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Feeling unsafe as a source of psychological distress in early adolescence

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ABSTRACT

Rationale: Symptoms of psychological distress at an early age have proved to undermine adolescents' academic achievements, as well as their personal and social well-being. The literature acknowledges a wide range of risk factors that cause psychological distress, while at the same time emphasizing the role of social support as a protective factor. On the other hand, feelings of unsafety as a possible source of psychological distress have been so far largely overlooked in the literature.
Objective: The present study explores the consequences of a specific stressor (feeling unsafe) and asks whether social support can act as a moderator in the association between subjective unsafety and psychological distress.
Methods: A multi-group structural equation model was run with a sample of 2876 young adolescents aged 10–12 enrolled in educational centers in the city of Barcelona, Spain.
Results: The results show that direct exposure to sibling violence at home and bullying at school are significant predictors of psychological distress, regardless of biological sex. The hypothesis of a negative correlation of subjective perceptions of unsafety on psychological distress is also supported, although neighborhood-based risk factors emerge as a greater source of distress for females than for males. The involvement of supportive adults is associated with lower levels of perceptions of unsafety and distress in both groups, but girls seem capable of drawing more effectively on alternative sources of support, specifically their peers, to enhance their safety at school and in the neighborhood.
Conclusion: Overall, gender differences in our model overlap with socio-environmental inequalities (low income, exposure to violence and conflictual public spaces), thus suggesting that an intervention into the root causes of these inequalities could contribute to lowering psychological distress in early adolescence.

1. Introduction

Achieving a high standard of adolescent health is one of the goals of the Global Strategy for Women's, Children's and Adolescents' Health (2016–2030) being promoted by the World Health Organization (2017) to draw attention to worrying data indicating that 10 to 20 percent of children and adolescents worldwide are affected by a mental health disorder of some kind. The present study offers a contribution towards identifying the risks to mental health in early adolescence by focusing on the "state of emotional suffering characterized by symptoms of depression and anxiety", also known as "psychological distress" (Drapeau et al., 2012, p. 107). Psychological distress has been shown to increase when people are unable to cope with traumatic life events, health issues or everyday stressors, such as stress in personal relationships (Garner et al., 2012). On the other hand, social support, defined as the emotional and instrumental help provided by social networks, was found to act as a protective tool against psychological distress (Holt and Espelage, 2007; Inguglia et al., 2015).

However, what the literature leaves unclear is the role that social support may play in moderating the negative effects of a specific source of stress (feeling unsafe) on psychological distress. To fill this gap, we explore whether social support from various sources (family, teachers, and peers) can explain variations in feelings of safety (at home, at school, and in the neighborhood) in early adolescence and moderate the association between subjective safety and psychological distress. With this objective in mind, a multi-group structural equation model was run with a sample of 2876 young adolescents aged 10–12 enrolled in educational centers in the city of Barcelona, Spain. The aim of the multi-group approach was to investigate possible sex differences in the personal, family, and social resources to which young boys and girls respectively turn in order to cope with situations that might make them feel unsafe, thereby reducing the sources of their distress.

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1.1. Sources of psychological distress in early adolescence and the protective role of social support

There is no clear definition or diagnosis of psychological distress in either the Diagnostic and Statistical Manual of Mental Disorders (DSM) or the International Statistical Classification of Diseases and Related Health Problems (ICD). Even so, distress is a recurrent symptom in both classifications. For instance, the DSM indicates that the diagnosis of phobias and many depressive, anxiety, and sleep disorders (among others) must include noticeable distress. Emotional distress is a symptom of phobias for the ICD as well, and overall, as Phillips (2009) noted, distress is frequently associated with functional impairment.

Depression and anxiety can be both causes and symptoms of psychological distress (Wheaton, 2007), with some authors (Horwitz, 2007; Mulder, 2008) arguing that stress should be regarded as a third dimension of the condition. The symptoms of psychological distress are a mixture of those that are well known to be associated with anxiety disorders, and with teenage depression and stress, but according to Phillips (2009), this condition is not formally recognized as a mental health issue because making a "distinction between 'normal' and maladaptive distress […] requires detailed information about the stressors affecting the individual and about 'appropriate' responses to such stressors for persons of the same age, gender, and educational level in the individual's socio-cultural environment" (p. 92). Similarly, the pioneering study by Brown et al. (1985) emphasized the distinction between "distress" and "disease", the former being a "natural, if unpleasant process which can be expected to abate with time, without outside help", the latter "implying a departure from normality which may require medical intervention" (p. 612).

Due to this lack of formal recognition, attempts to establish a standardized measure of psychological distress have multiplied over the years. Batterham et al. (2017), who compared measures from eight psychological distress scales for adults from eighteen years old, found that the Distress Questionnaire-5, which they developed according to DSM-5 criteria, is the instrument that best identifies the risk of mental problems. Other well-established measures are the Hospital Anxiety and Depression Scale (Zigmond and Snaith, 1983), the Visual Analogue Thermometer (Donovan et al., 2014), and especially the Kessler-10 Psychological Distress Scale (Kessler et al., 2010), which has been extensively used in surveys with children and adolescents (Smout, 2018). The results derived from these measures reveal that risk factors among adolescents include being the victim of bullying and peer victimization (Beeri and Lev-Wiesel, 2011; Holt and Espelage, 2007; Jiang, 2020; Sweeting et al., 2006), having to take on responsibilities that are normally those of adults (Sacker and Cable, 2009), prolonged educational difficulties (Panicker and Chelliah, 2016), living in poverty (Evans and English, 2002) and suffering from a long-term physical condition (Compas et al., 2012; Pinquart et al., 2011).

At the same time, scholars also emphasize the role of social support as a factor in protecting against psychological distress in adolescents (Chiu et al., 2017; Lin and Chiao, 2020). Based on ground-breaking works by Caplan (1974), the notion of social support is characterized as "the aid – the supply of tangible or intangible resources – individuals gain from their network members" (House et al., 1988, p. 299). This aid can be either emotional (e.g., feeling loved and listened to) or instrumental (e.g., practical help in daily activities). However, the nature of support networks changes rapidly in adolescence. Scholars indicate that, "from 15 years of age onwards, support from classmates becomes similar to or greater than that provided by the father and mother" (Hombrados-Mendieta et al., 2012, p. 659; see also Bokhorst et al., 2010). According to Colarossi (2001), these changes begin by the age of ten, after which supportive relationships are increasingly gendered. In her analysis she found that female adolescents are able "to develop new supports more readily outside the family context" (p. 239), while male students reported similar levels of support by both friends and adults.

1.2. The gender gap in feelings of safety and its effects on psychological distress in adolescence

Feeling unsafe may be a huge source of distress due to its negative effects on life satisfaction and well-being. Even though the literature on the youngest cohorts has only developed recently compared to works examining adults' experiences, nowadays several studies report evidence of connections between adolescents' subjective feelings of unsafety and their personal and social well-being (Assari et al., 2015; González-Carrasco et al., 2018; Martin-Storey and Crosnoe, 2014). These connections have proved to be multifaceted and to entail a wide range of correlates.

Indeed, exposure to violence emerges as one of the most common causes of unsafety. Scholars have extensively analyzed the consequences of abuse by family members, showing how negative effects on health typically persist over time and can lead to depression, post-traumatic disorders, psychosocial impairment and, in extreme cases, lethal injuries (Ingram et al., 2020; Segal et al., 2020). For example, sibling violence in adolescence has been linked to psychopathological symptomatology, poor mental health, and family adversity across the lifespan (Lopes et al., 2019; Perkins and Meyers, 2020). Similarly, victimization and bullying by schoolmates in their multifaceted forms (physical, verbal or emotional) have been shown to be associated with a range of mental health problems and greater feelings of unsafety (Mori et al., 2021; Ngo et al., 2021).

However, the criminological literature also emphasized that people might feel unsafe without being directly exposed to violence. The mismatch between victimization and feeling unsafe is often referred to as the "victimization-fear paradox", a concept that has been used to explain, for instance, why women tend to report higher levels of fear compared to men, even though they experience the least criminal victimization. One possible explanation for this is associated with the fact that women's fears may actually "shadow" or conceal a more specific fear of sexual assaults. The so-called "shadow hypothesis" has been corroborated in several studies with adolescents (Johansson et al., 2012; Mellgren and Ivert, 2019). The "intimate hypothesis" has also been proposed to account for gender differences in the fear of crime, stating that women's fears may depend to a greater extent on exposure to domestic violence (Wetzels, 1993). From a different angle, Sutton and Farrall (2005) have stressed that the prevalence of the fear of crime among women may be the result of informants making socially desirable responses in survey-based data (e.g., the propensity of men to downplay fears and provide responses that create a favourable impression of themselves), rather than being associated with the vulnerability of women.

Indeed, during early adolescence, feelings of unsafety are influenced by parents actively and continuously shaping perceptions by conveying their own values to their children, including their views about what is safe and what is not (Cops and Pleysier, 2011; May et al., 2009; Rader and Hayes, 2011). In this regard, Hollander (2001) emphasizes that fears are socially constructed, a construction that receives its initial impulse from within the family, and she showed how they depend on "widely shared conceptions of gender [that] associate femininity with vulnerability and masculinity with dangerousness" (p. 84). Differential socialization has been shown to engender significant consequences in motivations in education (Jackson, 2006) and health outcomes (World Health Organization, 2005), and to be increasingly influenced by adolescents' peers as their degree of emancipation from the family increases (Balleys et al., 2020; Van Zalk, Van Zalk, and Kerr, 2011).

Scholars emphasize nevertheless that the bonds between the young and their parents, parental monitoring, and connections between parents and schools are all pivotal in ensuring well-being in early adolescence (Parcel and Radu, 2016), and to address possible sources of unsafety (Bixby 2018). By extension, living in safe environments (at home, at school, or in the neighborhood) is key for personal and social development at this stage of life. For example, previous literature

indicates that young people growing up in families with lower incomes are more likely to live in deprived neighborhoods, and therefore are exposed to a higher number of psycho-social stressors than those living in affluent areas (Evans and English, 2002; Leventhal and Brooks-Gunn, 2000).

At the same time, as young adolescents become progressively more emancipated from families, their exposure to stressors outside the home increases, especially at school, along with the weight of alternative sources of social support provided by significant others outside the family. Within the framework of social integration models (Adams and Serpe, 2000; Franklin et al., 2008; Mazerolle et al., 2010), which identify social cohesion and the perception of mutual support as protective factors directed against the fear of crime, adolescents' ability to mobilize support networks has proved to be crucial in reducing sources of unsafety (Baron, 2009; Vieno et al., 2016). Along the same lines, the concept of "collective efficacy" (Sampson et al., 1997) emphasizes how mutual instrumental support in the community can exert a significant effect in suppressing deviant behaviors, thereby reducing the fear of crime (Brunton-Smith et al., 2014).

Despite social support being recognized as a protective factor in the literature on both the fear of crime and psychological distress, what remains unclear is whether it can mitigate the negative effects of subjective unsafety on the latter. However, there may be an interaction between social support and feeling unsafe, as both have been identified in earlier analyses as possible determinants of psychological distress. To test this overarching hypothesis, we address social support, subjective unsafety, and psychological distress in a single model from a gender perspective.

1.3. Research objectives and hypotheses

The research was structured around three objectives. First, we considered the causes of subjective unsafety at home, at school, and in the neighborhood respectively, and ask whether they differ by gender. Second, we estimated the possible relationship between subjective unsafety and the psychological distress of young boys and girls. Third, we tested whether the perception of social support from family members, teachers, and peers respectively plays a role in moderating subjective feelings of unsafety and psychological distress. These objectives led to the formulation of seven hypotheses (*H*):

- *H1.* Subjective feelings of safety at home (*H1a*), at school (*H1b*), and in the neighborhood (*H1c*) are associated with lower levels of psychological distress.
- *H2.* Perceived social support from different sources – family (*H2a*), teachers (*H2b*), neighbors (*H2c*), and peers (*H2d*) – positively correlates with feeling safe.
- *H3.* Perceived social support from different sources – family (*H3a*), teachers (*H3b*), neighbors (*H3c*), and peers (*H3d*) – is associated with lower levels of psychological distress.
- *H4.* Perceived social support moderates the relationship between feelings of unsafety and psychological distress. It is assumed that support from family members moderates the association between subjective safety and psychological distress in all spheres (*H4a*, *H4b*, and *H4c*), and that support from peers can intervene as a moderator at school (*H4d*) and in the neighborhood (*H4e*), while support from teachers and neighbors influences the strength of the effect of feeling unsafe on psychological distress at school (*H4f*) and in the neighborhood (*H4g*) respectively.
- *H5.* The causes of perceived unsafety – violence from siblings (*H5a*), bullying (*H5b*), witnessing violence in the neighborhood (*H5c*), or living in economically deprived areas (*H5d*) – are gendered.
- *H6.* Direct and indirect exposure to violence – sibling violence at home (*H6a*), bullying at school (*H6b*), and indirect violence in the neighborhood (*H6c*) – correlates with higher levels of psychological distress.
- *H7.* The role of perceived social support is gendered.

The process of selection and operationalization of the variables is presented in the following section, while a graphical representation of the hypotheses is provided in Fig. 1a and b.

2. Methods

2.1. Sample

The analysis is based on secondary data retrieved from the Survey of Subjective Well-being of Children (SWB) in the city of Barcelona (Barcelona Institute of Childhood and Adolescence, 2017a). The survey asks young boys and girls aged 10–12 about their well-being and possible sources of worry and dissatisfaction for them. Data were collected between December 2016 and April 2017 from 3971 young adolescents enrolled in the 5th and 6th grades of primary school in randomly selected educational centers distributed across the city, that is, 14.9 percent of the total number of pupils enrolled in this school year in Barcelona. A probabilistic stratified two-stage cluster-sampling approach was implemented, first, to select schools, and second, to identify classrooms. The sample selection has a margin of error of 5 percentage points at the 95 percent confidence level. The survey was administered in digital format by providing the respondents with a computer or tablet. The questionnaire was completed by the students themselves, assisted by a team of three researchers to resolve any queries. The response rate was 93.3 percent (Barcelona Institute of Childhood and Adolescence, 2017b).

After removing cases with missing x-variables from the dataset, the analytical sample for this study is made up of 2876 pupils, divided into 51.1 percent of males (n = 1472) and 49.9 percent of females (n = 1404). Over 90 percent of the participants were born in Spain, either in Catalonia (86.7 percent) or in other regions (3.6 percent). The results of the Little's test statistic rejected the null hypothesis that that the data are missing completely at random. Therefore, sensitivity analysis was also run after multiple imputation with 50 replications. The results of the sensitivity analysis (available upon request) align with those of the complete-case analysis, thus proving a measure of robustness of our findings.

2.2. Measures

As a first step towards testing the consistency of the underlying hypotheses of the research, 24 variables were selected to operationalize the theory-driven measures and specify the measurement model (see Table 1). The output of a confirmatory factor analysis (CFA) indicated a close fit with the data [χ^2/df = 4.2; RMSEA = 0.02; CFI = 0.96; TLI = 0.94; SRMR = 0.03], with all variables loading significantly onto the corresponding latent construct, thus providing a measure of convergent validity.

2.3. Psychological distress

The latent variable labelled "psychological distress" encompasses four different indicators retrieved from questions asking participants to say how much they have felt *sad*, *stressed, calm*, or *full of energy* in the two weeks before the survey, choosing a value between 0 (not at all) and 10 (extremely). These last two indicators were reverse-coded so as to provide indirect measures of feeling anxious (as opposed to feeling calm) and lacking energy respectively, and to ensure that all measures go in the same direction. Defined in this way, this latent variable represents an abridged version of the Kessler-10 Psychological Distress Scale (Kessler et al., 2003).

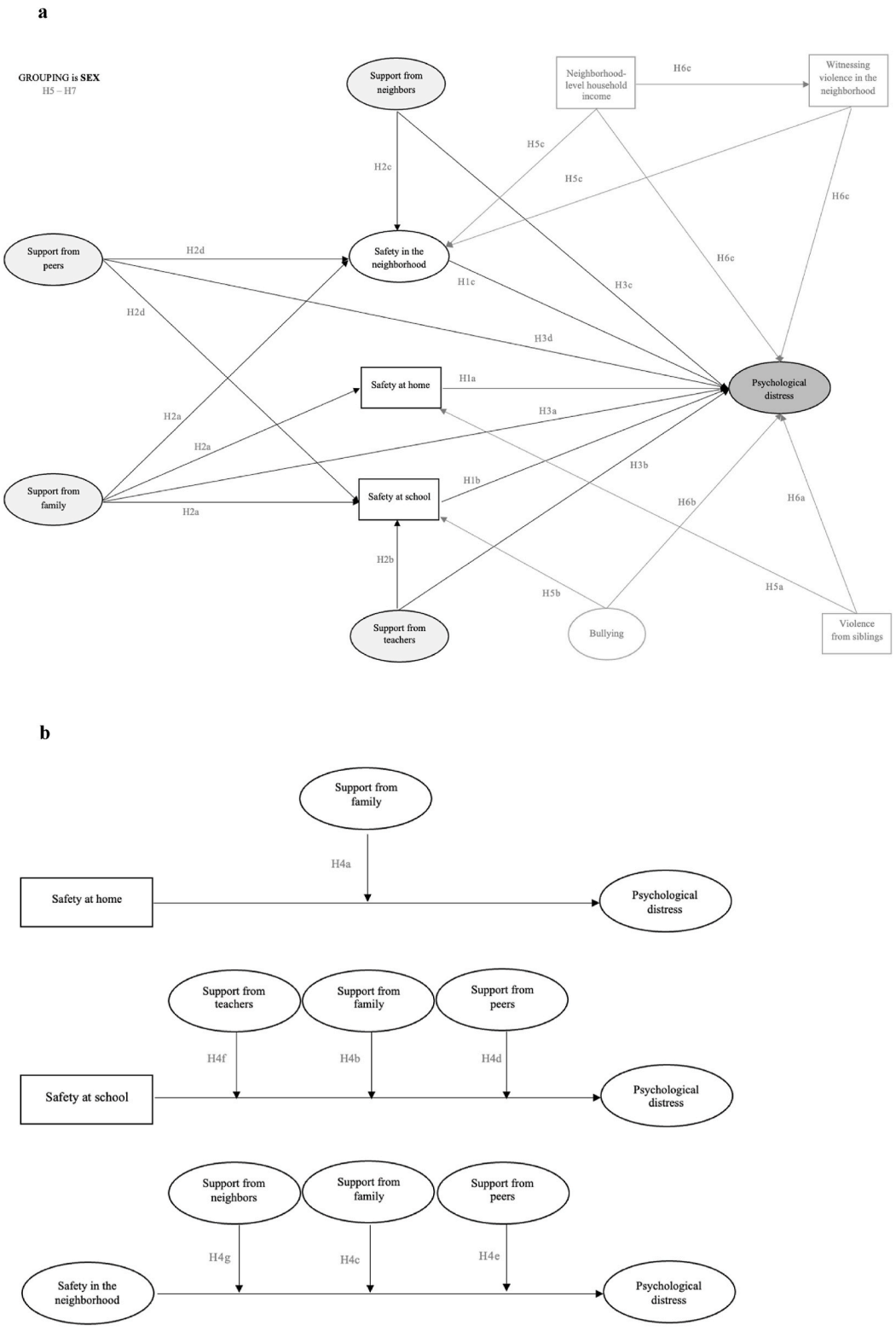

Fig. 1. aStressors and protective factors for psychological distress. b. The moderating role of social support.

2.4. Subjective unsafety

The context for measures of subjective unsafety are the household, the school, and the neighborhood respectively. The participants were asked to report whether they *feel safe* in each corresponding context using a five-point scale, where the maximum value discloses higher levels of perceived safety. As for neighborhood safety, two indicators are combined in the latent factor, one referring directly to how much participants feel safe in the neighborhood, the other asking whether they feel safe while going to or coming home from school (1 = not safe at all; 4 = completely safe). In fact, given that geographical proximity is one of the criteria for the allocation of school places in Barcelona, the route to school is likely to be within the neighborhood of residence.

Table 1
Operationalization of the variables in the model.

Theoretical dimensions	Variables in the model	Original formulation of the questions	Scales
Psychological distress	Psychological distress	*How much you have felt this way during the last two weeks:* – Sad – *Calm [REVERSE CODED]* – *Full of energy [REVERSE CODED]* – Stressed	*0=not at all; 10=extremely.*
Subjective unsafety	Safety at home	*How much do you agree with all of this sentence?* – *I feel safe at home*	*1=I do not agree; 5=I totally agree.*
	Safety at school	– *I feel safe at school*	
	Safety in the neighborhood	– *I feel safe when I walk in the area I live in*	
		How safe do you feel while going to or coming home from school? – *I feel safe on my way to school*	*1=not at all; 4=very safe.*
Measures of social support	Support from family	– There *are people in my family who care about me.* – *My* parents *(or the people who look after me) listen to me and take what I say into account.* – *If I* have *a problem, someone from my family will help me.*	*1=I do not agree; 5=I totally agree.*
	Support from teachers	– *My* teachers *care about me.* – *My* teachers *listen to me and take what I say into account.* – *If I* have *a problem at school, my teachers will help me.*	
	Support from neighbors	– *Adults in the neighborhood listen to the boys and girls and take what they say seriously.* – *If I have a problem, there are people in the neighborhood where I live who will help me.*	
	Instrumental support from peers	– *If I have a problem at school, other boys and girls will help me.* – *If I have a problem, a friend will give me support.*	
Direct exposure to violence	Violence from siblings	– *How* often*, if at all, in the last month have you been intentionally hit by your siblings?*	*1=never; 4=more than 3 times.*
	Bullying	– *How* often*, if at all, in the last month have you been intentionally hit by other children in your school?* – *How* often*, if at all, in the last month have you been insulted by other children in your school?* – *How* often*, if at all, in the last month have you been left out by other children in your class?*	
Neighborhood-level measures	Witnessing violence in the neighborhood	– *How* often *are there fights between people in your local area?*	*1=never; 5=every day.*
	Neighborhood-level household income	– Neighborhood-*level household income*	*1=lowest-income neighborhoods; 2=mean; 3=highest-income neighborhoods.*

2.5. Measures of social support

Four measures of social support are introduced into the model so as to differentiate between four groups of providers: family members, teachers, neighbors, and peers. The latent variables identifying the perceived social support from family members and teachers are defined as the combination of two indicators of care and active listening (emotional support), while a third is related to practical help in case of need (instrumental support). That is, participants were asked to say how much they agree with the ideas that, on the one hand, adults *care about them*, and on the other hand, that they *listen to them and take what they say into account,* using the same five-point scale as above. As for instrumental support, this was assumed to be higher among participants who, *if they have a problem*, can reasonably expect that someone will help them. The variable of social support from neighbors differs slightly from the above, given that the possibility of care is not raised with reference to the neighborhood. As for the perceived support from peers, no equivalent measures of emotional support are available in the survey. As such, this latent variable only includes two indicators of instrumental support, respectively from schoolmates and from friends in general.

2.6. Direct exposure to violence

Participants were asked to report how often, on a five-point scale ranging from never to more than three times in the last month, they have been hit by other children in their school (i.e., physical violence) and whether they have been insulted or left out by their schoolmates at school (i.e., non-physical bullying). The latent variable labelled "bullying" combines these indicators. Finally, violence at home was also included to assess the possible influence of having been hit by one of their siblings within the model. No reference to other forms of violence that could be experienced at home (either physical or emotional), nor to perpetrators other than siblings, is available from the questionnaire.

2.7. Neighborhood-level measures

There are no equivalent measures of direct exposure to neighborhood violence within the survey. However, this includes a question referring to *how often there are fights between people* in the area where respondents live (1 = never; 5 = every day), thus providing a measure of indirect exposure to violence in the neighborhood (i.e., witnessing violence involving neighbors). We also controlled our results for the

level of income of the neighborhood of residence. Based on administrative data from the municipality of Barcelona, this variable is introduced *ex post* in the dataset by the researchers in charge of the survey administration to classify the respondent's neighborhood of residence according to whether it falls below or above the city's mean household income.

2.8. Model specification

After the measurement model was successfully tested, we ran a structural equation model (SEM) entailing relations among four measures of social support and, respectively, the latent factors identifying feelings of unsafety in different contexts (home, school, and neighborhood) and psychological distress. The family is the only source of support that is hypothesized to affect safety in all contexts. Peers are supposed to play a role both at school and in the neighborhood, while the influence of teachers and neighbors influence is limited to school and the neighborhood respectively. At the same time, subjective feelings of unsafety are assumed to correlate with the latent variable of psychological distress. These relations are controlled for exposure to bullying at school and violence from siblings at home, as well as for the likelihood of witnessing violence in the area where the respondent live, and the household income in the neighborhood.

The two neighborhood-level measures, and the variables of violence from siblings and feelings of unsafety at home and at school, are the only observed variables included in the model. These are graphically represented as boxes in Fig. 1a, as opposed to the elliptical shape of the latent variables. As for Fig. 1b, this refers to the measures of social support that are hypothesized to mediate the relationship between feelings of unsafety and psychological distress among young adolescents in Barcelona. A multi-group modeling strategy was implemented to investigate possible differences by sex. The model was run in *Mplus 8.2* using Bayesian estimation, which has been proved to outperform the maximum likelihood estimation in models with latent variable interactions (Asparouhov and Muthén, 2020). Missing data were handled through full information maximum likelihood (FIML) estimation.

3. Results

3.1. Description of the variables included in the model

Table 2 presents a description of the 24 variables included in the model, while the last column includes the level of significance of the Mann-Whitney *U* test, which is aimed at exploring the differences between the two samples of females and males. The high and negative skewing of the safety-related variables points to a longer tail on the left side of the distribution, meaning that the boys and girls in our sample generally felt safe, which is in accordance with the so-called "optimism bias" (Casas, 2011). In fact, scholars have emphasized that life satisfaction and optimistic views are inherent characteristics of childhood, a trait that has been also reported in comparative research (Dinisman et al., 2015).

Table 2
Data description.

Observed variables	Females		Males		Mann-Whitney *U* test
	Mean	Skewness	Mean	Skewness	
Sad	2.92	0.85	2.72	0.99	**
Anxious	2.81	0.96	2.76	1.01	*
Lacking energy	1.03	2.26	0.83	2.79	***
Stressed	4.24	0.23	4.03	0.28	*
Feeling safe at home	4.74	−2.83	4.76	−2.98	Not sig.
Feeling safe at school	4.66	−2.49	4.65	−2.63	Not sig.
Feeling safe when walking in the neighborhood	4.19	−1.24	4.28	−1.39	***
Feeling safe while going to or coming home from school	3.50	−1.33	3.53	−1.59	*
My family care about me	4.82	−3.80	4.82	−3.48	Not sig.
My family listen to me	4.47	−1.71	4.42	−1.66	Not sig.
If I have a problem, someone from my family will help me	4.72	−2.76	4.67	−2.70	*
My teachers care about me	4.42	−1.51	4.35	−1.61	Not sig.
My teachers listen to me	4.39	−1.56	4.31	−1.44	Not sig.
If I have a problem at school, my teachers will help me	4.51	−1.63	4.47	−1.76	Not sig.
Adults in the neighborhood listen to the boys and girls	3.42	−0.46	3.46	−0.47	Not sig.
If I have a problem, neighbors will help me	3.50	−0.52	3.42	−0.47	Not sig.
If I have a problem at school, other boys and girls will help me	4.39	−1.61	4.29	−1.42	*
If I have a problem, a friend will give me support	4.58	−2.41	4.42	−1.81	***
Intentionally hit by your siblings	2.21	0.36	2.24	0.32	Not sig.
Intentionally hit by other children at school	1.35	2.24	1.71	1.19	***
Insulted by other children at school	2.02	0.67	2.43	0.11	***
Being left out by other children in your class	1.83	0.96	1.66	1.28	***
Witnessing violence in the neighborhood	3.67	−2.19	3.51	−1.71	***
Neighborhood-level household income	1.69	0.52	1.69	0.53	Not sig.

3.2. Model output

Overall, the interpretation of fit indices points to a good-fitting model: the root mean square error of approximation (RMSEA) is equal to 0.04, while the comparative fit index (CFI = 0.91) and the Tucker-Lewis index (TLI = 0.90) are also in line with the recommendations in the literature (Schumacker and Lomax, 2010).

According to the standardized model results in Table 3, the perception of social support is positively correlated with feeling safe for both boys and girls, thus corroborating the second research hypothesis (*H2*). At the same time, however, a few differences emerge. Specifically, while relying on supportive family members corresponds to higher levels of subjective safety at home in both samples (*H2a*), males also need to mobilize support from the family to feel safe outside the home, which is not the case for females. On the contrary, girls seem to be capable of drawing more effectively on alternative sources of support, specifically among peers (*H2d*), to enhance their safety at school ($\beta = 0.20$; $p < 0.001$), and in the neighborhood ($\beta = 0.08$; $p < 0.05$). These differences provide preliminary support to the hypothesis that social support is gendered (*H7*). Nevertheless, the model output also reveals that the role of supportive adults remains crucial for females as well, for instance, at school, where the emotional and instrumental support of teachers is significantly associated with a greater feeling of safety, similar to their male counterparts (*H2b*). The same applies to the support of neighbors in the area where the participant lives (*H2c*).

Bullying by schoolmates is a significant predictor of greater unsafety for both males ($\beta = -0.09$; $p < 0.01$) and females ($\beta = -0.14$; $p < 0.01$). However, looking at the results of the Mann-Whitney *U* test reported in Table 2, we can assume that males are more exposed to physical and verbal forms of harassment at school than their female counterparts, while females are significantly more likely to experience emotional

Table 3
Standardized results.

Dependent variables	Independent variables	Females	Males
Safety at home	Support from family	**.52*** (.03)**	**.44*** (.03)**
	Violence from siblings	**–.02* (.01)**	**–.01* (.01)**
Safety at school	Support from teachers	**.26*** (.03)**	**.33*** (.03)**
	Support from family	.05 (.03)	**.14*** (.04)**
	Instrumental support from peers	**.20*** (.03)**	**.15*** (.03)**
	Bullying	**–.14** (.05)**	**–.09** (.03)**
Safety in the neighborhood	Support from neighbors	**.61*** (.06)**	**.57*** (.05)**
	Support from family	.05 (.05)	**.15** (.05)**
	Instrumental support from peers	**.08* (.04)**	.04 (.04)
	Witnessing violence in the neighborhood	**.29*** (.02)**	**.21*** (.02)**
	Neighborhood-level household income	**.08*** (.02)**	**.08*** (.02)**
Psychological distress	Support from family	**–.16*** (.04)**	–.07 (.04)
	Support from teachers	.01 (.03)	–.02 (.03)
	Support from neighbors	–.01 (.09)	.07 (.06)
	Instrumental support from peers	–.03 (.03)	**–.06* (.03)**
	Safety at home	–.01 (.03)	**–.11*** (.03)**
	Safety at school	–.01 (.03)	**–.07** (.02)**
	Safety in the neighborhood	**–.17* (.13)**	**–.19** (.09)**
	Violence from siblings	**.04*** (.01)**	**.06*** (.01)**
	Bullying	**.42*** (.06)**	**.17*** (.03)**
	Witnessing violence in the neighborhood	.05 (.04)	.01 (.03)
	Neighborhood-level household income	.02 (.02)	.02 (.01)

***($p \leq 0.001$), **($p \leq 0.01$), and *($p \leq 0.05$).

violence (being left out by other children in their class), which supports *H5b*. Direct exposure to physical violence from siblings is also a consistent predictor of unsafety at home, regardless of the biological sex of the respondent. As for neighborhood-based determinants of unsafety, the results reveal that living in lower-income neighborhoods on the one hand, and witnessing violence on the other are correlated with greater feelings of unsafety. Additionally, neighborhood-level household income emerges in our data as a significant correlate of areas of conflict, given that it is positively associated with the frequency of witnessing fights among neighbors in the area of residence in the samples of both males ($\beta = 0.14$; $p < 0.001$) and females ($\beta = 0.197$; $p < 0.001$).

Looking at the right side of the model in Fig. 1a, psychological distress is significantly and positively correlated with direct exposure to violence (bullying at school and violence from siblings at home), while there is no significant association between neighborhood-based measures and the dependent variable. However, the model's output points to a significant and indirect relationship between neighborhood-level household income and psychological distress, after taking into account the mediating role of witnessing violence and subjective perceptions of unsafety in the neighborhood. At the same time, the results indicated that there is a statistically significant relationship between the perception of safety in all the contexts examined and the psychological distress of male respondents (*H1*). Conversely, for female participants, only perceived safety in the neighborhood is related to lower levels of psychological distress (*H1c*).

As for the different sources of social support, their weight within the model is clearly limited by the intervention of safety-related variables (*H3*) and the direct exposure to violence (*H6a* and *H6b*). In our data, relying on and mobilizing the instrumental support of peers is associated with lower levels of psychological distress among male respondents. Also, the relationship between measures of support from the family and psychological distress is statistically significant for females ($\beta = -0.16$; $p < 0.001$), but not for males ($\beta = -0.07$; p=0.60). In line with *H4*, the moderating role of social support was also tested. According to the results reported in Table 4, a few differences emerge between girls and boys.

The results show in particular that the effect of perceptions of safety in the neighborhood on psychological distress is different at different values of support from the family, but only for males (*H4c*). The interaction term is statistically significant at the p-value of 0.001, and it is of negative sign. The interpretation of the moderation parameters indicates that the effect of safety in reducing distress among males is higher when support from the family increases. Also, the effect of safety in the neighborhood on psychological distress is different at different values of support from peers (*H4e*), and the interaction term is statistically significant in both samples. However, a key difference emerges when interpreting the moderation parameters, which is in line with the formulation of *H7*. In fact, for females, if support from peers increases, the protective role of feeling safe in the neighborhood for distress is stronger. Conversely, for males, the effect of the independent variable (i.e., feeling safe in the neighborhood) on psychological distress is higher than the combined effect of safety in the neighborhood and support from peers. Finally, support from teachers goes along with a stronger (negative) effect of safety on distress in the sample of male respondents (*H4f*), while a decrease in support from family members does not affect the benefits of feeling safe at school on males' distress (*H4b*).

4. Discussion

Although the term "psychological distress" is used inconsistently (Phillips, 2009), there is general agreement in the literature on the negative consequences of prolonged symptoms of depression, anxiety, and stress on adolescent development. Against this background, this study sheds light on the relationship between a specific stressor (feeling unsafe) and psychological distress among young adolescents in Barcelona, Spain. Based on a multi-group SEM analysis, we analyzed adolescents' appraisals of risk within different contexts (at home, at school, and in the neighborhood) and the different sources of social support that may mediate the negative effects of feeling unsafe on psychological distress. In doing so, we adopted a gender perspective.

Our results indicate that perceptions of social support are positively correlated with greater feelings of safety, which is consistent with prior analyses (Cascardi, 2016; McPhie et al., 2014), though with relevant dissimilarities between the two samples of females and males. The girls in our sample seem to be able to rely on and mobilize supportive networks outside the family more efficiently than their male counterparts, especially among peers, who help them feel safer in the area where they live. This finding provides some evidence in favor of Colarossi's arguments (2001) about the gendered mobilization of social support.

Table 4
Interaction terms.

Interactions terms	Females	Males
1. Safety in the neighborhood × Support from family	.00 (.08)	**–.26*** (.07)**
2. Safety in the neighborhood × Support from neighbors	–.04 (.06)	–.02 (.06)
3. Safety in the neighborhood × Instrumental support from peers	**–.12** (.05)**	**.19** (.07)**
4. Safety at home × Support from family	–.02 (.02)	–.05 (.03)
5. Safety at school × Support from family	–.02 (.04)	**.11*** (.04)**
6. Safety at school × Instrumental support from peers	.02 (.03)	–.02 (.03)
7. Safety at school × Support from teachers	–.05 (.03)	**–.05* (.02)**

However, the role of supportive adults remains significant at this age for both females and males. At home, for instance, the presence of supportive parents fosters feelings of greater safety (Inguglia et al., 2015). At school, the emotional and instrumental support of teachers is recognized by participants and is positively correlated with feelings of safety, confirming previous research findings (Estevez et al., 2005; Bokhorst et al., 2010). In the neighborhood, an environment that is perceived as child-friendly and supportive helps young adolescents feel safe, endorsing the conclusions of the research conducted within the framework of social integration models (Baron, 2009; Vieno et al., 2016).

As expected, direct exposure to violence at home or at school emerges as a significant predictor of both feeling unsafe and psychologically distressed, regardless of the biological sex of the respondent. At the same time, the hypothesis of a negative correlation of subjective perceptions of unsafety on psychological distress is also supported. However, the model output reveals that perceptions of unsafety in the neighborhood are a source of particular stress among girls. On the basis of the results so far obtained, three hypotheses may be posited as explaining this finding. First, the non-parametric tests suggest that, even at this age, young girls could have developed a broader concept of violence as opposed to their male counterparts, which is not limited to physical violence. In fact, they report significantly greater exposure to emotional violence at school (e.g. being left out by others). Second, in line with the criminological literature on the gendered fear of crime, violence against adolescent girls, including sexual harassment, is much more common than against boys (Johansson et al., 2012). Third, young girls may have interiorized gender-specific stereotypes from their parents or other adults that reinforce the idea that they are physically vulnerable when outside the house (Choi and Merlo, 2021; Rader and Hayes, 2011). This could explain why, for example, they report more frequent exposure to indirect violence in outdoor spaces.

In the light of the model's findings, it can be also assumed that girls at this age are at a more advanced stage of transition towards adulthood than boys, which increases their degree of emancipation from adult support. This process can create the conditions for building a strong and supportive network of peers, thus increasing girls' ability to counteract the negative effects derived from exposure to violence in public spaces. In this regard, the interpretation of the moderating parameters indicated that support from peers may help young girls downsize the negative influence of feeling unsafe in the neighborhood on their psychological distress. As for males, moderation analysis points to their greater reliance on supportive adults. Specifically, the intervention of family members and teachers can reduce the negative effect of feeling unsafe in the neighborhood and at school respectively on their psychological distress.

Finally, our results highlight the centrality of the intersectionality of gender and socio-environmental inequalities in research exploring the incidence of neighborhood-based stressors on psychological distress. As reported above, living in economically disadvantaged areas goes with greater exposure to indirect violence in public spaces, which in turn is associated with greater feelings of unsafety and, indirectly, may increase the feeling of psychological distress.

4.1. Limitations

Among the limitations of this study are those related to the instrument used, the questionnaire. The operationalization of psychological distress used in this study integrated four relevant symptoms (feeling sad, stressed, and the reverse-coded measures of calm and full of energy), but other symptoms not recorded in the questionnaire might be involved, like feelings of loneliness (Sweeting et al., 2006) or suicidal intentions (Tian et al., 2021). Accordingly, it should be stressed that the outcome variable in our model is rather a "nonspecific measure of distress" (Dohrenwend et al., 1980, p. 1229). The questionnaire also lacks measures of domestic violence other than physical violence from siblings. Lastly, there is no way to measure how children go to school, thus preventing a comprehensive understanding of the sources of fear on the way there and back. Likewise, other external and internal stressors should be considered for the purposes of future studies, whose origins could be personal and contextual, but also cultural (Kohrt et al., 2014). Some examples are substance abuse and other forms of risk behavior (Elkington et al., 2010) or maladaptive personality traits (Benzi et al., 2019). Longitudinal analysis would allow better exploration of the impact of such conditions and their long-term consequences in order to identify the salient issues for intervention.

5. Conclusion

Due to the prevalence and impact of psychological distress on young adolescents' well-being, our contribution was intended to contribute to the multidisciplinary effort to identify and relieve the risks of psychological distress in early adolescence. We showed how a specific stressor (feeling unsafe) is correlated with psychological distress in early adolescence, suggesting that the causes and consequences of feeling unsafe are significantly different between males and females at this stage of life. At the same time, our findings indicate that, when a widespread feeling of unsafety materializes, social support may be not effective enough to reduce psychological distress compared to direct intervention into the causes of unsafety. In this regard, one possible line of intervention would be to address gender- and child-inclusive urbanism. Also, although the existence of supporting adults remains important in early adolescence, in this transitory stage of life closer attention should be paid to the relationship between adolescents and their peers. This may entail a range of potential risks – social isolation, physical and emotional bullying – but also of benefits. The role of peers is recognized in the model as a protective factor for psychological distress at school, and for girls in the neighborhood as well.

Credit author statement

Valente, Riccardo: Conceptualization, Methodology, Software, Data curation, Writing- Original draft preparation. Crescenzi-Lanna, Lucrezia: Conceptualization, Methodology, Writing- Original draft preparation.

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