



Relational Aggression in Adolescents Across Different Cultural Contexts: A Systematic Review of the Literature

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Abstract

Relational aggression is defined as harming peers' relationships through exclusion, rumors, and manipulation. Seminal work on adolescent relational aggression has documented its prevalence across diverse cultural settings. However, efforts to investigate the impact of cultural norms on relational aggression are limited. The purpose of the present review is to present the existing research on relational aggression across cultures during adolescence, a developmental period where the importance of peer relations peaks. Emphasis was placed on gender differences in relational aggression cross-culturally. A systematic literature search between 2010 and 2022 yielded 76 published studies, classified according to studies' characteristics (participants, information source, study's design), gender differences and relational aggression's prevalence. Adolescents in European and American countries reported low scores on relational aggression, while the majority of the studies that were conducted in Asia indicated higher engagement in relational aggression. In Africa and Australia, the findings were inconclusive regarding the prevalence of relational aggression. One third of the studies found non-significant gender differences in adolescent relational aggression. The majority of the studies in Africa, Asia, Australia, and Europe showed that males scored higher on relational aggression, while in America most of the research demonstrated higher scores for females. Future comparative research on relational aggression during adolescence across cultures is suggested.

Keywords Relational aggression · Culture · Adolescents · Gender · Prevalence · Systematic review

Introduction

Relational aggression includes behaviors aiming at harming and manipulating a person's interpersonal relations through rumors spreading, social exclusion, or ignoring and can negatively influence victims' mental health (Crick & Grotpeter, 1995; Voulgaridou & Kokkinos, 2015). It is widely acknowledged that children's social development is significantly impacted by the people they spend the most time with, particularly during the adolescent years, when the significance and impact of peer relations increase (Voulgaridou & Kokkinos, 2019). Over the past 25 years, there has been

a growing body of research on relational aggression during adolescence, building on Crick and Grotpeter's (1995) seminal work on the association between school-aged children's relational aggression and social-psychological adjustment. Negative psychosocial outcomes including delinquency, lack of pro-social behavior, problems with peer relations, physical aggression, substance use, maladjustment, deficits in emotion regulation, anxiety and depression are possible for both victims and aggressors of relational aggression (Espelage et al., 2018; Marshall et al., 2015). Considering this, it is necessary to gain a comprehensive understanding of adolescents' relational aggression, paying careful attention to the ways in which adolescents' participation in aggressive behaviors is influenced by both individual and contextual factors (Bass et al., 2018). Indeed, from a developmental psychopathology perspective there is evidence that a number of social risk factors, with a focus on familial processes including parenting and attachment (Kokkinos & Voulgaridou, 2017a; b; Kokkinos et al., 2019), contribute to the development of relationally aggressive behaviors. However, efforts to investigate the impact of social and cultural

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norms on the way relational aggression is perceived and expressed across cultures are limited. Although research on relational aggression and related constructs (e.g., indirect and social aggression) has been conducted across numerous cultures and has highlighted its salience across diverse cultural settings (Murray-Close et al., 2016), a thorough review of adolescents' relational aggression in different cultural background is lacking. Thus, the major purpose of this study is to explore cross-culturally similarities or differences in the assessment, the prevalence of relationally aggressive behaviors, and the potential gender differences in relational aggression.

Cross-Cultural Assessment of Relational Aggression

Despite the research advances in measuring adolescents' relational aggression cross-culturally, the literature suffers from two limitations. First, existing measures of relational aggression in English are often translated into other languages and their psychometric properties are tested in studies conducted in countries other than the United States and Canada (the source of the bulk of relational aggression research so far) (e.g., Kawabata et al., 2012; Lansford et al., 2012; Voulgaridou & Kokkinos, 2019). These western developed relational aggression measures seem to operate well in various cultural contexts (e.g., Kawabata et al., 2012), probably due to the fact that some of the relationally aggressive behaviors (such as social exclusion) may be recognized in a comparable manner in several cultural contexts. Indeed, numerous studies conducted in countries and regions outside the US and Canada, including Colombia (Velásquez et al., 2010), Italy (Nelson et al., 2010), China (e.g., Li et al., 2011), Russia (Hart et al., 1998), Indonesia (French et al., 2002), Japan (e.g., Kawabata et al., 2012), Australia (e.g., Hemphill et al., 2010; Pronk & Zimmer-Gembeck, 2010), documented that relational aggression is a frequent phenomenon across cultures. Furthermore, research shows that adolescents intuitively recognize relationally aggressive behaviors as prevalent in peer relationships in a range of cultural settings. French et al. (2002), for instance, invited children in the United States and Indonesia to describe their disliked classmates, and then trained coders classified their reports of physical, verbal, or relational aggression. Results indicated that youth from both nations regularly named relationship manipulation (such as ignoring classmates), social exclusion, and rumor propagation as behaviors that they disapproved.

However, using the same research measures across different contexts may neglect culturally specific forms of relational aggression (Voulgaridou & Kokkinos, 2019). There are subtle relationally aggressive behaviors (such as threatening to tell instructors awful things about a classmate) that may be common in some cultural environments compared

to others (e.g., Kawabata et al., 2012). Therefore, studies exploring adolescents' cultural norms and values in a particular cultural context are sparse in the existing body of research (Chen & French, 2008).

Second, researchers have relied heavily on self-reports and peer nominations, followed by teacher and parent reports to assess relational aggression. Individuals themselves are the most accurate informants for reporting their own engagement in relational aggression (Kokkinos et al., 2016a; Voulgaridou & Kokkinos, 2018) and they can provide information about hidden and camouflaged actions, such as relationally aggressive behaviors, taking place outside school or not easily detected by educators (Lansford et al., 2009). However, a review of the sources of information that have been used to assess adolescent relational aggression across cultures is lacking (Murray-Close et al., 2016; Voulgaridou & Kokkinos, 2019).

Relational Aggression and Cultural Influences

By providing a culturally specific framework for determining acceptable and expected behaviors, social norms and values of a given cultural setting serve as a reference point for individuals' own social conduct within that culture (Chang, 2004). Peer reactions to behaviors are significantly affected by social norms, which serve as a proxy for the social acceptability of a certain conduct, such as aggression. For instance, in settings where aggression is non-normative (low prevalence), children who display aggressive conduct may be at risk for peer rejection (Velasquez et al. 2010) and a lower social status (Bass et al., 2021). Individualism and collectivism are two of the most well studied sets of cultural values. It has been determined that aggression is more prevalent in cultures that adhere to individualistic principles than to collectivistic ones. Although this spectrum of cultural values has been used to explain prototype national features (Hofstede, 1980), more recent research recognizes the diversity of these values' acceptance within countries (Oyserman & Jeon, 2022; Oyserman et al., 2002; Tamis-LeMonda et al., 2008). The individualism–collectivism continuum describes the extent to which a society's individuals are incorporated into groups (Hofstede, 2011). Individualism is defined by the belief that people are independent of one another; there is a strong focus on the individual's desires and aspirations, competition, self-reliance, personal goals, while social ties are generally weak. Collectivism, on the contrary, is defined by the notion that individuals are interdependent and emphasizes the needs and ideals of the group opposed to those of the individual. In collectivistic cultures, individuals are expected to surrender their own objectives and aspirations to those of the group, and collaboration and environmental harmony are highly prized (e.g., Hofstede, 2011; Novin & Oyserman, 2016). Numerous studies have unraveled systematic

differences in cognitive, emotional, and social functioning between participants from individualist versus collectivist societies (Oyserman & Jeon, 2022), thus demonstrating the applicability of the individualism–collectivism framework in cross-cultural comparison. For many countries, Hofstede (2011) ascribed individualism ratings. In the present review, his categorization of nations according to individualism and collectivism will be used because it has received extensive validation, it is regarded as state-of-the-art in recent, high-quality psychological research (e.g., Cheng et al., 2013), and finally because it has been used in the cross-cultural study on aggression (e.g., Bergeron & Schneider, 2005).

As a result, the norms of relational aggression reflect the culture-specific judgments of aggressive behavior, particularly the degree to which interpersonal conflict is permitted within the value system (Li et al., 2011). In collectivistic cultures, disagreement may be seen as a threat to group peace and coherence, and is thus less acceptable (e.g., Bergmüller, 2013), while in individualistic cultures, competition and confrontation may be more acceptable as a means of achieving personal goals. Using Bandura's (1973) social learning theory and Chen and French's (2008) contextual developmental approach, it is possible to identify the processes through which cultural individualism–collectivism influences aggressive behavior. First, compared to children in individualist cultures, children in collectivist cultures are intended to be integrated into social learning situations in which aggressive behavior receives less reward. Second, individuals' views and attitudes towards aggressive behaviors may be molded as a result of these culturally diverse learning experiences, which may ultimately cause children in collectivist societies to behave less aggressively than children in individualist ones.

One of the most important questions to consider is whether or not relational aggression is intrinsically tied to cultural aspects, such as a society's place on the collectivism/individualism spectrum. Despite the paucity of studies in this area, previous research has shown associations between individualism and collectivism and cognitive processes (Oyserman & Lee, 2008). The existing research indicates that valuing external success (e.g., power, social recognition) is adversely associated with collectivistic orientation, but positively associated with individualistic orientation (Feldman Rosenthal, 1991). In fact, relational aggression is occasionally employed by adolescents to obtain popularity, and social dominance in peer contexts (Cillessen & Marks, 2011; Voulgaridou et al., 2022). Adolescents, who consider individualism as important, are also likely to consider relational aggression as a strategy of gaining status, attention, competitiveness, and relationships, according to these studies. As a consequence, their relational aggression-related social cognitions may be more instrumentally oriented. Adolescents who place a high value on collectivism also place

a high emphasis on interpersonal relationships; as a result, relational aggression may be perceived as less tolerable.

The majority of cross-cultural research in relational aggression has focused on differences between American and Chinese samples. Chinese culture differs from American culture in a number of ways that may influence Chinese adolescents' social cognitions on relational aggression. The Chinese culture is one of the prototypical collectivistic societies, yet it is also heavily influenced by classical Confucianism (Li & Liang, 2015). To sustain harmonious interpersonal relationships, the Confucian and collectivist concept of social harmony stresses behavioral norms and avoidance of relational aggression (Li et al., 2021). Individualist cultures, on the other hand, tend to view conflict as natural, and voicing one's thoughts as a sign of integrity. According to Forbes et al. (2009), indirect relational aggression was more widespread in individualistic (United States) than in collectivistic (China) or hybrid cultures that blend aspects of individualism and collectivism (Poland). In a similar vein, Österman et al. (1994) examined the prevalence of physical, verbal, and indirect aggression among youngsters in Finland (Finnish or Swedish), the United States, and Poland. According to the findings, there were significant differences between countries in the frequency of aggressive behavior, with children in the United States being particularly aggressive. Finally, a cross-national study comparing two European countries (i.e., Greece and Cyprus) with similar cultural values and norms showed that youth in Greece showed higher scores on relational bullying (i.e., repeated engagement in relationally aggressive behaviors) compared to Cypriot adolescents (Fanti et al., 2019).

Relational Aggression and Gender Across Cultures

The actions and judgments of behavior within each same-sex peer group are similarly governed by social norms. These distinctive gender-based norms derive from and contribute to the diverse cultural settings where female and male children develop (Maccoby, 1998), resulting in distinct patterns of social expectations and interactions, such as distinct assessments of conduct and criteria for acceptance or rejection. It is well acknowledged that gender differences in the predominance of specific norms of aggression play a role in the development of gender-based norms of aggression. Thus, it is assumed that adolescents select gender-consistent aggressive behaviors and avoid gender-inconsistent aggressive actions. According to this perspective, the fundamental issue about gender differences in relational aggression is not whether females are more relationally aggressive than males. The gender-linked hypothesis posits that females would favor relationally aggressive behaviors while males will prefer physically aggressive actions.

Indeed, boys are more prone to engage in physical aggression than girls (e.g., Lansford et al., 2012; Ostrov & Crick, 2007; Velasquez et al. 2010). However, discrepancies need to be taken into consideration with regard to relational aggression which has traditionally been reported as being more frequent among females (Crick & Grotpeter, 1995; Ostrov & Crick, 2007; Velasquez et al. 2010). According to studies conducted in non-western cultures, although boys are likely to demonstrate more physical aggression, no differences have been documented in terms of relational aggression (e.g., Sakai & Yamasaki, 2004). This is in sharp contrast to previous research, which has found significant gender differences in relational aggression reported by peers and educators in the American culture (e.g., Crick, 1996; Crick & Grotpeter, 1995). It is uncertain if the absence of gender differences in relational aggression may be attributed to cultural differences in attitudes and beliefs toward relationships or to the heterogeneity of informants in relational aggression studies. According to Juvonen et al. (2013), the purpose of relational aggression on the part of males is to achieve and preserve social status and authority. While studies on relational aggression among girls are predominantly qualitative and focus on cultural explanations, the researchers documenting relational aggression among boys predominantly use quantitative methods and seldom employ cultural explanations. Therefore, more research is needed to completely understand the gender roles and cultural norms that contribute in relational aggression in western and non-western countries.

The Current Study

So far, the existing literature has shed valuable light on the development of relational aggression and has highlighted both the difficulties and opportunities faced by researchers in this field. Nevertheless, some significant challenges in cross-cultural research on relational aggression still exist and have been considerably understudied. Considering that environmental and cultural factors influence not only individual behavior but also social relationships, it is anticipated that relational aggression would differ depending on the context. Based on research suggesting that differences in relationally aggressive conduct are likely to be explained by differences in group-level and gender-based norms of aggression, this study intends to provide a comprehensive analysis of the differences in relational aggression between nations. Overall, the aim of the present review is threefold. First, it sought to examine the sources of information used to assess relational aggression during adolescence across countries. Second, it discusses cross-national comparisons in cultural values, particularly those related to aggression (e.g., Hofstede, 2011) and how they may affect adolescents'

engagement in relationally aggressive behavior. Although several studies have reported the frequency of relational aggression across different cultures (i.e., Western, Asian), an essential question that remains is whether its prevalence is closely linked to cultural factors. For instance, numerous studies have attempted to explore relational aggression in connection to the two most well studied sets of cultural values, namely individualism and collectivism. However, a systematic overview of this relationship (i.e., relational aggression and characteristics of a culture), such as a society's position on the continuum of collectivism and individualism, is lacking. Finally, this review aims at elucidating gender differences in adolescent relational aggression across cultures. Indeed, there exists contradictory evidence on whether males or females are more likely to engage in this form of aggression. According to some studies, females score higher in relational aggression than males (Crick & Grotpeter, 1995; Voulgaridou & Kokkinos, 2015), while others has found either no gender differences (Lansford et al., 2012) or even higher scores for males (e.g., Voulgaridou & Kokkinos, 2019).

Methods

For the purposes of the current review, a systematic literature search was performed concentrating on relational aggression in adolescence across different cultures in the following databases: Cambridge Journals, HEAL-Link Library, Springer, ERIC, PsycInfo, Sage, Springer, Science Direct, Scopus, Wiley Online Library. The search terms covered were: "relational aggression" AND "adolescents" OR "adolescence" AND "culture", OR "America" OR "Asia" OR "Europe" OR "Africa" OR "Australia" OR specific countries (i.e., China, Japan, Canada, USA, Germany, Italy etc.). The terms were searched within the title or abstracts of published articles. Empirical research that was either pre-published online or published in journals between 2010 and 2022 was considered in this initial search, yielding 207 publications. It should be mentioned that the majority of research on adolescent relational aggression has been undertaken since 2010, with the pioneering study being that of Kawabata et al. (2010), who first examined the influence of culture in relational aggression and compared Japanese and US school-aged children.

The procedure for choosing which studies to include in the present review is laid out in the PRISMA Flow Diagram in Fig. 1. The inclusion criteria were: (1) the publication was in English, and the measures were either developed or translated into English for the purpose of the research, (2) participants' age ranged from 10 to 19 years because studies of "early adolescents" frequently include younger children, while studies of "adolescents" tend to include "emerging

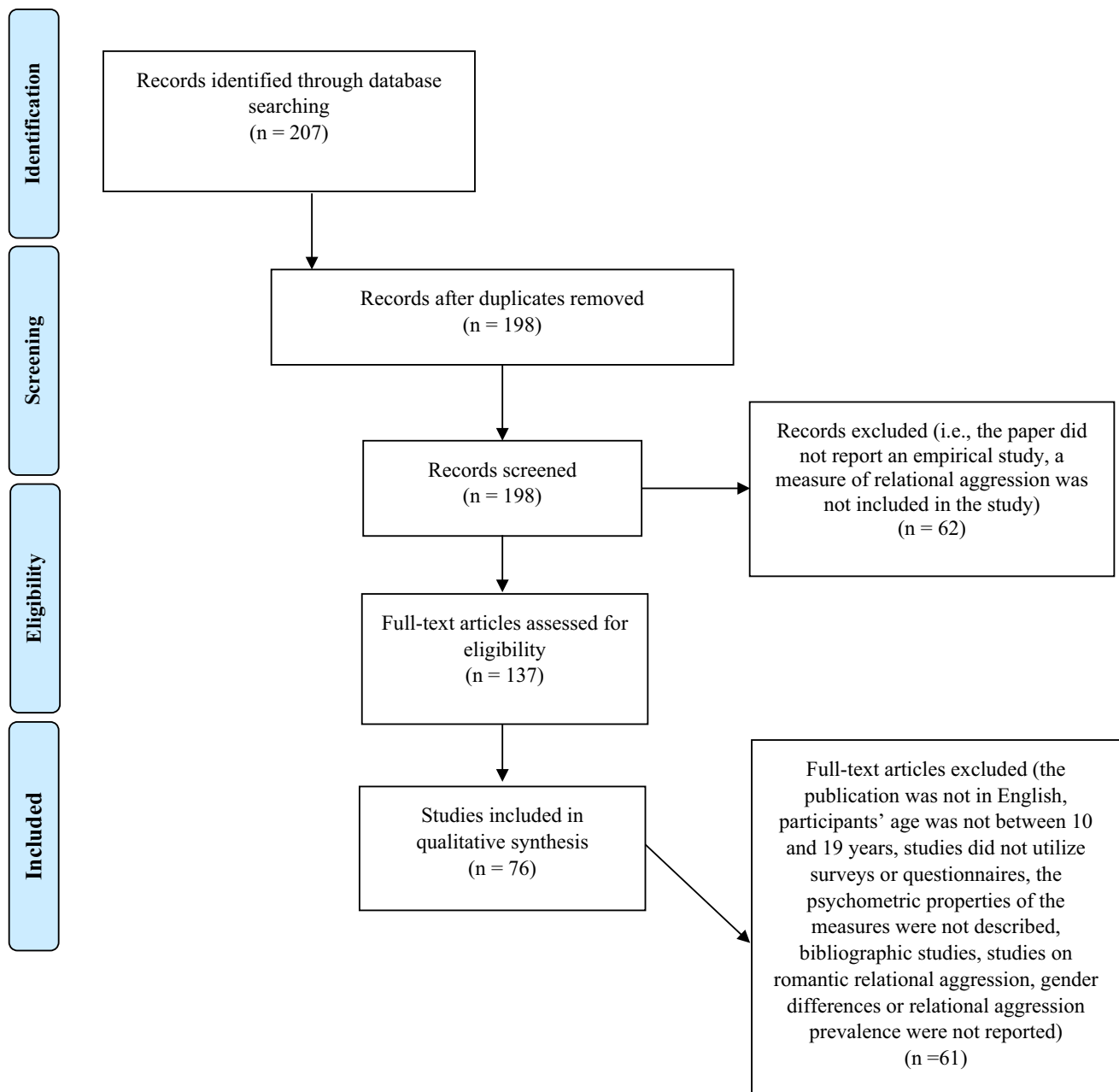


Fig. 1 PRISMA flow diagram for the identification, screening, eligibility, and inclusion of studies

adults” in their late teens or early 20 s, (3) the studies were conducted with European, American, Asian, African, and Australian community samples (i.e., not at risk or clinically referred participants), (4) relational aggression was measured by surveys or scales with adequate psychometric properties, (5) studies that focused solely on peer relational aggression were considered, while research on romantic relational aggression was excluded, (6) the data reported either gender differences in adolescent relational aggression or evidence on the prevalence of relational aggression (sample mean and standard deviation); and finally, (7) the focus

of the studies was solely on the “relational aggression” construct, while studies on social or indirect aggression were not considered. Indeed, there are several distinct characteristics of indirect aggression (i.e., destroying a classmate’s property that describes indirect physical aggression; Voulgaridou & Kokkinos, 2015, 2018) and social aggression, such as nonverbal acts (i.e., negative gestures and facial expressions and subtle actions harming another’s self-esteem, such as turning away from a peer, rolling of eyes and hair tossing) that are not shared by relational aggression (Voulgaridou & Kokkinos, 2019).

The authors of the present review independently screened titles and abstracts. Selection of primary studies was made according to criteria described above. To identify whether the selected articles were reporting empirical studies on relational aggression in adolescent samples, each of the 207 abstracts were scrutinized. When necessary or doubtful, entire publications were reviewed. The agreement between the coders was initially 88%. The full texts of 137 of these studies were analyzed to determine if they satisfied the inclusion requirements. Regular discussions between the authors were used to bring up coding discrepancies and to review details that one coder had missed. Consensus meetings resolved all coding discrepancies, leaving perfect agreement between the two coding logs. If a less iterative approach had been selected—waiting until the coding of all studies was complete before having a consensus meeting—an intercoder reliability statistic could have been calculated; however, given the large number of studies included in the review, regular meetings were held to resolve any discrepancies. Sixty-one studies were eliminated, of which 29 included individuals who were either older or younger than the specified age range, and 32 did not report gender differences or the prevalence rates of relational aggression. As a result, the present review is based on 76 studies, which met the inclusion criteria.

Assessment of Methodological Quality

Two authors graded the methodological quality of each included study based on a modified version of a well-established quality appraisal tool recommended by Crombie (Crombie, 1996). The quality of each paper was scored according to fifteen factors: 1. Clearly stated aims, 2. Appropriateness of design to meet the aims, 3. Adequate specifications of subject group given, 4. Justification of sample size, 5. Likelihood of reliable and valid measurements, 6. Adequate description of statistical methods, 7. Adequate description of the data, 8. Consistency in the number of subjects reported throughout the paper, 9. Assessment of statistical significance, 10. Attention to potential biases, 11. Meaningful main findings, 12. Interpretation of null findings, 13. Interpretation of important effects, 14. Comparison of results with previous reports, and 15. Implications in real life. Prior to scoring, it was necessary to clarify one of the appraisal items to ensure that reviewers were consistent in their approach. Reviewers recognized that study design is unlikely to account for all potential biases, therefore appraisal item number 10 ‘Attention to potential biases’ was scored positively if the paper acknowledged the potential impact of all likely biases. One point was allocated for fulfillment of each quality appraisal item. The maximum score, (indicating high quality), was 15, with the lowest possible score being zero. The methodological quality of each

study was subsequently rated as low (0–5 points), moderate (6–10 points), or high (11–15 points), similar to the procedure outlined by Steele et al. (2003). Any disagreements between the reviewers were resolved by consensus building. Crucial assessment points that the papers did not adequately address were discussed.

Results

Methodological Quality of the Studies

Table 1 provides the total number of the publications included in this review and how they fulfilled the criteria for each appraisal item. Based on the results of the quality appraisal process, one of the 76 studies was ranked as low, 25 as high quality, with the remainder (50/76 studies) being of moderate quality. The quality appraisal items, which received the lower scores was the attention to potential bias (61 out of 76 studies did not acknowledge all potential biases), implications in real life (58/76 studies lack implications), justification of sample size (57/76 studies had unjustified sample sizes), and likelihood of reliable and valid measurements (44/76 did not satisfied this item).

Overview of the Included Studies

Table 2 outlines the studies’ characteristics, including the origins of the sample, the study’s design and sources of information, and participants’ age. Approximately half of the studies were from America (the United States and Canada). Other Asian countries with a strong presence were China and Japan, as well as Greece, Germany, and England in Europe. Only three African and two Australian studies met the inclusion criteria. With the exception of twenty-three longitudinal or short-term longitudinal studies, the reported research was primarily cross-sectional. No study in this review attempted to compare or contrast results between western and non-western samples (Table 3).

Information Sources About Relational Aggression Cross-Culturally

In 50/76 published studies, self-report was the most frequently used information source for relationally aggressive behaviors in adolescents. Peer nominations (12/76), peer reports (2/76), teacher (5/76), and parent reports (2/76) were less frequently used as sources of reporting relational aggression in international studies with adolescent samples. Further, only 5/76 studies analyzed data from multiple information sources (i.e., self, peer, teacher, and parent report). The Children’s Social Behavior Scale-Self-Report, the five-item self-report scale of relational aggression created by

Crick and Grotpeter (1995), and the measures of the forms and functions of aggressive behavior developed by Little et al., (2003; Form-Function Aggression Measure) and Marsee and Frick (2007; Peer Conflict Scale) are just a few of the various self-report instruments used in the studies included in this review, as relational aggression becomes difficult for parents and teachers to observe during adolescence (Underwood et al., 2011; Voulgaridou & Kokkinos, 2019).

Prevalence of Relational Aggression Across Cultures

Although previous research has recommended the use of culturally sensitive instruments to measure relational aggression, the present review found that the majority of the studies across cultures have employed western measures of relational aggression. Evidence suggests that youth describe relationally aggressive behaviors as routine in peer relationships in a variety of cultural contexts, and that relational aggression occurs with some frequency across many cultural settings (Murray-Close et al., 2016; Voulgaridou & Kokkinos, 2019). Accordingly, relationally aggressive behaviors (i.e., rumor spreading, social exclusion, friendship manipulation, ignoring, and gossiping) that mirror the core characteristics of relational aggression, have been assessed across cultures (Wright et al., 2014). In light of the fact that relational aggression was measured in the same way across cultures, the purpose of this review is to attempt to compare the rates of relational aggression among teenagers from different cultures.

In order to present results in a standardized format, group means have been combined to provide an overall mean when an overall score was not reported (Table 3). Thus, the prevalence of relational aggression among adolescents seems to remain at low levels irrespective of cultural background (Fig. 2). In 46/76 studies, relational aggression was measured using a five-point frequency Likert scale (3 studies used a four-point scale, one used a 3-point scale, and one used a seven-point scale), with the first point indicating *never* and the last point indicating *all of the time/always*. The majority of these studies (32/46) found that adolescents reported never or almost never engaging in relational aggression (i.e., Likert scale points 1–2). One of them was conducted in Africa, twenty in America, two in Asia, one in Australia, and eight in Europe. In 7 of the 46 studies (one conducted in Africa, two in the United States of America, three in Asia, and one in Australia), adolescents reported, on average, that they engaged in relational aggression some of the time (i.e., point 3 on the Likert scale), and in 4 of the 46 studies (two conducted in the United States of America and two in Asia), most of the time. No research has indicated that adolescents reported consistently engaging in relationally aggressive behaviors (i.e., Likert scale point 5). Three of the studies that used frequency Likert scales failed to

provide any results. Seventeen of the studies included in this review used a 4-point Likert scale to assess the degree of adolescents' agreement with the stated relationally aggressive behavior. In particular, point one was *not at all true*, while point four was *definitely true*. In 14 out of 17 studies (one in Africa, six in America, one in Asia, six in Europe) adolescents scored on average 1–2 on the Likert scale, but in four of them no frequency data on relational aggression was reported. Finally, as eleven out of the 75 reviewed studies relied on peer nomination, they did not report data on the prevalence of relational aggression.

Gender Differences in Relational Aggression Across Cultures

Out of the 76 studies, 41 found gender differences in adolescent relational aggression, while 29 demonstrated non-significant differences between males and females and 6 studies did not examine gender differences. In terms of countries' taxonomy, two out of three studies in Africa (Chirwa-Mwanza & Menon, 2015; Padmanabhanunni & Gerhardt, 2019) showed that males scored higher on relational aggression compared to females, while one study reported non-significant results (Salaam & Mounts, 2016). Similar evidence emerged in Australia where two studies identified gender differences in self-report relational aggression with males showing higher scores (Hemphill et al., 2012; Zimmer-Gembeck & Pronk, 2012) and one study that used peer nomination reported higher relational aggression scores for females (Ferguson et al., 2016). In Europe, the findings were mixed with most of the studies reporting gender differences (13/16), with ten of them indicating higher scores for adolescent males (e.g., Kokkinos et al. 2020a, 2020b; Orpinas et al. 2015) and three the reverse findings (Flack, 2020; Ojanen et al., 2012; Orue et al., 2016). Three studies demonstrated non-significant differences between males and females (Armitage & Rowe, 2017; Kokkinos & Voulgaridou, 2017a, 2017b; Kokkinos et al., 2016a).

In America, the results were almost equally distributed with 16 studies showing gender differences (e.g., Low et al., 2013; Wright, 2017) and 18 studies reporting non-significant results (e.g., Espelage et al., 2018; Smack et al., 2015). In three studies, gender differences were not explored (Li & Wright, 2014; Wright & Wachs, 2019a, 2019b). The majority of the 16 studies (12/16) found that adolescent females scored higher on relational aggression compared to males, while only four studies documented higher self-reports of relational aggression for males. Indeed, prior findings in American samples have indicated that adolescent females are more likely than males to be classified as highly relationally aggressive (Marsee et al., 2014). Considering the gender-linked model of aggression, adolescents in the USA and Canada are theorized to prefer to use gender-consistent

Table 1 Scores achieved for quality appraisal items

Continent	Reference	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Appraisal score	Quality category
AFRICA	Chirwa-Mwanza and Menon (2015)	0	0	0	0	0	1	0	1	1	0	1	0	0	1	1	6	Moderate
	Padmanabhanunni and Gerhardt (2019)	1	0	1	0	1	0	1	0	1	0	1	0	1	1	0	8	Moderate
	Salaam and Mounst (2016)	1	0	1	0	0	1	0	1	0	0	1	0	0	0	0	5	Low
AMERICA	Aizpirtarte et al. (2017)	1	1	0	0	0	1	0	1	0	0	1	0	0	1	0	6	Moderate
	Blakely-McClure and Ostrov (2016)	0	0	1	0	1	1	1	1	1	0	1	1	1	1	0	10	Moderate
	Choi et al. (2011)	0	1	1	0	1	1	0	0	1	0	0	1	1	1	0	8	Moderate
	Crapanzano et al. (2010)	1	1	1	0	0	1	1	1	1	1	0	1	1	1	0	11	High
	Dane and Marini (2014)	0	1	1	1	1	1	1	1	1	1	1	0	1	1	0	12	High
	Goldstein (2016)	1	1	1	1	0	0	0	1	1	1	0	1	1	1	0	9	Moderate
	Kraft and Mayeux (2018)	1	1	0	0	1	0	1	1	1	1	0	1	0	1	1	10	Moderate
	Lau et al. (2016)	1	1	1	0	1	1	1	1	1	1	1	0	1	1	0	12	High
	Li and Wright (2014)	1	1	1	0	0	1	0	1	1	1	0	1	1	1	0	10	Moderate
	Loffin and Barry (2016)	1	1	0	0	1	0	1	1	1	1	1	0	0	1	0	9	Moderate
	Marsee et al. (2014)	1	1	0	1	1	1	1	1	1	1	0	1	0	1	0	11	High
	Mathieson et al. (2014)	1	1	1	1	0	0	1	1	1	1	0	1	0	1	0	10	Moderate
	Mayeux (2014)	1	1	1	0	1	1	1	0	0	1	1	0	1	1	0	10	Moderate
	McQuade et al. (2014)	0	1	1	0	0	1	1	1	1	1	0	1	0	1	0	8	Moderate
	McQuade et al. (2019)	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	13	High
	Monopoli et al. (2020)	1	1	1	1	1	0	0	1	0	1	0	1	0	1	0	8	Moderate
	Rasmussen et al. (2018)	0	1	1	0	0	1	1	1	1	1	0	1	0	1	0	9	Moderate
Reardon et al. (2020)	1	1	1	0	0	1	1	1	1	1	0	1	1	1	0	9	Moderate	
Romero-Abrio et al., (2019)	0	1	1	0	0	1	1	1	0	0	1	1	0	0	0	6	Moderate	
Santo et al. (2017)	1	1	1	0	0	1	1	1	1	1	0	1	0	0	1	9	Moderate	
Smack et al. (2015)	1	1	1	0	1	1	1	1	1	1	0	1	1	1	0	11	High	
Smith et al., (2016)	0	1	1	0	0	1	1	1	1	0	0	1	0	1	0	9	Moderate	
Sullivan et al. (2010)	1	0	1	0	1	1	1	1	1	1	0	1	1	1	0	11	High	
Tackett et al. (2013)	1	1	1	1	0	0	1	1	1	1	0	1	0	1	0	10	Moderate	
Tackett et al. (2014)	1	0	0	0	0	0	1	1	1	1	0	1	0	1	0	7	Moderate	
Waasdorp et al. (2013)	1	1	0	0	1	1	1	1	1	1	0	1	1	1	0	10	Moderate	
Batanova and Loukas (2014)	1	1	1	0	0	1	1	1	0	0	1	1	1	1	1	11	High	
Blain-Arcaio and Vaillancourt (2016)	1	1	1	0	1	1	1	1	1	1	0	1	0	1	0	11	Moderate	
Coyne (2016)	1	1	1	0	0	1	1	1	1	1	0	1	0	1	1	11	High	
Coyne et al. (2020)	1	1	1	0	0	1	1	1	1	1	0	1	1	1	0	12	High	
Dumas et al. (2019)	1	1	0	0	0	1	1	1	0	1	0	1	0	1	1	9	Moderate	

Table 1 (continued)

Continent	Reference	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Appraisal score	Quality category
ASIA	Espelage et al. (2018)	0	I	0	0	0	I	I	0	I	0	I	0	I	I	0	7	Moderate
	Kawabata et al. (2014)	I	I	I	0	0	I	I	0	I	0	I	I	I	I	I	11	High
	Low et al. (2013)	I	I	I	0	0	I	I	0	I	0	I	0	0	I	0	8	Moderate
	Woodin et al., 2016	0	I	I	0	0	I	I	I	I	0	I	I	I	I	0	9	Moderate
	Wright (2017)	I	I	I	0	0	I	I	I	I	0	I	I	I	I	0	11	High
	Wright and Wachs (2019a)	I	I	I	0	0	I	I	0	I	0	I	I	I	0	0	9	Moderate
	Wright and Wachs (2019b)	0	I	I	0	0	I	I	I	I	0	I	0	0	I	0	8	Moderate
	Avcı (2016)	0	I	I	0	0	I	I	0	I	0	I	I	I	I	I	11	High
	Bibi and Malik (2016)	I	I	I	I	0	0	I	I	I	0	I	I	I	I	0	10	Moderate
	Bowker et al. (2012)	I	I	I	I	I	0	0	I	I	0	I	I	I	I	I	12	High
	Cheng (2014)	I	I	I	I	I	0	0	I	0	I	I	0	I	I	0	11	High
	Ghim et al. (2015)	I	I	I	I	I	0	0	I	0	I	I	I	I	I	0	10	Moderate
	Kawabata and Crick (2016)	I	I	I	I	0	I	I	I	I	I	0	I	I	I	0	12	High
	Levy and Gumpel (2022)	0	I	0	I	0	0	I	0	I	0	I	I	0	I	0	7	Moderate
	Mukhtar and Mahmood (2018)	I	I	I	0	I	I	I	I	I	I	0	I	0	I	I	12	High
	Wang (2017)	I	I	I	I	0	0	I	I	I	I	0	I	0	I	0	10	Moderate
	Wright et al. (2014)	0	I	I	0	I	I	I	I	I	I	0	I	0	I	0	10	Moderate
	Kawabata et al. (2012)	0	I	0	0	0	0	I	I	I	I	0	I	0	I	I	9	Moderate
	Koçak et al., (2017)	I	I	0	0	0	I	I	I	0	I	I	0	I	I	0	8	Moderate
	Li et al., (2021)	I	I	I	0	0	I	I	I	0	I	0	I	0	I	0	9	Moderate
Long and Li (2020)	I	I	I	0	0	I	I	I	0	I	0	I	0	I	0	9	Moderate	
Lu et al. (2018)	I	I	0	0	0	0	I	I	I	I	0	I	I	I	0	9	Moderate	
Tseng et al., (2013)	I	I	0	0	0	0	I	I	0	I	0	I	I	I	0	9	Moderate	
Ferguson et al. (2016)	I	I	0	0	0	0	I	I	0	I	0	I	I	I	0	9	Moderate	
Hemphill et al. (2012)	I	I	I	0	I	I	I	I	I	I	I	I	I	I	I	0	12	High
Zimmer-Gembeck and Pronk (2012)	I	I	I	I	I	0	0	I	0	I	0	I	I	I	0	9	Moderate	
Armitage and Rowe (2017)	I	I	0	0	I	I	I	I	I	I	I	I	0	I	I	12	High	
Drnas et al. (2020)	I	I	I	0	I	I	0	I	0	I	I	I	I	0	0	10	Moderate	
Flack (2020)	I	I	I	0	I	I	0	I	0	I	0	I	0	I	0	9	Moderate	
Kokkinos et al. (2016a)	I	I	I	0	0	I	I	I	I	I	0	I	0	I	0	10	Moderate	

Table 1 (continued)

Continent	Reference	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Appraisal score	Quality category
	Kokkinos et al. (2016b)	I	I	I	0	I	I	I	I	I	0	I	0	I	I	0	11	High
	Kokkinos and Voulgaridou (2017a)	I	I	I	0	I	I	I	I	I	0	I	0	I	I	0	10	Moderate
	Kokkinos and Voulgaridou (2017b)	I	I	I	I	I	I	I	I	I	0	I	0	I	I	0	12	High
	Kokkinos et al. (2017)	I	I	I	0	I	I	I	I	I	0	I	0	I	I	0	10	Moderate
	Kokkinos et al. (2019)	I	I	I	0	I	I	I	I	I	0	I	0	I	I	0	11	High
	Kokkinos et al., (2020a, 2020b)	I	I	I	I	I	I	I	I	I	0	I	0	I	I	1	13	High
	Ojanen et al. (2012)	I	I	I	0	I	I	I	I	I	0	I	I	I	I	0	11	High
	Vagos et al. (2014)	I	I	0	I	I	0	I	I	I	0	I	0	I	I	1	10	Moderate
	Krahe & Busching (2014)	I	I	0	0	I	I	I	I	I	I	0	I	I	0	0	9	Moderate
	Orpinas et al. (2015)	I	I	0	0	I	0	I	I	0	0	I	I	0	I	0	8	Moderate
	Orue et al. (2016)	I	I	I	0	I	I	I	I	I	I	0	0	0	I	0	9	Moderate
	Voulgaridou and Kokkinos (2020)	I	I	I	I	I	I	I	I	I	0	I	0	I	I	1	13	High

1. Clearly stated aims, 2. Appropriateness of design to meet the aims, 3. Adequate specifications of subject group given, 4. Justification of sample size, 5. Likelihood of reliable and valid measurements, 6. Adequate description of statistical methods, 7. Adequate description of the data, 8. Consistency in the number of subjects reported throughout the paper, 9. Assessment of statistical significance, 10. Attention to potential biases, 11. Meaningful main findings, 12. Interpretation of null findings, 13. Interpretation of important effects, 14. Comparison of results with previous reports, and 15. Implications in real life

Table 2 Continents and countries, informants, design, sample, and participants' age in the reviewed studies

Continent	Reference	Country/Region	Informant	Design (interval between the waves in longitudinal studies)	Age/grade (N)
AFRICA	Chirwa-Mwanza and Menon (2015)	Lusaka District	Self-report	Cross-sectional	10–16 years old/grades 6–8 (170)
	Padmanabhanunni and Gerhardt (2019)	Cape Town	Self-report	Cross-sectional	13–19 years old/M = 15.68/grades 8–12 (229)
	Salaam and Mounts (2016)	Accra (Sub-Saharan Africa)	Self-report	Cross-sectional	M = 14.2/grades 7–9 (119)
AMERICA	Aizpitarte et al. (2017)	USA	Self-report	Cross-sectional	10–16 years old (674)
	Blakely-McClure and Ostrov (2016)	USA	Teacher-report Self-report	Cross-sectional	M = 11.14 (1063)
	Choi et al. (2011)	USA	Self-report	Cross-sectional	Grades 3–5 (217)
	Crapanzano et al. (2010)	USA	Self-report	Cross-sectional	M = 11.28/grades 4–7 (282)
	Dane and Marini (2014)	Ontario (Canada)	Self-report	Cross-sectional	10–17 years old, M = 13.92 (670)
	Goldstein (2016)	USA	Self-report	Cross-sectional	M = 17.05 (110)
	Kraft and Mayeux (2018)	USA	Peer nomination	Cross-sectional	Grades 6–8 (318)
	Lau et al. (2016)	USA	Self-report	Cross-sectional	11–17 years old (117)
	Li and Wright (2014)	USA	Self-report	Cross-sectional	M = 12.92/grades 6–8 (405)
	Loflin and Barry (2016)	New York (USA)	Self-report	Cross-sectional	16–19 years old (256)
	Marsee et al. (2014)	USA	Self-report	Cross-sectional	M = 14.29/grades 10–12, (307)
	Mathieson et al. (2014)	USA	Teacher-report	Cross-sectional	M = 13.4/grades 6, 7, 8 (499)
	Mayeux (2014)	USA	Peer nomination	Cross-sectional	Grade 9 (185)
	McQuade et al. (2014)	USA	Peer nomination	Cross-sectional	9–16 years old, grade 4–6, (183)
	McQuade et al. (2019)	USA	Teacher-report	Cross-sectional	10–12 years old/M = 11.34 (125)
	Monopoli et al. (2020)	USA	Self-report	Cross-sectional	Grades 6–8 (123)
	Rasmussen et al. (2018)	USA	Self-report	Cross-sectional	M = 13.41 (247)
	Reardon et al. (2020)	Canada	Parent-report	Cross-sectional	6–18 years old (911)
	Romero-Abrio et al., (2019)	Mexico	Self-report	Cross-sectional	11–16 years (8115)
	Santo et al. (2017)	Colombia	Peer nomination	Cross-sectional	7–17 years old/M = 10.42 (823)
	Smack et al. (2015)	Canada	Parent-report	Cross-sectional	10–12 years old/M = 11.61 (368)
	Smith et al., (2016)	USA	Teacher-report	Cross-sectional	M = 10.62 (254)
	Sullivan et al. (2010)	USA	Self-report	Cross-sectional	Grades 5, 8 (358)
	Tackett et al. (2013)	Canada	Self-report	Cross-sectional	10–18 years old (1080)
	Tackett et al. (2014)	Canada	Self-report	Cross-sectional	10–18 years old (1188)
	Waasdorp et al. (2013)	Northeastern GA, Chicago, Durham, Richmond (USA)	Peer nomination	Cross-sectional	Grades 6–8 (5106)
	Batanova and Loukas (2014)	Texas (USA)	Peer nomination	Longitudinal (1 year)	10–14 years/M = 11.68/grades 6, 7 (481)
	Blain-Arcaro and Vaillancourt (2016)	Ontario (Canada)	Self-report	Longitudinal (1 year)	10–17 years old (643)
	Coyne (2016)	USA	Self-report	Longitudinal (1 year)	M = 13.20–18.54 (467)
	Coyne et al. (2020)	USA	Self-report	Longitudinal (1 year)	12–17 years old (500)
	Dumas et al. (2019)	Ontario (Canada)	Self-report	Short-term longitudinal (six months)	M = 14.98/Grades 9–11 (1125)
	Espelage et al. (2018)	USA (USA)	Self-report	Longitudinal (1 year)	10–14 years old/M = 13.01/grades 5–8 (1655)
Kawabata et al. (2014)	Midwestern city	Peer nomination	Short-term longitudinal (6 months)	9–11 years old (597)	
Low et al. (2013)	Illinois (USA)	Self-report	Longitudinal (1 year)	Grades 6,7 (346)	
Woodin et al., 2016	Canada	Self-report	Longitudinal (2 years)	12–18 years (282)	
Wright (2017)	USA	Self-report	Longitudinal (1 year)	M = 12.13 (217)	
Wright and Wachs (2019a)	USA	Self-report	Longitudinal (1 year)	13–15 years old/M = 14.36 (606)	
Wright and Wachs (2019b)	USA	Self-report	Longitudinal (1 year)	M = 14.51 (405)	
ASIA	Avci (2016)	Mugla (Turkey)	Self-report	Cross-sectional	M = 14.32 (1445)

Table 2 (continued)

Continent	Reference	Country/Region	Informant	Design (interval between the waves in longitudinal studies)	Age/grade (N)
	Bibi and Malik (2016)	Rawalpindi (Islamabad)	Self-report	Cross-sectional	14–19 years old (300)
	Bowker et al. (2012)	Surat (India)	Peer-report	Cross-sectional	M = 13.35/grade 8 (194)
	Cheng (2014)	Taiwan	Peer nomination	Cross-sectional	M = 14.2 (860)
	Ghim et al. (2015)	Korea	Self-report	Cross-sectional	16–18 years old (653)
	Kawabata and Crick (2016)	Japan	Teacher-report	Cross-sectional	Grades 5–6 (130)
	Levy and Gumpel (2022)	Israel	Self-report	Cross-sectional	Grades 7–12 (1518)
	Mukhtar and Mahmood (2018)	Lahore (Pakistan)	Self-report	Cross-sectional	14–19 years old (400)
	Wang (2017)	China	Peer nomination	Cross-sectional	M = 13.58/grades 6–8 (833)
	Wright et al. (2014)	Han (China)	Self-report	Cross-sectional	M = 13.43/grades 7–8 (477)
	Kawabata et al. (2012)	Japan	Teacher-report	Short-term longitudinal (6 months)	Grades 4–5 (739)
	Koçak et al., (2017)	Turkey	Self-report Mother-report	Longitudinal (8 months)	13–15 years old/M = 14.36/grade 9 (555)
	Li et al., (2021)	Xian (China)	Self-report	Longitudinal (1 year)	M = 13.26 (2152)
	Long and Li (2020)	China	Self-report Peer-report	Longitudinal (18 months)	M = 13.44/grades 7–8 (476)
	Lu et al. (2018)	China	Peer nomination	Longitudinal (1 year)	M = 13.33 (880), M = 16.66 (841)
	Tseng et al., (2013)	Taiwan	Peer-report	Short-term longitudinal (6-months)	M = 10.35 (198)
AUSTRALIA	Ferguson et al. (2016)	Australia	Peer nomination	Longitudinal (7 months)	M = 10.99, grades 5–7 (328)
	Hemphill et al. (2012)	Australia	Self-report	Longitudinal (2 years)	M = 12.9, M = 15.2/grades 7–9, (696)
	Zimmer-Gembeck and Pronk (2012)	Australia	Self-report Peer-report	Cross-sectional	M = 12.5/grades 5–10 (335)
EUROPE	Armitage and Rowe (2017)	England	Self-report	Cross-sectional	11–16 years old (503)
	Drnas et al. (2020)	Zagreb (Croatia)	Self-report	Cross-sectional	16–17 years old (656)
	Flack (2020)	Norway	Self-report Peer-report	Cross-sectional	M = 14, grade 8 (345)
	Kokkinos et al. (2016a)	Greece	Self-report	Cross-sectional	10–13 years old/M = 11.31/grades 5–6 (276)
	Kokkinos and Voulgaridou (2017a)	Greece	Self-report	Cross-sectional	12–15 years old/M = 13.4 (261)
	Kokkinos and Voulgaridou (2017b)	Greece	Self-report	Cross-sectional	11–16 years old/M = 13.1 (347)
	Kokkinos et al. (2016b)	Greece	Self-report	Cross-sectional	10–12 years old/grades 5–6 (140)
	Kokkinos et al. (2017)	Greece	Self-report	Cross-sectional	11–16 years old/M = 13.1 (347)
	Kokkinos et al. (2019)	Greece	Self-report	Cross-sectional	12–16 years old / M = 13.66 (518)
	Kokkinos et al., (2020a, 2020b)	Greece	Self-report	Cross-sectional	12–15 years old/M = 13.56 (235)
	Ojanen et al. (2012)	Finland	Peer nomination	Cross-sectional	12–14 years old, grades 7–8 (384)
	Vagos et al. (2014)	Portugal	Self-report	Cross-sectional	Grades 10–12 (785)
	Krahe & Busching (2014)	Germany	Self-report	Longitudinal (1 year)	M = 13 years old (1854)
	Orpinas et al. (2015)	Georgia	Self-report	Longitudinal (1 year)	Grades 10–12 (620)
	Orue et al. (2016)	Bizkaia (Spain)	Self-report	Longitudinal (1 year)	14–18 years old (765)
	Voulgaridou and Kokkinos (2020)	Greece	Self-report	Short-term longitudinal (6 months)	M = 14.04 (2207)

The table demonstrates the informant of the relational aggression measure, the study's design, participants' age, grade, and mean age, and total population sample

^a Information is provided about participants' age, grade or both. If no age or grade data is provided in the study, only participants' mean age is reported. For longitudinal studies, age has been reported for the first phase of the study

^b In each continent first are reported the cross-sectional and then the longitudinal studies

M = mean age

aggressive behaviors (i.e., relational aggression) and avoid the display of gender-inconsistent aggressive acts (Murray-Close et al., 2016).

In Asia, the picture of gender differences in relational aggression among adolescents was quite different, with almost half of the studies (6/13) showing non-significant differences between males and females (e.g., Avci, 2016; Cheng, 2014; Kawabata et al., 2012), five studies indicating males achieving higher scores on relational aggression (Levy and Gumpel 2022; Wang, 2017), and two studies documenting higher relational aggression scores for females (Kawabata & Crick, 2016; Lu et al., 2018). These findings are in accordance with prior research conducted within the non-western cultures that has documented no gender differences in relational aggression reported by adolescents (e.g., Sakai & Yamasaki, 2004).

Discussion

Relational aggression during adolescence has been associated with serious adjustment problems, including concurrent and future social maladjustment (e.g., problematic friendships; rejection) and internalizing problems (e.g., depressive symptoms). Although burgeoning literature has examined adolescents' relationally aggressive behavior across distinct cultures, the potential cross-cultural differences in relational aggression have not been systematically explored. The present review addresses this research gap by critically presenting a thorough overview of relational aggression research in adolescents across distinct cultural contexts, exploring the most prevalent information sources used to assess relational aggression across countries, discussing cross-national comparisons in cultural values related to aggression, and finally elucidating gender differences in relational aggression across cultures.

The review focused on empirical studies published between 2010 and 2022, and a total of 76 studies that fulfilled the predefined inclusion and exclusion criteria were reviewed. It was found that in this time frame there has been mounting interest in the topic of adolescent relational aggression especially in America and Europe, as 71% of reviewed studies were conducted in these continents. Although there are some significant limitations to the present review, some inferences can be drawn from the studies that were analysed.

The quality assessment of the studies is an essential part of the process of conducting a systematic review because it provides a framework for the interpretation of the findings presented in each publication (Mulrow, 1994). Numerous quality scales and checklists have been published (Ma et al., 2020). These tools, however, should be used with caution because they are often based on 'accepted' criteria, and

frequently have not been validated, nor they reflect critical issues pertinent to the under-review area. Thus, a study can be moderately graded by a quality tool, yet still having substantial methodological limitations. The justification of sample size was one of the quality assessment criteria that received the lowest scores. Unjustified sample sizes imply that most studies may not have enough power to generate reliable results. As a result, the findings of these studies are unlikely to be generalizable to the general population. In terms of paying attention to potential biases, just a few studies addressed all potential biases in study outcomes. This data is crucial in determining the significance of study findings. Furthermore, most articles did not provide results that could be easily applied to 'real life' due to small and/or unjustifiable sample size, non-randomized sample selection procedure, and subject group limited to one gender or to a specified age. Finally, the majority of the examined studies did not meet the criterion of likelihood of reliable and valid measures/sensitivity of outcome tool. More specifically, it was unknown, whether the outcome measure assessed the construct it was designed to measure (validity), assessed the construct in consistently on repeated occasions of assessment (reliability) or detected substantial changes in the construct over time (sensitivity).

The present review revealed that self-reports constitute the most commonly used assessment method of relational aggression cross-culturally, followed by peer reports, parent- and teacher report. Self-report surveys offer the benefits of being easy and fast to administer, providing a significant amount of data within a short time period, and immediately obtaining the respondents' views (Murray-Close et al., 2016; Voulgaridou & Kokkinos, 2018). In the case of relational aggression, self-reports provide information about behaviors that are not directly witnessed by authority figures such as those that occur at home or outside of school (Bradshaw et al., 2015; Lansford et al., 2009). Therefore, the individual who performs the action or experiences its consequences is considered to be the most reliable source of information regarding these actions (e.g., Kokkinos et al., 2016a).

In this review, twelve studies using peer-report methodologies depended mostly on peer nominations, while only two used peer-ratings. Lagerspetz et al. (1988) were the first to incorporate peer ratings in the assessment of aggression, in which all pupils in a classroom assessed each other's aggressive conduct. Later, Crick and Grotpeter (1995) introduced the construct of relational aggression, where peers were asked to nominate a number of classmates who in their opinion, exhibited relationally aggressive behaviors. Since then, peer nominations have been used in 95% of the studies that rely on peer reports (Archer & Coyne, 2005). Only a few studies in this review (10/76) used peer nomination to assess adolescent relational aggression. Several researchers have noted that peer nominations may not adequately portray

Table 3 Results of Included Studies Presented According to Research Questions

Continent	Reference	Gender differences	Likert scale	Mean score per item
AFRICA	Chirwa-Mwanza and Menon (2015)	F < M	5-point (1 = never to 5 = a few times a week)	Sum 7.6
	Padmanabhanunni and Gerhardt (2019)	F < M	4-point (1 = not at all true to 4 = completely true)	1.81
	Salaam and Mounts (2016)	NS	5-point (1 = never to 5 = all the time)	12.40
AMERICA	Aizpitarte et al. (2017)	NS	4-point (1 = almost never or never to 4 = almost always or always)	NR
	Blakely-McClure and Ostrov (2016)	NS	4-point (1 = not at all true to 4 = completely true)	1.34
	Choi et al. (2011)	F < M	5-point (1 = never to 5 = all the time)	Sum 7.71
	Crapanzano et al. (2010)	F > M	4-point (0 = not at all true to 3 = definitely true)	Sum 13.87
	Dane and Marini (2014)	NS	4-point (1 = not at all true to 4 = completely true)	1.70
	Goldstein (2016)	NS	5-point (1 = never to 5 = 20 times or more in the past 30 days)	1.60
	Kraft and Mayeux (2018)	F > M	Peer nomination	NR
	Lau et al. (2016)	NS	4-point (0 = not at all true to 3 = definitely true)	Sum 6.83
	Li and Wright (2014)	Not examined	5-point (1 = never to 5 = all the time)	1.95
	Loflin and Barry (2016)	NS	4-point (0 = not at all true to 3 = definitely true)	Sum 6.82
	Marsee et al. (2014)	NS	4-point (0 = not at all true to 3 = definitely true)	NR
	Mathieson et al., 2014	NS	5-point (1 = never true to 5 = almost always true)	Sum 7.20
	Mayeux (2014)	F > M	Peer nomination	NR
	McQuade et al. (2014)	F > M	Peer nomination	NR
	McQuade et al. (2019)	F > M	5-point (1 = never to 5 = almost always)	1.75
	Monopoli et al. (2020)	NS	5-point (1 = never to 5 = a few times a week)	1.44
	Rasmussen et al. (2018)	F > M	4-point (1 = never to 4 = very often)	1.73
	Reardon et al. (2020)	F > M	5-point (1 = never true to 5 = almost always true)	1.65
	Romero-Abrio et al., (2019)	NS	4-point (1 = never to 4 = always)	1.3
	Santo et al. (2017)	NS	Peer nomination	NR
	Smith et al., (2016)	NS	5-point (1 = never true to 5 = almost always true)	2.02
	Smack et al. (2015)	NS	5-point (1 = never true to 5 = almost always true)	Sum 7.58
	Sullivan et al. (2010)	NS	5-point (1 = never to 5 = 20 times or more in the past 30 days)	Sum 10.6
	Tackett et al. (2013)	F > M	5-point (1 = never true to 5 = almost always true)	Sum 8.48
	Tackett et al. (2014)	NS	5-point (1 = never true to 5 = almost always true)	Sum 8.38
	Waasdorp et al. (2013)	F > M	Peer nomination	NR
	Batanova and Loukas (2014)	NS	5-point (1 = not at all to 5 = all the time)	1.82
Blain-Arcaro and Vaillancourt (2016)	NS	4-point (0 = not at all true to 3 = completely true)	0.35	
Coyne (2016)	F > M	5-point (1 = never true to 5 = almost always true)	1.85	

Table 3 (continued)

Continent	Reference	Gender differences	Likert scale	Mean score per item
ASIA	Coyne et al. (2020)	F > M	5-point (1 = never true to 5 = almost always true)	1.80
	Dumas et al. (2019)	F < M	5-point (1 = never true to 5 = very often true)	1.50
	Espelage et al. (2018)	NS	5-point (1 = never to 5 = all the time)	1.23
	Kawabata et al. (2014)	NS	Peer nomination	NR
	Low et al. (2013)	F < M	5-point (1 = never to 5 = all the time)	1.56
	Woodin et al., 2016	F < M	5-point (1 = never to 5 = all the time)	1.30
	Wright (2017)	F > M	5-point (1 = never to 5 = all the time)	1.89
	Wright and Wachs (2019a)	Not examined	5-point (1 = never to 5 = all the time)	3.30
	Wright and Wachs (2019b)	NR	5-point (1 = never to 5 = all the time)	2.56
	Avci (2016)	NS	5-point (1 = not all true to 5 = completely true)	2.79
	Bibi and Malik (2016)	NS	4-point (1 = strongly disagree to 4 = strongly agree)	NR
	Bowker et al. (2012)	NS	Peer nomination	NR
	Cheng (2014)	NS	5-point (1 = never to 5 = always)	3.57 indirect, 3.80 direct
	Ghim et al. (2015)	Not examined	4-point (0 = not at all true to 3 = definitely true)	Sum = 6.74
	Kawabata and Crick (2016)	F > M	5-point (1 = never true to 5 = always true)	Sum 10.85
	Levy and Gumpel (2022)	F < M	3-point (0 = never to 2 = three times or more)	9.2% relational aggressors
	Mukhtar and Mahmood (2018)	Not examined	4-point (0 = strongly disagree to 3 = strongly agree)	NR
	Wang (2017)	F < M	Peer nomination	NR
	Wright et al. (2014)	F < M	5-point (1 = never to 5 = all the time)	NR
	AUSTRALIA	Kawabata et al. (2012)	NS	5-point (1 = not at all true to 5 = always true)
Koçak et al., (2017)		F < M	7-point (1 = never to 7 = always)	2.33
Li et al., (2021)		F < M	5-point (1 = almost never to 5 = almost always)	1.43
Long and Li (2020)		Control variable	5-point (1 = never to 5 = all the time)	NR
Lu et al. (2018)		F > M	Peer nomination	NR
Tseng et al. (2013)		NS	Peer nomination	NR
Ferguson et al. (2016)		F > M	Peer nomination	NR
Hemphill et al. (2012)		F < M	5-point (1 = no to 5 = most days)	1.47
Zimmer-Gembeck and Pronk (2012)		F < M (SR) F > M (PR)	5-point (1 = not at all true to 5 = very true)	Sum 17.75
EUROPE		Armitage and Rowe (2017)	NS	Not reported
	Drnas et al. (2020)	F < M	4-point (0 = not at all true to 3 = definitely true)	Proactive = 0.32 Reactive = 0.48
	Flack (2020)	F > M	5-point (1 = not at all to 5 = almost every day)	1.22
	Kokkinos et al. (2016a)	F < M	5-point (1 = never to 5 = always)	1.82
	Kokkinos and Voulgaridou (2017a)	NS	5-point (1 = never to 5 = always)	1.8
	Kokkinos and Voulgaridou (2017b)	F < M	4-point (0 = not at all true to 3 = definitely true)	Proactive = 0.47 Reactive = 0.32
	Kokkinos et al. (2016b)	NS	5-point (1 = never to 5 = always)	1.44
	Kokkinos et al. (2017)	F < M	4-point (0 = not at all true to 3 = definitely true)	Proactive = 0.47 Reactive = 0.32

Table 3 (continued)

Continent	Reference	Gender differences	Likert scale	Mean score per item
	Kokkinos et al. (2019)	F < M	4-point (0 = not at all true to 3 = definitely true)	Proactive = 0.47 Reactive = 0.73
	Kokkinos et al., (2020a, 2020b)	F < M	5-point (1 = never to 5 = all of the time)	Proactive indirect = 1.48 Proactive direct = 1.70 Reactive indirect = 1.55 Reactive direct = 2.13
	Ojanen et al., 2012	F > M	Peer nomination	NR
	Vagos et al. (2014)	F < M	4-point (0 = not at all true to 3 = definitely true)	Proactive = 13.11 Reactive = 14.32
	Krahe & Busching (2014)	F < M	5-point (1 = never to 5 = very often)	1.63
	Orpinas et al. (2015)	F < M	5-point (1 = never to 5 = 20 or more times in the past 30 days)	1.60 to 1.20
	Orue et al. (2016)	F > M	4-point (1 = not at all true to 4 = completely true)	Sum 3.71
	Voulgaridou and Kokkinos (2020)	F < M	5-point (1 = never to 5 = all of the time)	1.61

This table demonstrates gender differences in relational aggression, the relational aggression measure's Likert scale, and mean relational aggression score for the population sample

^aMean score per item is reported for the prevalence of relational aggression. Results for relational aggression measures, where a five-point frequency Likert scale was used have been adjusted to represent a scale of 1 to 5, when a 0 to 4 scale was used

^bIf the relational aggression mean score per item is not provided, the summed result is reported (sum)

F Female; M Male, NS not significant, NR not reported

the range of the diversity of social interactions (Hoff et al., 2009). For example, they may be less likely to detect gender differences in relational aggression (Kistner et al., 2010) due to the fact that youth tend to nominate same-sex peers for relational aggression (Card et al., 2008) or they may be limited to behaviors observed only in the school settings, whereas relational aggression can occur across different contexts throughout a student's life.

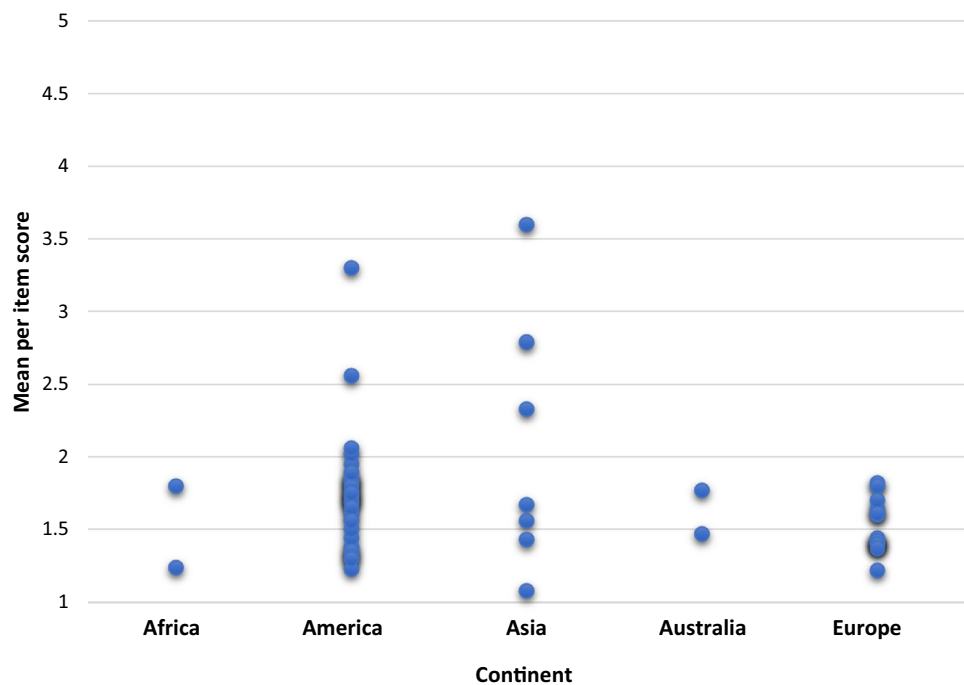
In the present review only seven studies, conducted in Asia and America, relied on teacher and parental reports of adolescent relational aggression. Due to the externalizing nature of relationally aggressive behaviors during middle childhood, teachers are considered as more appropriate reporters of relational aggression among middle school students, whereas adolescents frequently use quite sophisticated behaviors that remain under the radar of adults (e.g., Linder & Gentile, 2009; Sijtsema et al., 2010). Only two out of 75 studies assessed relational aggression among adolescents based solely on parental reports. It is believed that this method is less reliable because parents have even fewer opportunities to observe peer interactions than teachers do, have fewer same-age comparisons accessible, and their ability to provide accurate descriptions of their children's aggressive behavior declines as they approach late adolescence (e.g., Burt & Paysnick, 2012; Smack et al., 2015).

In all, no strong conclusions can be drawn about the connection of the relational aggression's information source with the cultural context, as considerable heterogeneity can

be observed across countries and continents. In particular, studies in Africa relied exclusively on self-reports (e.g., Chirwa-Mwanza & Menon, 2015; Padmanabhanunni & Gerhardt, 2019), while in Europe, the majority of studies used self-reports (i.e., Hemphill et al., 2012) and only a small number of studies (two in Australia and three in Europe) used peer nominations (i.e., Ferguson et al., 2016; Ojanen et al., 2012; Zimmer-Gembeck & Pronk, 2012). In Asia and America, where the majority of the reviewed studies was conducted, the picture was quite different. While most of the studies employed self-report measures (Dane & Marini, 2014; Lau et al., 2016; Levy & Gumpel, 2022; Li et al., 2021), there were some studies that relied on peer- (i.e., Batanova & Loukas, 2014; Kraft & Mayeux, 2018), parent- (Reardon et al., 2020; Smack et al., 2015), or teacher-reports (i.e., Kawabata & Crick, 2016; Smith et al., 2016).

In general, the findings suggest that on average, adolescents self-report low levels of relational aggression. It is difficult to determine the overall prevalence of relational aggression across all the studies because of the heterogeneity in the number of items that were used to assess the phenomenon and the different measures that were employed. Regarding the classification of nations on the individualism and collectivism spectrum, there is an abundance of research comparing the cultural dimensions of the participants from the Eastern and Western countries, with most of them comparing China and Japan versus USA and Canada (Tang et al., 2016). The comparison between African or

Fig. 2 Self-report relational aggression among adolescents across cultures using a five-point Frequency Scale (where results reported [n = 46])



European nations—for example, Germany and England—even if they belong to the same regional groups, is uncommon. For instance, Oyserman et al. (2002) found in their meta-analysis that central European nations, including Germany, are generally about as individualistic as the United States, while Meeuwesen et al. (2009) found no appreciable differences between central and Western European nations in the individualism-collectivism continuum. Indeed, a recent large-scale meta-analysis (Taras et al., 2012) about the cultural dimensions, which was based on 451 studies representing more than 500,000 people from 49 countries and regions, revealed that the accuracy of Hofstede's (1980) cultural dimension scores has been deteriorating over time. Although these scores showed a strikingly strong correlation with theoretically significant indicators in the 1980s, the correlations typically declined for each decade after that (Taras et al., 2012). This difference can be explained by the modernization theory, which describes the rise in individualism throughout a sustained period of economic progress (Inglehart, 1997; Kashima et al., 2004). Individualism and societal and economic modernization are strongly correlated, and this relationship can be found across different cultures (Hamamura, 2012). Changes have been observed, for example, even in nations that have traditionally been regarded as collectivistic, like China and Japan. Consider the case of China: people's psychological traits have changed over time to become more individualistic (Oyserman & Lee, 2008), and Japan has also seen an increase in individualism in recent years (Oyserman et al., 2009).

In this review, studies on adolescent relational aggression in Europe originated from nine nations (England, Norway, Greece, Finland, Croatia, Portugal, Germany, Georgia, and Spain) that are characterized as rather individualistic (e.g., Germany, Norway, Finland) or hybrid (i.e., comprising both individualism and collectivism; e.g., Greece, Spain; Kafetsios, 2018; Murray-Close et al., 2016; Taras et al., 2012). In these countries, it was found that adolescents reported low scores on relational aggression. Regarding Africa and Australia, the findings were inconclusive and scores on relational aggression were equally distributed, as half of the studies demonstrated low and the other half higher scores. Therefore, caution should be given when interpreting the prevalence of relational aggression across studies due to the age range of the participants and the response scales that have been used in the measuring instruments.

Surprisingly, most of the research with American samples (USA and Canada) reported low scores (26 out of 29), while only in four studies participants reported a somewhat higher score on relational aggression. On the contrary, the majority of the studies conducted in Asia (i.e., Turkey, Taiwan, China and Japan) indicated that on average adolescents reported engaging in relational aggression some of the time and most of the time. This evidence suggests that relational aggression may be overrepresented in collectivist nations and underrepresented in nations like Sweden or the United States (Lansford et al., 2012). It should be acknowledged that even in highly conflict avoidant and harmony-seeking collectivistic cultures there may exist increased levels of aggression against of out-group members (e.g., Triandis

& Suh, 2002). Furthermore, studies on collectivist cultures have shown that aggressive retaliation is a likely response when ideas of honor are threatened among members of a collectivist society (e.g., Li & Fung, 2015). Similarly, Niu et al.'s (2016) research revealed a positive longitudinal link between relational aggression and popularity in older adolescents (8th graders) in Mainland China. Finally, while collectivistic cultures may discourage all forms of aggression because they disrupt harmonious group functioning, when adolescents from collectivistic societies are aggressive, they may be prone to use relationally aggressive behaviors than physically aggressive ones (Kawabata et al., 2012). Consequently, aggression may rise in collectivist societies under certain circumstances and among particular groups.

This review discussed evidence on the prevalence of adolescent relational aggression across different cultural contexts. Nonetheless, limitations were detected in the published research. Common limitations include a lack of uniformity in the reporting of descriptive statistics with certain studies presenting the summed total of the items used to measure adolescents' relational aggression while others the mean of total relational aggression items used. Almost one-fifth of the relational aggression measures used in the reviewed studies lacked descriptive data. This conclusion demonstrates that there is no standard method for measuring and reporting relational aggression, despite the fact that calculating the mean is quite simple. To make substantial contributions to the cross-cultural knowledge of relational aggression in adolescence, researchers must strive to communicate their results in a manner that allows for meaningful inferences and replication of studies. On the basis of this comprehensive literature review, it is recommended that researchers should publish the means, standard deviations, as well as the range of all independent and dependent variables. In addition, when using several measures of relational aggression, it is suggested that researchers publish the mean relational aggression score for each measure rather than a composite score obtained from numerous measures. This would allow researchers and practitioners to easily compare data across communities and draw meaningful inferences about the prevalence of relational aggression.

In addition, these results suggest diverse cultural standards for aggression and highlight the need of recognizing cultural variations in the mean levels of adolescent relational aggression. However, future research needs to concentrate on intragroup preferences for relational aggression. Indeed, data from a number of studies demonstrates significant differences in the use of relational aggression within nations, perhaps reflecting diverse subcultural norms and experiences. In this respect, differences in socioeconomic level, urban/rural environment, and religious and family values, for example, may provide important information (Kawabata et al., 2010; Murray-Close et al., 2016). Similarly, future

research could explore if relational aggression interventions vary accordingly regarding the racial and cultural contexts. Indeed, most of the existing anti-bullying and aggression prevention programs, including relational aggression, have been designed and applied in individualistic cultural background (i.e., the USA, Canada, and Europe; Leff et al., 2010), where it was assumed that more relational aggression occurred. Therefore, the students of the included studies in America and Canada may have been more exposed to anti-bullying programs and were more aware of being observed for aggressive behaviors than their counterparts in collectivistic cultures (where the aggression levels were supposed to be low). Nevertheless, only two intervention programs have been designed with a concerted effort in making the program culturally sensitive to the specific needs of the participants (Friend to Friend, Leff et al., 2007; Sisters of Nia, Belgrave et al., 2004). More information about the sufficiency and necessity of these preventive efforts could benefit the field.

In terms of gender differences in adolescent relational aggression across cultures no robust conclusions can be derived. More specifically, approximately one third of the reviewed studies found non-significant gender differences in adolescent relational aggression. The majority of the studies in Africa, Asia, Australia, and Europe showed that males scored higher on relational aggression, while in America most of the research demonstrated higher scores for females in accordance with prior research (Murray-Close et al., 2016; Voulgaridou & Kokkinos, 2019). Indeed, the majority of studies conducted in US and Canada has demonstrated that females are more likely to be relational aggressors compared with males. Regarding the relational aggression information sources, no specific conclusions emerged. Prior research has demonstrated that nominations of relational aggression (e.g., from teachers or peers) may be impacted by gender role norms and stereotypes, as well as diverse cultural perceptions of aggression (Voulgaridou & Kokkinos, 2019). More specifically, gender differences in relational aggression may be related to the culturally-determined 'feeling rules' (Hochschild, 1979) that govern not only female but also male expressions of vulnerability. In any case, admitting to having been bullied is embarrassing and difficult; however, because hegemonic masculinities in the western countries are frequently linked to a lack of emotional intimacy (Phoenix et al., 2003), the threshold for admitting to being a victim is arguably higher for males. This is the case particularly in adolescence, when conformity and group inclusion appear especially important. This emotional restriction is not only external: feeling rules shape how emotion work is performed, which involves a conscious or unconscious effort to change one's feelings to fit one's 'inner cultural guidelines' (Hochschild, 1998)—not only the expression of certain emotions, but also the emotions that ourselves are allowed to feel (Hochschild, 1979).

Relational aggression itself may be perceived as feminine across some cultural contexts and therefore males may self-represent their emotions and friendships according to peer-group expectations about masculinity (Oransky & Marecek, 2009; Pascoe, 2007).

The current study sought to conduct a thorough scoping review of relational aggression in adolescent samples across distinct cultural contexts. Specifically, the purpose was to provide an overview of the literature in order to determine cross-cultural differences or similarities in relational aggression, taking into account the most prevalent information source for the behavior across cultures, the cultural norms associated with relational aggression, and gender differences in relationally aggressive behavior among adolescents across cultures. Cultural differences in the social circumstances associated with developmental change in relational aggression are also highlighted in this review, as evidence across diverse cultural contexts has documented low to high prevalence of relational aggression during adolescence. However, due to the diversity of the study designs investigated, a quantitative meta-analysis was not possible. Future comprehensive meta-analyses may give more information about the prevalence of adolescent relational aggression across nations as well as study-design features that affect the strength of that association. Ten academic databases were examined to identify publications for inclusion in the present review; nonetheless, some articles may have been missed. Furthermore, research from unpublished dissertations or theses was not considered. Using other publication bias tools may highlight other criteria regarding the methodological quality of the included articles, and thus different biases and quality ratings could emerge. Finally, the results were confined to articles published in English, which may have omitted high quality articles published in a different language, limiting the generalizability and diversity of the findings.

Conclusion

Despite the ongoing research interest across distinct cultures in adolescents' relationally aggressive behaviors, there are no systematic reviews that had examined the relevant literature to provide summaries and overview of the findings on relational aggression across cultures. The current review addresses this knowledge gap by providing a detailed examination of the prevalence of relationally aggressive behaviors and discussing gender variations in adolescent relational aggression across cultures. One salient outcome of this review is that relational aggression is prevalent, but at low levels, in many cultural contexts. To study cultural variations in the frequency, developmental effects, and determinants of relationally aggressive behavior, more research is certainly required. Further, the significance of the compatibility

between cultural norms and relational aggression is emphasized in this study. In all this review highlights that relational aggression in adolescence may differ in terms of cultural (i.e., individualistic or collectivistic cultural context) and gender groups. Future research will also need to investigate cultural variations in the prevalence of relational aggression. Such knowledge will be crucial for researchers to develop interventions to combat relational aggression across cultures.

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Data Availability Data sharing is not applicable to this article as no datasets were generated or analyzed in this study.

Declarations

Conflicts of Interest The authors report no conflict of interests.

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