



# Youths' coping with cyberhate: Roles of parental mediation and family support

## Jóvenes ante el ciberodio: El rol de la mediación parental y el apoyo familiar

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### ABSTRACT

Adolescents around the world are increasingly exposed to cyberhate. More knowledge is needed to understand how adolescents cope with cyberhate and how they can be supported when exposed. To this end, the present study investigated the associations between parental mediation of Internet use and adolescents' problem-focused coping strategies for hypothetical cyberhate victimization while considering family support as a moderator of these relationships. The sample consisted of 5,960 adolescents between 12-18 years old ( $M=14.94$ ;  $SD=1.61$ ; females: 50.7%) from Cyprus, Germany, Greece, India, Spain, South Korea, and Thailand. A structural equation model was used to investigate the relationship among parental mediation, family support, and coping with cyberhate. Findings showed a positive relationship between instructive parental mediation and adolescents' problem-focused coping strategies, and a negative relationship between restrictive parental mediation and adolescents' capability to cope productively with cyberhate. In addition, family support strengthened the positive relationship between instructive parental mediation and adolescents' use of coping strategies and attenuated the negative relationship between restrictive parental mediation and adolescents' use of coping strategies. The findings highlight the need for parental education training and underscore the importance of family support for increasing adolescents' ability to cope productively with cyberhate.

### RESUMEN

Adolescentes de todo el mundo están cada vez más expuestos al ciberodio. Se necesita más conocimiento para comprender cómo los y las adolescentes afrontan estas experiencias. El presente estudio investigó la relación entre la mediación parental en el uso de Internet y las estrategias de afrontamiento entre adolescentes centradas en el problema en una hipotética victimización en ciberodio, al tiempo que se consideró el apoyo familiar como moderador de estas relaciones. La muestra estuvo formada por 5.960 adolescentes de entre 12 y 18 años que completaron autoinformes ( $M=14,94$ ;  $DE=1,61$ ; mujeres: 50,7%) de Chipre, Alemania, Grecia, India, España, Corea del Sur y Tailandia. Se estimó un modelo de ecuaciones estructurales para investigar la relación entre mediación parental, apoyo social y afrontamiento. Se halló una relación positiva entre la mediación parental instructiva y el uso de estrategias de afrontamiento centradas en el problema y una relación negativa entre la mediación parental restrictiva y la capacidad de los adolescentes para afrontar de forma adecuada el ciberodio. Además, el apoyo familiar moderó estas relaciones, incrementando la relación entre mediación instructiva y afrontamiento y disminuyendo la relación entre mediación restrictiva y afrontamiento de ciberodio. Los hallazgos enfatizan la necesidad de proporcionar información a los padres y ponen de manifiesto la importancia de que las familias fomenten la habilidad de los adolescentes para afrontar de manera adecuada el ciberodio.

### KEYWORDS | PALABRAS CLAVE

Cyberhate, hate speech, parental mediation, family support, coping, media education.  
Ciberodio, discurso del odio, mediación parental, apoyo familiar, afrontamiento, educación mediática.

## 1. Introduction

That cyberhate (also known as online hate speech) is a central and highly relevant scientific and societal topic hardly needs to be mentioned. In recent years with increasing polarization and radicalization in many societies, cyberhate has become more present and visible (Wachs et al., 2021). Cyberhate is a communicated hatred against 'the others', 'the strangers', 'the enemies', which includes offensive, insulting, or threatening texts, speech, videos, and pictures against people on grounds of certain group characteristics (e.g., sexual orientation, disability, ethnicity, religion) to harm and devalue targets (Wachs & Wright, 2019). Cyberhate and cyberbullying overlap conceptually. Both are carried out with intent to harm a person or group by using information and communication technologies. Cyberbullying is often described as a repeated activity (Slonje & Smith, 2008), whereas cyberhate may be carried out as a single act. Furthermore, cyberbullying can be directed at an individual person, while cyberhate is based on prejudicial views about different social groups (Wachs et al., 2019).

Cyberhate is a global phenomenon occurring among adolescents across the world (Machackova et al., 2020; Wachs et al., 2021). Cyberhate exposure mostly occurs accidentally (Reichelmann et al., 2020). Hence, it is difficult to shield adolescents from cyberhate without comprising their rights to online privacy and free access to the online world. To understand how support can help adolescents effectively cope with cyberhate, the present study investigated a) the associations between parental mediation strategies of their children's internet use and adolescents' problem-focused coping strategies for cyberhate, and b) whether family support moderates these relationships. The findings might help to develop an empirically based prevention program.

### 1.1. Coping with cyberhate

Lazarus and Folkman (1987) defined coping as the ability to manage stressful events by reducing or removing the negative effects through cognitive, emotional, and behavioral efforts. According to the Transactional Model of Stress and Coping Theory (Lazarus & Folkman, 1984), coping strategies are often distinguished into two categories: 1) Problem-focused coping targets the causes of stress and is used to manage distress by addressing the problem, and 2) Emotion-focused strategies are carried out to reduce negative emotional responses and are used with the belief that a person is not able to alter or control the source of stress (Lazarus & Folkman, 1984). Although there is no universally effective coping strategy for various stressors, research suggests that using problem-focused coping relates to better adjustment during stressful situations (Lazarus & Folkman, 1984) and that it is more effective than emotion-focused coping to reduce negative outcomes associated with varying forms of victimization (e.g., cyberhate, cyberbullying, bullying) and discrimination (Machmutow et al., 2012; Pascoe & Smart-Richman, 2009; Worsley et al., 2019; Yin et al., 2017).

Research investigating how adolescents cope with cyberhate is scarce. One study revealed that adolescents coped with cyberhate by ignoring it, reporting it to social networking sites' or websites' administrators, telling a friend, parent, teacher, or the police, blocking the person who shared the cyberhate, and addressing the perpetrator publicly (UK Safer Internet Centre, 2016). Furthermore, Wachs et al. (2020) found that German adolescents used six strategies to cope with cyberhate, including distal advice, close support, assertiveness, technical coping, helplessness/self-blame, and revenge. The most common way to cope with cyberhate were problem-focused strategies. In addition, Gámez-Guadix et al. (2020) found in a sample of Spanish adolescents that problem-focused coping with cyberhate (i.e., close support, distal advice, and assertiveness) was correlated with higher levels of mental well-being. Therefore, we will focus on problem-focused coping with cyberhate.

### 1.2. Associations between parental mediation of Internet use, family support, and coping strategies

The family socialization context is of great importance for the media socialization of adolescents. Children's first media experience is with their family, where they learn how to deal with digital media (Kutscher et al., 2012). Thus, parental mediation of Internet use (we will use the term "parental mediation") might have an impact on how adolescents' cope with cyberhate. According to Livingstone and Helsper (2008: 3), parental mediation is defined as "parental management of the relation between children

and media". Restrictive and instructive mediations are two forms of parental mediation strategies that parents use to facilitate their children's internet experiences (Martínez et al., 2020; Navarro et al., 2013; Sasson & Mesch, 2014). Although this form of parental mediation does not directly include children in negotiating internet experiences, restrictive mediation involves using blocking software or other monitoring activities to control children's online habits. Parents who utilize high restrictive mediation strive to protect children from risks versus educating them about navigating such risks (Navarro et al., 2013; Sasson & Mesch, 2014; Wright & Wachs, 2018). Instructive mediation involves parents incorporating their children in online monitoring, including discussing online risks with their children, explaining when sharing personal information online is appropriate, and warning about the dangers of interacting with strangers online. Parents who utilize high instructive mediation help children understand where to locate safe areas online (Arrizabalaga-Crespo et al., 2010; Livingstone et al., 2017; Sasson & Mesch, 2014; Wright & Wachs, 2018).

The categorization of parental mediation into instructive and restrictive strategies ties in with the classic research on parenting styles. Parenting styles are defined as techniques parents implement in their children's upbringing (Baumrind, 1971). From this research, initial assumptions about the effect of parental mediation strategies on adolescents' coping strategies for cyberhate can be derived. Instructive mediation can be compared to authoritative parenting style and be considered beneficial for the development of coping strategies and self-efficacy. Instructive mediation involves parental suggestions for developing appropriate skills and the emotional conditions necessary for successful problem-solving. In contrast, restrictive mediation is similar to the authoritarian parenting style and it tends to hinder exploratory activities. Thus, this strategy might disrupt the development of self-efficacy, problem-solving skills, and effective coping strategies because of the orientation towards opinions of authorities, the unreflective adoption of knowledge, ready-made solutions, and the maintenance of dependency on parents (Baumrind, 1971; Georgiou, 2008; Hock, 2008).

Some research has investigated potential effects of parental mediation on adolescents' online skills. In one study, instructive mediation did not influence adolescents' online skills but restrictive mediation was negatively correlated with adolescents' online skills (Rodríguez-de-Dios et al., 2018). In contrast, another study revealed a positive association between instructive mediation and online skills (Cabello-Hutt et al., 2018). Similarly, instructive mediation increased the likelihood of adolescents utilizing effective online coping mechanisms when compared to adolescents who reported their parents utilized restrictive mediation strategies (Görzig & Machackova, 2016). Clearly, research is greatly needed to understand the associations between parental mediation and adolescents' problem-focused coping with cyberhate. Thus, the first research question was: 1) What, if any, differences are there in the associations between instructive and restrictive parental mediation and adolescents' use of problem-focused coping?

An individual's perception of being cared for, respected, and valued by family members is known as family support (Zimet et al., 1988). Family support is an important factor that favors positive adaptation to adversity (von-Soest et al., 2010). A supportive family environment is especially relevant during adolescence because adolescents cope with multiple developmental, social, and emotional changes and risks. Family support consistently relates to positive outcomes, such as better academic achievement, less risky behavior, and greater psychological adjustment (Elsaesser et al., 2017). In addition, family support plays an important role in adolescents' development of problem-focused coping strategies (Pinkerton & Dolan, 2007). This research found that family support moderated the relationship between dealing with stressful events and well-being (Eckenrode & Hamilton, 2000; Rutter et al., 1998; Wright & Wachs, 2020). Furthermore, family support has a protective effect on cybervictimization (Gómez-Ortiz et al., 2018; Kowalski et al., 2014). For example, Fanti et al. (2012) found that adolescents with greater family support had less cybervictimization one year later. Family support and parental mediation of Internet use co-exist, and it is important to examine their synergistic interactions (Elsaesser et al., 2017). Research to date has not explored whether family support might moderate the relationship between parental mediation and coping with cyberhate. Thus, the second research question was: 2) What, if any, moderating effect does family support have in the relationships among instructive or restrictive parental mediation and problem-focused coping?

## 2. Material and methods

There were 5,960 adolescents (12–18 years old;  $M_{age}=14.94$ ;  $SD=1.61$ ; females: 50.7%) from seven countries included in this study. The sample consists of 221 (3.7%) Cypriot participants (12–18 years;  $M_{age}=14.49$ ;  $SD=1.48$ ; females: 68%) from two schools in Paphos, 1,480 (24.8%) German participants (12–17 years;  $M_{age}=14.21$ ;  $SD=1.23$ ; females: 50.3%) from nine schools in the federal states of Berlin and Bremen, 670 (11.2%) Greek participants (15–18 years;  $M_{age}=16.49$ ;  $SD=1.12$ ; females: 53.6%) from nine schools in the prefecture Thessaloniki, 1,121 Indian participants (18.8%) (13–18 years;  $M_{age}=15.37$ ;  $SD=1.48$ ; females: 45%) from 13 schools in Rourkela, Odisha and Uttarakhand, 756 (12.7%) South Korean participants (12–17 years;  $M_{age}=14.73$ ;  $SD=1.23$ ; females: 49.8%) from six schools in Seoul, 1,018 (17.1%) Spanish participants (12–18 years;  $M_{age}=14.29$ ;  $SD=1.64$ ; females: 51.7%) from three schools in Madrid, and 716 (11.6%) Thai participants (13–18 years;  $M_{age}=15.68$ ;  $SD=1.70$ ; females: 52.8%) from five schools in the regions Songkhla and Surat Thani.

To assess adolescents' problem-focused coping strategies for cyberhate, four subscales of a validated instrument originally developed by Sticca et al. (2015) and adapted to cyberhate by Wachs et al. (2020) were used. Participants were asked to rate their endorsement of four coping strategies, including: (1) Distal advice (3 items, e.g., "... go to the police"); (2) Close support (4 items, e.g., "... spend time with my friends to take my mind off it"), (3) Assertiveness (4 items, e.g., "... tell the person to stop it"); (4) Technical coping (3 items, e.g., "... block that person so that he/she cannot contact me anymore"). All items were rated on a scale ranging from 0 (definitely not) to 3 (definitely). The composite reliabilities (CR) were .80 for distal advice, .85 for close support, .86 for assertiveness, and .81 for technical coping. The results of CFA revealed an acceptable fit:  $CFI=.97$ ;  $TLI=.97$ ;  $SRMR=.02$ ;  $RMSEA=.04$ . Parental mediation was measured by one subscale for restrictive mediation (3 items; e.g., "My parents tell me what websites I can visit or not") and one subscale for instructive mediation (3 items; e.g., "My parents show me how to use the Internet and warn me about its risks") developed by Arrizabalaga-Crespo et al. (2010). The rating for all items ranged from 0 (completely disagree) to 4 (completely agree). CR were .85 for instructive mediation and .79 for restrictive mediation. The results of CFA revealed an acceptable fit:  $CFI=.98$ ;  $TLI=.95$ ;  $SRMR=.03$ ;  $RMSEA=.07$ . Family support was measured by the subscale "Family" of the Perceived Social Support Scale (Zimet et al., 1988). This subscale consisted of four items (e.g., "I can talk about my problems with my family"). The rating for all items ranged from 0 (very strongly disagree) to 6 (very strongly agree). CR was .92. The results of CFA revealed an acceptable fit:  $CFI=.98$ ;  $TLI=.95$ ;  $SRMR=.02$ ;  $RMSEA=.08$ . Control variables. Adolescents' age and sex (male versus female) were used as control variables as some research has shown differences for coping with cyberhate and parental mediation by demographic variables (Gámez-Guadix et al., 2020; Martínez et al., 2020; Wachs et al., 2020). Table 1 provides coefficient alpha for each scale in the overall sample and by country.

**Table 1. Coefficient alpha for each country separately**

Country	Instructive Mediation	Restrictive Mediation	Distal Advice	Close Support	Assertiveness	Technical Coping	Family Support
Cyprus	.86	.74	.78	.84	.92	.81	.91
Germany	.83	.72	.70	.85	.91	.83	.93
Greece	.79	.68	.73	.83	.88	.75	.88
India	.82	.64	.79	.84	.90	.78	.87
South Korea	.83	.72	.82	.79	.72	.69	.93
Spain	.78	.67	.78	.78	.86	.74	.88
Thailand	.86	.86	.91	.92	.95	.82	.91
Overall	.86	.74	.78	.84	.92	.81	.91

The research was approved by the researchers' Institutional Review Boards and/or education authorities, and the Helsinki ethics protocol was followed for this study (World Medical Association, 2001). Ethical approval for this study was received from universities in several participating countries (e.g., Autonomous University of Madrid (Spain), Prince of Songkla University (Thailand), Sugang University (South Korea). Emails and calls were made to a random selection of schools to explain the study's aims and the consenting procedures for students. After agreeing to allow their school to participate, research

assistants made announcements to adolescents' classrooms. Parental permission slips were distributed among adolescents who brought the slips to their parents/guardians to obtain consent. Data were collected during regular school hours. Questionnaire translations followed the recommended procedure for translating the survey into various languages. The original instruments were translated into the target language, translated back by someone unfamiliar with the original instruments, and then compared to the original instrument (Sousa & Rojjanasrirat, 2011). The translated versions of the questionnaires can be requested from the second author. Data were collected between April 2018 and 2019. All data were analyzed using SPSS 26 and Mplus 8 (Muthén & Muthén, 2017). First, descriptive statistics, correlations, and missing data were analyzed. Between 3.4% ( $n=205$ ; distal advice) and 3.9% ( $n=232$ ; close support) of data were missing for adolescents' coping strategies. The Little's MCAR test was conducted for missing values analyses. The test revealed that data were not systematically missing, ( $\chi^2=59.24$ ,  $df=89$ ,  $p=.062$ ), suggesting that the full information maximum likelihood (FIML) estimation can be used to address issues with missing data in this study. Second, to investigate the construct validity of the measures, confirmatory factor analyses (CFA) and composite reliability were investigated (Raykov, 2009). Third, to analyze the model fit and main effects of instructive parental mediation, restrictive parental mediation, and family support on adolescents' use of coping strategies, namely distal advice, close support, assertiveness, and technical coping, an initial structural equation model (Model 0) was calculated. The goodness-of-fit was examined by considering the following indices: The Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR). The models were evaluated using typical cut-off scores, with the following representing good fit of the data:  $CFI > .95$ ,  $TLI > .95$ ,  $RMSEA < .08$ , and  $SRMR < .06$  (Hu & Bentler, 1999). To test the latent interactions, the latent moderated structural equations method was used (Klein & Moosbrugger, 2000).

In a first step, a structural equation model without interaction terms using numeric integration in Mplus (alg=integration; estimator=MLR) was estimated (Model 1; Muthén & Muthén, 2017). In a second step, two SEM were estimated using the XWITH command; one included the interactions between instructive parental mediation (predictor) and family support (moderator) to predict adolescents' use of coping strategies (Model 2) and the other model included the interaction between restrictive parental mediation and family support to predict adolescents' coping strategies (Model 3). Model 2 and Model 3 were computed separately because of the complexity of the estimated models. Finally, the  $\chi^2$ -difference test based on log-likelihood values and scaling correction factors were used to evaluate whether the interaction terms revealed a better model fit for Model 2 or Model 3 compared to Model 1 because most fit indexes are not available when using numeric integration in Mplus (Satorra & Bentler, 2001). The standard errors were corrected by using the complex design option (; cluster=country; estimator=MLR) in Mplus to account for the multilevel structure of the data (Muthén & Muthén, 2017). Statistical significance testing was performed at the .05 level.

### 3. Results

#### 3.1. Preliminary analyses

Bivariate correlations among all latent variables and descriptive statistics are presented in Table 2.

	1	2	3	4	5	6	7
1. Instructive parental mediation	---	.68***	.21***	.10***	.10***	.04**	.28***
2. Restrictive parental mediation		---	-.10***	-.14***	-.11***	-.24***	.03
3. Distal Advice			---	.54***	.55***	.58***	.18***
4. Close Support				---	.70***	.81***	.34***
5. Assertiveness					---	.76***	.26***
6. Technical Coping						---	.39***
7. Family support							---
M	2.11	1.31	1.06	1.79	1.87	1.99	3.93
(SD)	(1.23)	(1.12)	(0.94)	(1.05)	(1.09)	(1.06)	(1.64)

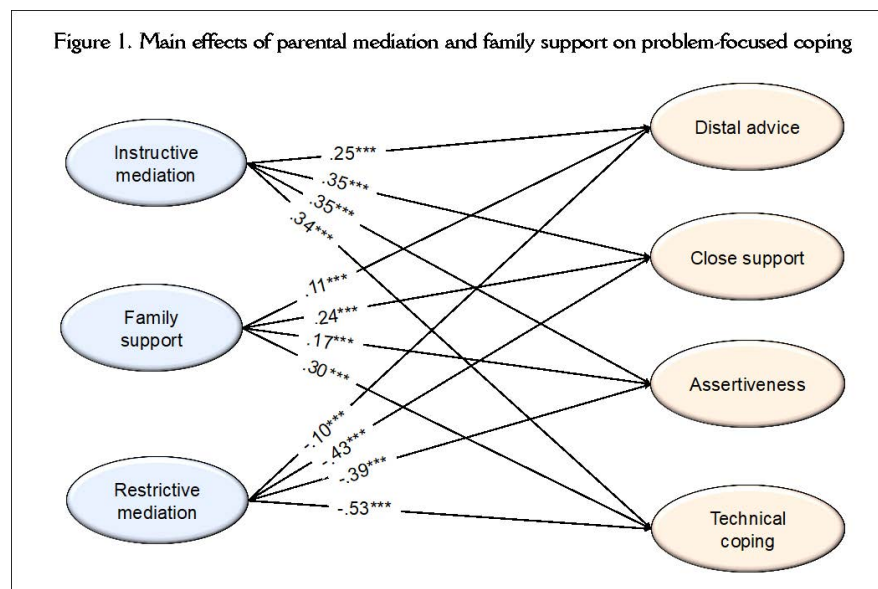
Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

As expected, high instructive parental mediation was associated positively with higher levels of distal advice, close support, assertiveness, and technical coping. In addition, instructive parental mediation was positively correlated with family support and restrictive parental mediation. Restrictive parental mediation was negatively associated with distal advice, close support, assertiveness, and technical coping. However, no significant correlation between restrictive parental mediation and family support was found. All coping strategies were positively correlated.

### 3.2. Main effects of parental mediation and family support on coping with cyberhate

To investigate the main effects of instructive and restrictive parental mediation strategies and family support on adolescents' use of distal advice, close support, assertiveness, and technical coping strategies, a structural equation model was estimated, while controlling for adolescents' age and sex. The model fit was good ( $\chi^2=2617.75$ ,  $df=227$ ,  $p<.001$ ,  $CFI=.96$ ,  $RMSEA=.04$ ,  $SRMR=.04$ ), and standardized factor loadings ranged from 0.57 to 0.91. As shown in Table 2, instructive parental mediation was positively associated with distal advice ( $\hat{\beta}=0.25$ ,  $SE=0.03$ ,  $p<.001$ ), restrictive parental mediation was negatively associated with distal advice ( $\hat{\beta}=-0.10$ ,  $SE=0.03$ ,  $p<.001$ ), and family support was positively related to distal advice ( $\hat{\beta}=0.11$ ,  $SE=0.01$ ,  $p<.001$ ). Instructive parental mediation was also positively associated with close support ( $\hat{\beta}=0.35$ ,  $SE=0.03$ ,  $p<.001$ ), restrictive parental mediation was negatively associated with close support ( $\hat{\beta}=-0.43$ ,  $SE=0.03$ ,  $p<.001$ ), and family support was positively related to close support ( $\hat{\beta}=0.24$ ,  $SE=0.01$ ,  $p<.001$ ).

In addition, instructive parental mediation was positively associated with assertiveness ( $\hat{\beta}=0.35$ ,  $SE=0.03$ ,  $p<.001$ ), restrictive parental mediation was negatively associated with assertiveness ( $\hat{\beta}=-0.39$ ,  $SE=0.03$ ,  $p<.001$ ), and family support was positively related to assertiveness ( $\hat{\beta}=0.17$ ,  $SE=0.01$ ,  $p<.001$ ). Finally, instructive parental mediation was positively associated with technical coping ( $\hat{\beta}=0.34$ ,  $SE=0.03$ ,  $p<.001$ ), restrictive parental mediation was negatively associated with technical coping ( $\hat{\beta}=-0.53$ ,  $SE=0.03$ ,  $p<.001$ ), and family support was positively related to technical coping ( $\hat{\beta}=0.30$ ,  $SE=0.01$ ,  $p<.001$ ; see Figure 1). The estimated model explained 7% of the total variance in distal advice, 19% of the total variance in close support, 13% of the total variance in assertiveness, and 26% of the total variance in technical coping.



### 3.3. Moderating effects of family support on the relation between parental mediation and coping

In the next step, a SEM that included the main effects using the numeric integration in Mplus was estimated (Model 1, Table 3). This SEM was followed by two other SEM, one included the interaction

between instructive parental mediation and family support (Model 2) and the other included the interaction between restrictive parental mediation and family support (Model 3). Both Models 2 and 3 were then compared with Model 1 using the chi-square difference test. The chi-square difference test was used to compare Models 1 and 2 based on log-likelihood values and scaling correction factors obtained with the MLR estimator was significant,  $\chi^2(4, n=5878)=86.95, p<.001$ , suggesting that the inclusion of the interactions revealed a better model fit. Family support moderated the relationship between instructive parental mediation and distal advice ( $\hat{\beta}=0.14, SE=0.01, p<.001$ ). Probing the significant interaction effect further revealed that the unstandardized simple slope coefficients were .01 ( $SE=0.01, p=.923$ , at -1 SD) for low, .12 ( $SE=0.01, p<.001$ , at 0 SD) for moderate, and .25 ( $SE=0.01, p<.001$ , at +1 SD) for high family support, indicating that the positive relationship between instructive parental mediation and distal advice was strengthened as family support increased from moderate to high family support.

There was also a significant moderation effect between instructive parental mediation and family support ( $\hat{\beta}=0.07, SE=0.01, p<.001$ ) when predicting close support. Probing the significant interaction effect further revealed that the unstandardized simple slope coefficients were .07 ( $SE=0.02, p<.001$ , at -1 SD) for low, .14 ( $SE=0.01, p<.001$ , at 0 SD) for moderate, and .24 ( $SE=0.01, p<.001$ , at +1 SD) for high family support, indicating that the positive relationship between instructive parental mediation and close support was strengthened as family support increased. In addition, family support moderated the association between instructive parental mediation and assertiveness ( $\hat{\beta}=0.06, SE=0.02, p<.001$ ). Probing the significant interaction effect further revealed that the unstandardized simple slope coefficients were .07 ( $SE=0.02, p<.001$ , at -1 SD) for low, .13 ( $SE=0.01, p<.001$ , at 0 SD) for moderate, and .19 ( $SE=0.02, p<.001$ , at +1 SD) for high family support, indicating that the positive relationship between instructive parental mediation and close support was strengthened as family support increased. Finally, family support moderated the relationship between instructive parental mediation and technical coping ( $\hat{\beta}=0.10, SE=0.02, p<.001$ ). Probing the significant interaction effect further revealed that the unstandardized simple slope coefficients were .01 ( $SE=0.02, p=.581$ , at -1 SD) for low, .08 ( $SE=0.01, p<.001$ , at 0 SD) for moderate, and .18 ( $SE=0.02, p<.001$ , at +1 SD) for high family support, indicating that the positive relationship between instructive parental mediation and technical coping was strengthened as family support increased from moderate to high levels. The estimated model explained 10% of the total variance in distal advice, 20% of the total variance in close support, 13% of the total variance in assertiveness, and 28% of the total variance in technical coping.

As shown in Table 2, the chi-square difference test used to compare Model 1 and Model 3 based on log-likelihood values and scaling correction factors obtained with the MLR estimator was also significant,  $\chi^2(4, n=5878)=170.68, p<.001$ . More specifically, family support moderated the relationship between restrictive parental mediation and distal advice ( $\hat{\beta}=0.21, SE=0.02, p<.001$ ). Probing the interaction effect further revealed that the unstandardized simple slope coefficients were -.15 ( $SE=0.02, p<.001$ , at -1 SD) for low, -.03 ( $SE=0.02, p=.184$ , at 0 SD) for moderate, and -.10 ( $SE=0.02, p<.001$ , at +1 SD) for high family support, indicating that the negative relationship between restrictive parental mediation and close support was weakened as family support increased. Family support also moderated the relationship between restrictive parental mediation and close support ( $\hat{\beta}=0.14, SE=0.02, p<.001$ ). Probing the interaction effect further revealed that the unstandardized simple slope coefficients were -.30 ( $SE=0.02, p<.001$ , at -1 SD) for low, -.21 ( $SE=0.02, p<.001$ , at 0 SD), and -.10 ( $SE=0.02, p<.001$ , at +1 SD) for high family support, indicating that the negative relationship between restrictive parental mediation and close support was weakened as family support increased. In addition, family support moderated the association between instructive parental mediation and assertiveness ( $\hat{\beta}=0.15, SE=0.02, p<.001$ ). Probing the interaction effect further revealed that the unstandardized simple slope coefficients were -.32 ( $SE=0.02, p<.001$ , at -1 SD) for low, -.21 ( $SE=0.02, p<.001$ , at 0 SD) for moderate, and -.10 ( $SE=0.02, p<.001$ , at +1 SD) for high family support, indicating that the negative relationship between restrictive parental mediation and assertiveness was weakened as family support increased. Finally, family support moderated the relationship between restrictive parental mediation and technical coping ( $\hat{\beta}=0.21, SE=0.02, p<.001$ ). Probing the interaction effect further revealed that the unstandardized simple slope coefficients were -.37 ( $SE=0.02, p<.001$ , at -1 SD) for low, -.21 ( $SE=0.02, p<.001$ , at 0 SD) for

moderate, and  $-.11$  ( $SE=0.02$ ,  $p<.001$ , at  $+1$  SD) for high family support, indicating that the negative relationship between restrictive parental mediation and technical coping was weakened as family support increased. The estimated model explained 13% of the total variance in distal advice, 24% of the total variance in close support, 18% of the total variance in assertiveness, and 35% of the total variance in technical coping.

**Table 3. Path Coefficients of the Main Effects (Model 0 and 1) and Latent-Interaction Models (Model 2 and 3)**

	Model 0		Model 1	Model 2	Model 3
	$\beta$ (SE)		$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)
<b>Outcome and predictor</b>					
<b>Distal advice</b>					
INSPM	.25*** (0.03)		.25*** (0.03)	.22*** (0.04)	.28*** (0.04)
RESPM	-.10*** (0.03)		-.10*** (0.03)	-.07 (0.04)	-.14*** (0.04)
FASU	.11*** (0.01)		.11*** (0.01)	.16*** (0.02)	.15*** (0.02)
INSPM x FASU				.14*** (0.01)	
RESPM x FASU					.21*** (0.02)
$R^2$	.07***		.07***	.10***	.13***
<b>Close support</b>					
INSPM	.35*** (0.03)		.35*** (0.03)	.33*** (0.04)	.39*** (0.04)
RESPM	-.43*** (0.03)		-.43*** (0.03)	-.40*** (0.04)	-.46*** (0.04)
FASU	.24*** (0.01)		.24*** (0.01)	.27*** (0.02)	.36*** (0.02)
INSPM x FASU				.07*** (0.01)	
RESPM x FASU					.14*** (0.02)
$R^2$	.19***		.19***	.20***	.24***
<b>Assertiveness</b>					
INSPM	.35*** (0.03)		.35*** (0.03)	.32*** (0.04)	.39*** (0.04)
RESPM	-.39*** (0.03)		-.39*** (0.03)	-.37*** (0.04)	-.44*** (0.04)
FASU	.17*** (0.01)		.17*** (0.01)	.19*** (0.02)	.19*** (0.02)
INSPM x FASU				.06*** (0.02)	
RESPM x FASU					.15*** (0.02)
$R^2$	.13***		.13***	.13***	.18***
<b>Technical coping</b>					
INSPM	.34*** (0.03)		.34*** (0.03)	.30*** (0.04)	.38*** (0.04)
RESPM	-.53*** (0.03)		-.51*** (0.03)	-.48*** (0.04)	-.56*** (0.04)
FASU	.30*** (0.01)		.30*** (0.01)	.34*** (0.02)	.32*** (0.02)
INSPM x FASU				.10*** (0.02)	
RESPM x FASU					.21*** (0.02)
$R^2$	.26***		.26***	.28***	.35***
<b>Model fits</b>					
$\chi^2$	2617.75	L	-181413.17	-181363.23 <sup>1</sup>	-181314.20 <sup>1</sup>
df	227	c	1.16	1.16	1.16
CFI	.96	np	92	96	96
RMSEA	.04				
SRMR	.04				

Note. INSPM=instructive parental mediation, RESPM=restrictive parental mediation, FASU=family support, L=loglikelihood values, c=scaling correction factor, np=number of parameters. <sup>1</sup> Difference test between Model 1 and 2 and Model 1 and Model 3, respectively, was significant.

#### 4. Discussion and conclusion

The impetus of the present study was to understand the associations between parental mediation, family support, and adolescents' use of problem-focused coping strategies towards cyberhate. Regarding our first research question, we found that instructive mediation was positively, and restrictive mediation was negatively associated with adolescents' use of problem-focused coping strategies. We propose that



parents who utilize instructive mediation allow their children to be independent and act responsibly online. Such parental mediation strategies increase their children's knowledge of online risks, internalization of safety recommendations, and their self-efficacy for dealing with online risks, such as cyberhate. Instructive mediation might involve parents teaching or discussing coping strategies that reduce adolescents' exposure to cyberhate. Thus, such adolescents might have more knowledge on how to avoid situations that might lead to online risks.

On the other hand, restrictive mediation negatively impacts adolescents' ability to cope with online risks because employing this mediation strategy does not consider their children's feelings or desires when they make decisions; such strategies hinder adolescents' exploratory activities and the development of problem-solving skills and self-efficacy.

Ultimately, restrictive mediation does not allow adolescents to deal with online risks without their parents intervening through overprotective parenting behaviors. Overall, these findings are in line with what researchers have found for the effects of parenting styles related to the offline world (Baumrind, 1971; Georgiou, 2010; Hock, 2008). The findings are also partially in line with research on the potential effects of parental mediation on Internet use (Cabello-Hutt et al., 2018; Görzig & Machackova, 2016; Rodríguez-de-Dios et al., 2018).

Regarding our second research question, we found that family support strengthened the positive relationship between instructive mediation and problem-focused coping and diminished the negative relationship between restrictive mediation and problem-focused coping. A possible explanation for this finding might be that perception of parental warmth and support could increase trust in parents, strengthening aspects of constructive mediation, and reduce the negative consequences of restrictive mediation. A supportive parental environment could increase adolescents' disclosure of online activities and foster effective coping strategies. Without the perception of being cared for and loved by family members, restrictive mediation could be perceived as intrusive and over-controlling. In this regard, strong restrictive mediation could be a source of stress for children by imposing strict rules and harsh standards of behavior that are perceived as illegitimate. Family support could ameliorate these negative side effects, strengthening open discussion about how to deal with negative online experiences. These findings are consistent with related research on the influence of family support on coping with stressful events in the offline world (Eckenrode & Hamilton, 2000; Pinkerton & Dolan, 2007; Rutter et al., 1998; Wright & Wachs, 2020). The results are also congruent with previous findings on the role of parental support on cyberbullying victimization (Elsaesser et al., 2017).

It is important to help minimize adolescents' exposure to cyberhate victimization through parental intervention programs. Our findings highlight the importance of parents and the family environment for helping adolescents develop effective coping strategies for cyberhate victimization. Parental support might empower adolescents to implement these coping strategies to help mitigate negative effects of cyberhate. It is important for parents/guardians to develop a better awareness of effective coping strategies to deal with cyberhate and recognize the negative effects associated with cyberhate victimization among adolescents. Prevention programs might help educate parents on the strategies they can use to support adolescents who report experiencing cyberhate. Social media might also have a role in helping raise awareness of cyberhate through campaigns designed to spread knowledge about cyberhate and how parents can help reduce exposure and increase adolescents' well-being. Such campaigns, combined with targeted intervention for adolescents, could also be helpful for training adolescents on effective coping strategies and how to best implement those strategies.

There are a few limitations in the present study that need to be mentioned. First, the participants provided their coping strategies for a hypothetical cyberhate victimization incident. While using hypothetical situation has benefits (e.g., gathering information from all participants and not only adolescents who experienced cyberhate victimization), follow-up research should focus on coping strategies regarding actual experiences and compare the findings with this study. Second, the present study relies on self-reports for all study variables; thus, the findings might be biased by shared method variance. Therefore, future studies should incorporate a multi-informant approach. One possibility could be to include multiple sources of information (e.g., parents, teachers) on mediation strategies and family support. Third, the sample

might not be representative, even though the sample size of this study was large. More research based on representative sample is warranted to increase the generalizability of the present study's findings. Cross-culturally representative samples would also allow investigations into the cultural context of the associations between parental mediation, coping, and family support. Fourth, conclusions cannot be drawn regarding the temporal ordering of the main study variables due to the cross-sectional research design. Follow-up research should incorporate longitudinal studies. Finally, another potential limitation might also be that we included only problem-focused coping strategies, two types of parental mediation, and a few control variables. Future research should aim to include also unproductive coping strategies (e.g., helplessness, retaliation), co-viewing parental mediation, and more control variables (e.g., socioeconomic background). To better understand the relation between parental mediation and coping, more moderators (e.g., self-efficacy, media competencies) should also be investigated in follow-up research.

This study contributes to the literature on the associations between parental mediation and adolescents' coping strategies for cyberhate, as well as how family support moderates this relationship. We consider parental mediation of Internet use as correlate of adolescents' capability to cope productively with cyberhate and family support as a moderator of this relationship.

Findings suggest that instructive parental mediation is positively, and restrictive parental mediation is negatively correlated with adolescents use of problem-focused coping. In addition, family support strengthens the positive relationship between instructive mediation and problem-focused coping and diminished the negative relationship between restrictive mediation and problem-focused coping. The present study points to the need for more attention on developing media education programs that focus on the role of parents and families in helping to empower their children to develop effective coping strategies.

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### References

- Arrizabalaga-Crespo, C., Aierbe-Barandiaran, A., & Medrano-Samaniego, C. (2010). Internet uses and parental mediation in adolescents with ADHD. *Revista Latina de Comunicación Social, 65*, 561-571. <https://doi.org/10.4185/RLCS-65-2010-919-561-571-EN>
- Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology, 4*(1, Pt.2), 1-103. <https://doi.org/10.1037/h0030372>
- Cabello-Hutt, T., Cabello, P., & Claro, M. (2018). Online opportunities and risks for children and adolescents: The role of digital skills, age, gender and parental mediation in Brazil. *New Media & Society, 20*(7), 2411-2431. <https://doi.org/10.1177/1461444817724168>
- de Dios, I.R., van Oosten, J.M., & Igartua, J.J. (2018). A study of the relationship between parental mediation and adolescents' digital skills, online risks and online opportunities. *Computers in Human Behavior, 82*, 186-198. <https://doi.org/10.1016/j.chb.2018.01.012>
- Eckenrode, J., & Hamilton, S. (2000). One to one support interventions. In S. Cohen, L. Underwood, & B. Gottlieb (Eds.), *Social support measurement and intervention: A guide for health and social scientists* (pp. 278-308). Oxford University Press. <https://doi.org/10.1093/med:psych/9780195126709.003.0008>
- Elsaesser, C., Russell, B., Ohannessian, C.M., & Patton, D. (2017). Parenting in a digital age: A review of parents' role in preventing adolescent cyberbullying. *Aggression and Violent Behavior, 35*, 62-72. <https://doi.org/10.1016/j.avb.2017.06.004>
- Fanti, K.A., Demetriou, A.G., & Hawa, V.V. (2012). A longitudinal study of cyberbullying: Examining risk and protective factors. *European Journal of Developmental Psychology, 9*(2), 168-181. <https://doi.org/10.1080/17405629.2011.643169>
- Gámez-Guadix, M., Wachs, S., & Wright, M. (2020). Haters back off! Psychometric properties of the coping with cyberhate questionnaire and relationship with well-being in Spanish adolescents. *Psicothema, 32*(4), 567-574. <https://doi.org/10.7334/psicothema2020.219>
- Georgiou, S.N. (2010). Bullying and victimization at school: The role of mothers. *British Journal of Educational Psychology, 78*(1), 109-112. <https://doi.org/10.1348/000709907X204363>
- Gómez-Ortiz, O., Romera, E., Ortega-Ruiz, R., & Rey, R.D. (2018). Parenting practices as risk or preventive factors for adolescent involvement in cyberbullying: Contribution of children and parent gender. *International Journal of Environmental Research and Public Health, 15*(12), 2664-2664. <https://doi.org/10.3390/ijerph15122664>
- Görzig, A., & Machackova, H. (2016). Cyberbullying in Europe: A review of evidence from cross-national data. In M. Wright (Ed.), *A social-ecological approach to cyberbullying* (pp. 295-326). Nova Science.
- Hock, M. (2008). Erziehungsstile und ihre Auswirkungen. [Educational styles and their effects]. In W. Schneider (Ed.), *Handbuch der psychologie: Handbuch der pädagogischen psychologie. [Manual of psychology: Manual of educational*

- psychology] (pp. 491-500). Hogrefe. [https://doi.org/10.1007/978-3-476-05023-6\\_19](https://doi.org/10.1007/978-3-476-05023-6_19)
- Klein, A., & Moosbrugger, H. (2000). Maximum likelihood estimation of latent interaction effects with the LMS method. *Psychometrika*, 65(4), 457-474. <https://doi.org/10.1007/bf02296338>
- Kowalski, R.M., Giumetti, G.W., Schroeder, A.N., & Lattanner, M.R. (2014). Bullying in the digital age: A critical review and meta-analysis of cyberbullying research among youth. *Psychological Bulletin*, 140(4), 1073-1137. <https://doi.org/10.1037/a0035618>
- Kutscher, N. (2013). Medienbildung in der Kindheit. *MedienPädagogik: Zeitschrift für Theorie und Praxis der Medienbildung*, 22, 1-16. <https://doi.org/10.21240/mpaed/22/2013.10.08.x>
- Lazarus, R., & Folkman, S. (1987). *Stress, appraisal and coping*. Springer.
- Livingstone, S., & Helsper, E.J. (2008). Parental mediation of children's internet use. *Journal of Broadcasting & Electronic Media*, 52(4), 581-599. <https://doi.org/10.1080/08838150802437396>
- Livingstone, S., Ólafsson, K., Helsper, E.J., Lupiáñez-Villanueva, F., Veltri, G.A., & Folkvord, F. (2017). Maximizing opportunities and minimizing risks for children online: The role of digital skills in emerging strategies of parental mediation. *Journal of Communication*, 67(1), 82-105. <https://doi.org/10.1111/jcom.12277>
- Machackova, H., Blaya, C., Bedrosova, M., Smahel, D., & Staksrud, E. (2020). *Children's experiences with cyberhate*. EU Kids Online. <https://bit.ly/3q5vFBi>
- Machmutow, K., Perren, S., Sticca, F., & Alsaker, F.D. (2012). Peer victimisation and depressive symptoms: Can specific coping strategies buffer the negative impact of cybervictimisation? *Emotional and Behavioural Difficulties*, 17(3-4), 403-420. <https://doi.org/10.1080/13632752.2012.704310>
- Martínez, G., Casado, M.A., & Garitaonandia, G. (2020). Online parental mediation strategies in family contexts of Spain. [Estrategias online de mediación parental en contextos familiares de España]. *Comunicar*, 56. <https://doi.org/10.3916/C65-2020-06>
- Muthén, L.K., & Muthén, B.O. (2017). *Mplus user's guide*. Muthén & Muthén. <https://bit.ly/3g4tnhf>
- Navarro, R., Serna, C., Martínez, V., & Ruiz-Oliva, R. (2013). The role of Internet use and parental mediation on cyberbullying victimization among Spanish children from rural public schools. *European Journal of Psychology of Education*, 28(3), 725-745. <https://doi.org/10.1007/s10212-012-0137-2>
- Pascoe, E.A., & Richman, L.S. (2009). Perceived discrimination and health: A meta-analytic review. *Psychological Bulletin*, 135(4), 531-554. <https://doi.org/10.1037/a0016059>
- Pinkerton, J., & Dolan, P. (2007). Family support, social capital, resilience and adolescent coping. *Child & Family Social Work*, 12(3), 219-228. <https://doi.org/10.1111/j.1365-2206.2007.00497.x>
- Raykov, T. (2009). Evaluation of scale reliability for unidimensional measures using latent variable modeling. *Measurement and Evaluation in Counseling and Development*, 42, 223-232. <https://doi.org/10.1177/0748175609344096>
- Reichelmann, A., Hawdon, J., Costello, M., Ryan, J., Blaya, C., Llorent, V., Oksanen, A., Räsänen, P., & Zych, I. (2020). Hate knows no boundaries: Online hate in six nations. *Deviant Behavior*, (pp. 1-12). <https://doi.org/10.1080/01639625.2020.1722337>
- Rutter, M., Giller, H., & Hagel, A. (1998). *Antisocial behavior by young people*. Cambridge University Press.
- Sasson, H., & Mesch, G. (2014). Parental mediation, peer norms and risky online behavior among adolescents. *Computers in Human Behavior*, 33, 32-38. <https://doi.org/10.1016/j.chb.2013.12.025>
- Satorra, A., & Bentler, P.M. (2001). A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika*, 66(4), 507-514. <https://doi.org/10.1007/bf02296192>
- Slonje, R., & Smith, P. (2008). Cyberbullying: Another main type of bullying? *Scandinavian Journal of Psychology*, 49(2), 147-154. <https://doi.org/10.1111/j.1467-9450.2007.00611.x>
- Sousa, V.D., & Rojjanasirart, W. (2011). Translation, adaptation and validation of instruments or scales for use in cross-cultural health care research: a clear and user-friendly guideline. *Journal of Evaluation in Clinical Practice*, 17(2), 268-274. <https://doi.org/10.1111/j.1365-2753.2010.01434.x>
- Sticca, F., Machmutow, K., Stauber, A., Perren, S., Palladino, B., Nocentini, A., Menesini, E., Corcoran, L., & Guckin, C. (2015). The coping with cyberbullying questionnaire: Development of a new measure. *Societies*, 5(2), 515-536. <https://doi.org/10.3390/soc5020515>
- tze Hu, L., & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55. <https://doi.org/10.1080/10705519909540118>
- UK Safer Internet Centre (Ed.) (2016). *Creating a better Internet for all: Young people's experiences of online empowerment + online hate*. <https://bit.ly/2Jk6QAD>
- Von-Soest, T., Mossige, S., Stefansen, K., & Hjemdal, O. (2010). A validation study of the resilience scale for adolescents (READ). *Journal of Psychopathology and Behavioral Assessment*, 32(2), 215-225. <https://doi.org/10.1007/s10862-009-9149-x>
- Wachs, S., Gámez-Guadix, M., Wright, M.F., Görzig, A., & Schubarth, W. (2020). How do adolescents cope with cyberhate? Psychometric properties and socio-demographic differences of a coping with cyberhate scale. *Computers in Human Behavior*, 104, 106167-106167. <https://doi.org/10.1016/j.chb.2019.106167>
- Wachs, S., Koch-Priewe, B., & Zick, A. (2021). *Hate Speech – Multidisziplinäre Analysen und Handlungsoptionen*. VS Verlag für Sozialwissenschaften.
- Wachs, S., Wachs, S., Costello, M., Wright, M.F., Flora, K., Daskalou, V., Maziridou, E., Kwon, Y., Na, E.Y., Sittichai, R., Biswalk, R., Singh, R., Almendros, C., Gámez-Guadix, M., Görzig, A., & Hong, J.S. (2021). DNT LET'EM H8 U!: Applying the routine activity framework to understand cyberhate victimization among adolescents across eight countries. *Computers & Education*, 160, 104026. <https://doi.org/10.1016/j.compedu.2020.104026>

- Wachs, S., & Wright, M.F. (2019). The moderation of online disinhibition and sex on the relationship between online hate victimization and perpetration. *Cyberpsychology, Behavior, and Social Networking*, 22(5), 300-306. <https://doi.org/10.1089/cyber.2018.0551>
- Wachs, S., Wright, M.F., & Vazsonyi, A.T. (2019). Understanding the overlap between cyberbullying and cyberhate perpetration: Moderating effects of toxic online disinhibition. *Criminal Behaviour and Mental Health*, 29(3), 179-188. <https://doi.org/10.1002/cbm.2116>
- World Medical Association (Ed.) (2001). World medical association declaration of Helsinki. Ethical principles for medical research involving human subjects. *Bull World Health Organ*, 79, 373-374. <https://doi.org/10.1001/jama.2013.281053>
- Worsley, J.D., McIntyre, J.C., & Corcoran, R. (2019). Cyberbullying victimisation and mental distress: Testing the moderating role of attachment security, social support, and coping styles. *Emotional and Behavioural Difficulties*, 24(1), 20-35. <https://doi.org/10.1080/13632752.2018.1530497>
- Wright, M., & Wachs, S. (2018). Does parental mediation moderate the longitudinal association among bystanders and perpetrators and victims of cyberbullying? *Social Sciences*, 7(11), 231-231. <https://doi.org/10.3390/socsci7110231>
- Wright, M.F., & Wachs, S. (2020). Moderation of parental support on health and cyberbullying among adolescents with intellectual and developmental disabilities. *Journal of Child and Family Studies*, 29, 2390-2401. <https://doi.org/10.1007/s10826-020-01739-9>
- Yin, X.Q., Wang, L.H., Zhang, G.D., Liang, X.B., Li, J., Zimmerman, M.A., & Wang, J.L. (2017). The promotive effects of peer support and active coping on the relationship between bullying victimization and depression among Chinese boarding students. *Psychiatry Research*, 256, 59-65. <https://doi.org/10.1016/j.psychres.2017.06.037>
- Zimet, G.D., Dahlem, N.W., Zimet, S.G., & Farley, G.K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, 52(1), 30-41. [https://doi.org/10.1207/s15327752jpa5201\\_2](https://doi.org/10.1207/s15327752jpa5201_2)