller volume of studies in the current review (compared to Costa et al., 2015), it was difficult to isolate factors which may differentiate IPV victimization from IPV perpetration. Many risk factors were only explored for either victimization or perpetration, rendering the comparison somewhat biased; there was significant heterogeneity between studies in the instruments used to assess IPV. Further, no studies reported estimating the unique effect of risk factors on either perpetration or victimization, while controlling for the opposing experience. Given the substantial bidirectionality of IPV, this could reduce the reliability of the effects reported. Despite this, where comparisons can be made, there were some preliminary trends to consider. Anti-social behavior in childhood/adolescence emerged as a stronger predictor of victimization for females (Vézina et al., 2015), while association with anti-social peers may be more unique to perpetration for males (Goodnight et al., 2017). However, when considering the interaction between gender and the distinction between victimization- and perpetration-specific risk factors, it is important to note that males are often under-represented in victimization literature, and females underrepresented in perpetration literature (Laskey et al., 2019; Mackay et al., 2018). Nonetheless, gender normative attitudes were related to more forms of IPV victimization than perpetration. Exposure to family violence and victimization, alcohol use, as well as acculturation all appear consistent across victimization and perpetration.

Bidirectional IPV is frequently over-looked, despite being an important understanding for risk assessment and intervention (Bates, 2016), and the most prevalent manifestation of IPV (Langhinrichsen-Rohling et al., 2012). Our review identified only one prospective study which considered bidirectional IPV. As such, we were not able to provide a meaningful interpretation of how this form may differ from unidirectional perpetration or victimisation. Similarly, Costa et al., (2015) included only two prospective studies on bidirectional IPV, where depressive symptoms in adolescence was identified as a risk factor. Bidirectional IPV should be a unique consideration in prospective designs moving forward, and also controlled for when considering the unique risk factor profiles of victimisation and perpetration.

Methodological considerations

The major methodological limitation of the studies included in the current review was the lack of control or comparison groups, and randomized control trial designs. Without methodologically strong designs, there is a risk that the findings of the current review are biased, potentially limiting

its generalizability. Largely, the key methodological issue identified with the studies in the current review was a lack of an adequate sampling method (i.e., total population sampling or random sampling), with many studies employing convenience or case control samples. The current review, however, only included prospective studies that all attained the highest rating for the risk factor category on the Cambridge Quality Checklists (Murray et al., 2009). As such, it is possible to infer temporal precedence. Further, all studies were classified as non-randomized non-experimental studies in which there is not adequate control of covariates or within-individual change. Whilst this study design is on the higher end of the Cambridge Quality Rating scale, it falls short of the gold standard (i.e., randomized control trials targeting a specific risk factor). Improving the quality of studies through stronger methodology would go some way in improving the overall quality of the literature investigating developmental predictors of IPV. However, for such studies to adopt a randomized control trial design feasibly and ethically, it is likely they would need to take an intervention approach whereby a specific risk factor is targeted and the long-term impact on IPV perpetration, victimization, or both is assessed.

Regarding measurement, the majority of studies employed the Conflict Tactics Scale (CTS), or a variation thereof, to measure IPV. The CTS has received criticism for not replicating the gender asymmetry found with other IPV measures, as well as its lack of clinical utility when applied without consideration of contextual factors (Jones et al., 2017). The CTS was also developed for heterosexual couples, and while it appears valid for use with same-sex relationships (Regan et al., 2002), it may lead to under-reporting of IPV experiences, compared with same-sex relationship-specific measures (e.g., Stephenson & Finneran 2013). Indeed, IPV between same-sex partners may actually be more prevalent than in heterosexual couples (Messinger, 2011). Such measurement bias may have impacted studies in the current review, though, no studies specifically considered gender-diverse populations, or same-sex couples; the vast majority did not report the prevalence of these populations within their sample (apart from two, where over 90% of couples were heterosexual; Grest, Amaro, et al., 2018; Grest, Lee, et al., 2018), while one study noted the exclusion of same-sex couples ($n=20$; Theobald et al., 2016).

Consistent with Costa et al., (2015) this review was unable to separate adulthood experiences of IPV into those which were situational in nature, whereby violence results from a mutual escalation of conflict between partners (Johnson & Leone, 2005), and those which would be considered intimate terrorism, described as the need for one partner to exert control over the other, typically through the use of dominance and violence (Johnson, 2006b). This is primarily

due to the limited ability of the CTS to consider this type of context, without modification (e.g., Babcock et al., 2019). As noted by Costa et al., and reiterated in a recent meta-analysis (Love et al., 2018), samples drawn from clinical settings (e.g., participants of interventions, hospital settings, domestic violence shelters, or from police records) are likely to have risk factors that are strongly associated with intimate terrorism, in contrast to situational couple violence which is more likely to be identified in non-clinical samples (i.e., general community samples). However, as these different types of violence were not assessed in any of the studies included in the review, we are not able to draw conclusions about whether the identified developmental predictors are related to situational violence or intimate terrorism. This has important implications as these types of violence present differently, and as such likely require different prevention and intervention approaches. Importantly, many existing intervention options target intimate terrorism, but are unlikely to be effective for situational violence as such programs do not address the relationship factors known to be present in couples who experience situational violence (Love et al., 2018). Future research focused on adulthood experiences of IPV would benefit from inclusion of an assessment of type of IPV experienced (as a perpetrator and/or victim) to assist in better understanding the contribution of developmental predictors to adulthood IPV, and to better inform prevention and intervention efforts.

Implications

The current review highlights the importance of addressing key risk factors for IPV perpetration and victimization in childhood and adolescence from a primary and secondary prevention perspective, before these risk factors escalate into IPV experiences. In particular, many of the risk factors identified in this review, and within Costa et al., (2015) are factors that may not be obvious or identified early. This emphasizes the importance of policy change which supports population-wide strategies that may reduce the likelihood of these risk factors occurring or preventing them from progressing from risk factors into experiences of violent behavior.

Firstly, as gender normative attitudes were identified as playing a role in later experiences of IPV, primary prevention strategies focused on this (i.e., mass education campaigns about gender-related attitudes) are important. Further, early intervention efforts for those considered at-risk (secondary prevention), such as those children identified as engaging in disruptive or impulsive behavior, or indeed who have been identified as having experienced abuse, may reduce the likelihood of IPV perpetration and victimization as those children progress to adulthood. Such strategies may include the

availability of parenting skill building programs and programs focused on building younger children's cognitive and social skills both of which have been shown to have positive impacts on antisocial and disruptive behavior (Forgatch et al., 2009; Menting et al., 2013; Reynolds et al., 2007), or trauma informed cognitive behavioral therapy for those children who have witnessed or experienced abuse (Cohen et al., 2011; Scheeringa et al., 2011; Smith et al., 2007). In addition, children or adolescents who are identified as using alcohol or who have mental health concerns would benefit from intervention to address these concerns early in an attempt to prevent these resulting in increased risk of IPV perpetration or victimization in adulthood. Importantly, intervention programs which incorporate a focus on a range of key risk factors for IPV (including experience of trauma and substance use) are more likely to yield positive outcomes for IPV perpetration (Karakurt et al., 2019). As one example, Communities That Care supports coalitions to design and implement community prevention strategies, which have evidence for reducing risk factors identified in the current review (Toumbourou et al., 2019).

Conclusion

The current review was largely consistent with findings from Costa et al., (2015), however key differences within larger developmental predictor categories emerged. These related to the relationship with gender, whether the developmental predictors were associated with IPV perpetration or victimization as an adult, and the inclusion of possible moderating or mediating effects of other variables on IPV perpetration or victimization. Further, a new developmental risk domain emerged: cultural and attitudinal risks. This new information has important implications for prevention and intervention options, including consideration of temperamental aspects of the person experiencing (as the perpetrator or victim) IPV, such as impulsivity or psychopathy, the mental health of the young person (e.g., experience of depressive symptoms), and attitudinal and cultural factors that may impact on experiences of IPV.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s10896-022-00451-0>.

Funding Open Access funding enabled and organized by CAUL and its Member Institutions

Declarations

Conflict of interest Peter Miller receives funding from Australian Research Council and Australian National Health and Medical Research Council, grants from NSW Government, National Drug Law Enforce-

ment Research Fund, Foundation for Alcohol Research and Education, Cancer Council Victoria, Central Australian Aboriginal Congress, Northern Territory government, Australian Rechabites Foundation, Northern Territory Primary Health Network, Lives Lived Well, Queensland government and Australian Drug Foundation, travel and related costs from Queensland Police Service, Queensland Office of Liquor Gaming and Racing and the Australasian Drug Strategy Conference. He has acted as a paid expert witness on behalf of a licensed venue and a security firm. John Toumbourou is a volunteer Director of the not-for-profit company Communities That Care Ltd, which provides prevention training to municipal coalitions.

Registration and Protocol The current review was registered with Prospero, ID: CRD42020207038.

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