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## Parents' responses to cyberbullying effects: How third-person perception influences support for legislation and parental mediation strategies

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## ABSTRACT

Existing research has highlighted the concept of parental third-person effect, where parents' perceive greater negative media effects on other children versus their own, and act upon those beliefs. Despite this, much of the research has remained rooted in the traditional understanding of the third-person perception, examining how third-person effect is manifested in perceptions about oneself versus others. This study attempts to further extend the traditional understanding of the third-person effect by examining how parents' perceived effects of cyberbullying is associated with two behavioral outcomes: support for anti-cyberbullying legislation and parental mediation of social media use. We surveyed 1187 of parents of children aged between 8 and 17 in Singapore. Our results supported both the perceptual and behavioral hypotheses. Parents perceived other children as more susceptible to cyberbullying than their own children. Parents' third-person perceptual gap was negatively associated with support for anti-cyberbullying legislation, and positively associated with parental mediation strategies, suggesting that different behavioral outcomes are associated with different processes. The associations between the third-person perceptual gap and both related outcomes were stronger among parents of younger children as compared to adolescents. Implications for research on the third-person effect were discussed.

## 1. Background

The past decade has witnessed an exponential growth and use of online communication technologies by youths across the world. In particular, social media sites see extremely high rates of adoption among youths - almost 9 out of 10 youths use at least one social media site (Pew Research Centre, 2018). Social media is characterized by a social norm of personal authenticity, which encourages youths to share aspects of their personal life with their social network (Marwick & Boyd, 2011). However, while this may facilitate bonding and interaction with their peers, it can also leave them vulnerable to being targets of cyberbullying (Skoric & Kwan, 2013). Recent research reveals that cyberbullying is indeed most prevalent on social media, compared to other online communication platforms (Whittaker & Kowalski, 2015). Cyberbullying – which includes flaming, online harassment, denigration, impersonation, and cyberstalking – can cause serious socio-psychological issues such as stress, depression, lowered self-esteem, poor academic performance, and even potential suicides (Ang & Goh, 2010; Holloway, Green, & Livingstone, 2013; Kowalski, Giumetti, Schroeder, & Lattanner, 2014; O'Moore & Kirkham, 2001; Ybarra, Mitchell, Wolak,

& Finkelhor, 2006).

In response to the research showing the harmful effects of cyberbullying on youths, academics and lawmakers have dedicated resources to understand the phenomena, and have begun identifying preventive measures to protect youths from the ill-effects of cyberbullying, including greater education, as well as the enactment of laws targeting various acts of cyberbullying (Albin, 2012; Chen, Ho, & Lwin, 2017; Couvillon & Ilieva, 2011; Hinduja & Patchin, 2015a, 2015b; Ho, Chen, & Ng, 2017; Kowalski et al., 2014; Meredith, 2010). In Singapore, where this study was conducted, although there are no specific cyberbullying laws, there are existing laws that can be applied to harassment in online contexts. These include laws that have been in place in the past (Defamation Act, 2014), and recent laws such as the Protection from Harassment Act (2015), which does not discriminate between online and offline harassment and stalking. For the purposes of this study, support for legislation is conceptualized as support for online anti-harassment laws, since these are the most familiar form of legislation used to address cyberbullying among Singaporean respondents.

One of the many reasons behind why youths are facing increasingly problematic online interactions is because their parents are often not

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adequately informed about their children's activities and experiences online. As such, parents often underestimate the prevalence of cyberbullying (Byrne, Katz, Lee, Linz, & McIlrath, 2014; Paper, Converged, & World, 2013). Dehue, Bolman, and Völlink (2008) found that while 23% of children reported facing cyberbullying before, only 11.8% of parents reported that their child had such experiences. According to Byrne et al. (2014), this likelihood for underestimation is due to a tendency for parents to see their child as smarter online, as compared to other children, and therefore less susceptible to cyberbullying. Specifically, they found that this tendency to see one's own children as smarter than others was positively associated with parents' underestimation of their own child's cyberbullying experiences.

This corroborates existing research on the third-person perception in the context of parent-child relationships, which demonstrated that parents believed their child to be less prone to negative media influences, such as violence and materialism, as compared to other children (Hoffner & Buchanan, 2002; Meirick, Sims, Gilchrist, & Croucher, 2009; Nathanson, Eveland, Park, & Paul, 2002). According to Meirick et al. (2009), this was a reflection of how the third-person perceptions can be manifested in parents on behalf of their children. Despite this, it remains unclear whether this perceived self-other difference will influence parents' actions to protect their child from cyberbullying. Research on the behavioral consequences of the third-person perceptual gap have been inconclusive to date, and researchers have called for further research on the behavioral component of the third-person effect across various behavioral contexts (Ho & Yee, 2017; Xu & Gonzenbach, 2008).

To our knowledge, only a small number of studies have attempted to examine the impact of parental third-person perceptions, rather than children's third-person perceptions (Hoffner & Buchanan, 2002; Meirick et al., 2009; Tsfati, Ribak, & Cohen, 2005), with no studies having been conducted in Asia. In addition, no studies have been conducted to examine how the third-person effect translates to the cyberbullying context, specifically with regard to social media platforms. As such, the objective of our study is to examine if parental third-person effect translates to the cyberbullying context, and if the third-person perceptual gap influences two specific parental responses – support for cyberbullying legislation, and parental mediation.

### 1.1. Third-person effect

Since its initial proposition by Davison (1983), research on the third-person effect has demonstrated its relevance in a variety of communication contexts, including television content (Salwen & Dupagne, 1999), product advertising (Brosius & Engel, 1996), and political advertising (Meirick, 2004). The third-person effect comprises two components: the perceptual hypothesis and the behavioral hypothesis (Perloff, 2009). According to the perceptual hypothesis, people assume media effects will be greater on others compared to themselves. According to the behavioral hypothesis, this overestimated media influence will spur individuals into action, possibly to counteract the effects of media (Xu & Gonzenbach, 2008).

Gunther (1995) explains that the third-person effect stems from the inherent desire to maintain positive self-esteem by seeing oneself as superior to others. Consequently, when faced with harmful influences, one tends to think that he or she is less susceptible as compared to others. But while much of the existing research on the third-person effect has focused on comparing the self with others, some researchers have examined the effect in the context of parent-child relationships.

Hoffner and Buchanan (2002) reported that parents perceived their child to be more resistant to the negative effects of violent television content as compared to other children. Similarly, Tsfati et al. (2005) found that parents felt their own children were less influenced by a youth-targeted telenovela as compared to other children. In addition, Meirick et al. (2009) found that parents felt their own children were less susceptible to the materialism effects of TV content as compared to other children. Terming this phenomenon *parental third-person*

*perception*, Meirick et al. (2009) explained that this is likely due to the need for self-enhancement. Other than our self, others who are close to us can also be constitute part of our self-concept (Aron, Aron, Tudor, & Nelson, 1991). This means that positive illusions about close others can also make us feel good about ourselves (Murray, Holmes, & Griffin, 1996). Indeed, Wenger and Fowers (2008) found that parents tended to make over-positive evaluations of their own children, believing them to have more positive traits and less negative traits as compared to other children. Given the above evidence, when considering the perceived effects of cyberbullying, it is likely for parents to think that their own children are less susceptible to the effects of cyberbullying than other children. Therefore, we propose the first hypothesis:

**H1.** Parents will perceive other children to be more susceptible to the negative effects of cyberbullying as compared to their own child.

While there has been strong empirical support for the perceptual component of the third-person effect, the behavioral component remains a source of contention, as findings in this area have been inconclusive. According to Gunther (1995), the perceptual gap – which is calculated by subtracting the perceived effect on self from the perceived effect on others – is crucial in determining the behavioral consequences of the third person effect. In explaining how the third-person effect can influence individuals' support for censorship of pornography, he argued that the greater the perceptual gap, the more individuals will perceive others as vulnerable to negative media influences (Gunther, 1995). As such, they will feel motivated to take steps to protect those others from harm, and thus support censorship.

Other researchers have also found a relationship between third-person perceptions and behavioral consequences, including support for censorship of controversial media content (McLeod, Eveland, & Nathanson, 1997), political attack advertisements (Salwen, 1998), and advertisements promoting gambling (Shah, Faber, & Youn, 1999). With regard to parental third-person perceptions, however, findings as to its impact on support for preventive legislation have been less straightforward (Hoffner & Buchanan, 2002; Meirick et al., 2009; Nathanson et al., 2002). Hoffner and Buchanan (2002) found that parental third-person perceptions regarding the influence of television content on children's mean world beliefs was negatively related to censorship support. They explained that this was because parents were ultimately still concerned about the negative media influences on their own children, despite the perceived greater influences on other children. This may also be due to parents' naturally stronger inclination to protect their own children than other children (Meirick et al., 2009). This is in part corroborated by Nathanson et al. (2002), who demonstrated that support for censorship of violent and sexual content on television was predicted by perceived negative influence of such content on one's own children as well as other children.

However, Meirick et al. (2009) examined parental third-person perception of television's materialism effects, and did not find any significant association with parents' support for marketing regulations. They explained that this may be because support for regulation of television marketing could be influenced by factors other than parental third-person perceptions, such as parents' views on freedom of commercial advertising. In the context of our study, given the numerous harmful consequences of cyberbullying on children (Yang & Grinshteyn, 2016) and parents' natural greater protective instinct for their own children as compared to other children, we propose that parents' support for anti-cyberbullying legislation will increase with the perceived negative effects of cyberbullying on their own child.

**H2.** Parents' third-person perceptual gap will be negatively associated with their support for anti-cyberbullying legislation.

Besides support for regulation of harmful media content, studies on parental third-person effects have also explored its impact on parental mediation behavior (Hoffner & Buchanan, 2002; Tsfati et al., 2005). However, the influence on parental mediation is more complex as

compared to other behavioral consequences such as censorship support. This is because parental mediation is different from censorship in that only one's own children can benefit from the mediation, as compared to censorship where other children can also benefit from the regulation (Hoffner & Buchanan, 2002). In this sense, even if parents perceive other children to be more susceptible to media influences, their actual mediation behavior may still depend on the perceived effects on their own children instead of the perceptual gap. Generally, research has shown that parents' level of mediation depended on the magnitude of perceived negative media effects (Bybee, Robinson, & Turow, 1982; van der Voort, Nikken, & van Lil, 1992). Indeed, both Tsfati et al. (2005) and Meirick et al. (2009) found that parents and caregivers reported less mediation when they believed their own child to be more resistant to negative media content. However, Hoffner and Buchanan (2002) reported a positive relationship between third-person perceptions of violent television content and parental mediation. In other words, parents who perceived their own children as being less susceptible to the influences of violent television content as compared to other children were also the ones who engaged in greater mediation of their children's media consumption (Hoffner & Buchanan, 2002). In explaining this result, they suggest that the relationship between parental third-person perceptions and parental mediation may be bidirectional – that is, although greater perceived negative media effects on one's child may spur more parental mediation, mediation itself could also influence the perceived effects on their own children, thereby influencing the perceptual gap. Parents who engage in greater parental mediation may believe they have done a good job at it, which leads them to believe that their child would be less influenced by media content (Hoffner & Buchanan, 2002). The direction of the relationship between parental third-person perceptions and parental mediation is thus still unclear, especially in the context of digital media. Therefore, we propose the following research question:

**RQ1.** How will parents' third-person perceptual gap be associated with parental mediation?

Lastly, there is reason to believe that the behavioral implications of parents' third-person perceptions may differ depending on their children's age. Parents of younger children may acknowledge that even their own child would be susceptible to media influences as they are still young and impressionable (Hoffner & Buchanan, 2002). A stronger perceived negative influence of media may thus motivate these parents to take steps to protect their child, such as greater parental mediation or support for censorship legislation. However, as the child grows older and matures, parents may perceive their child to be less susceptible to media influences as the child starts to internalize their parents' values and beliefs (Dix, Ruble, Grusec, & Nixon, 1986). Parents of older children may feel less of a need to negate potential negative media exposure. Hoffner and Buchanan (2002) found that parental third-person perceptions were greater among parents of older children, where parents believed the media effects on their own child reduced with age, but not for other children. They suggest this could be because parents might assume that other children do not receive the same amount of guidance, hence remaining prone to media influences even as they age (Hoffner & Buchanan, 2002). Furthermore, with regard to being victims of cyberbullying, Byrne et al. (2014) point out that adolescents tended to confide in their friends rather than their parents, which may lead parents of adolescents to underestimate the actual negative effects of cyberbullying on their own children as compared to parents of younger children.

Therefore, given how children's age can influence parental third-person perceptions as these studies have shown, there is evidence to suggest that age will also influence subsequent behavioral outcomes, such that parental third-person perceptions may have a larger influence on the behaviors of those with younger children as compared to those with adolescents. With this, we posit the following hypotheses:

**H3a.** The relationship between parents' third-person perceptual gap

and support for anti-cyberbullying legislation will be stronger among parents of younger children as compared to parents of older children.

**H3b.** The relationship between parents' third-person perceptual gap and parental mediation will be stronger among parents of younger children as compared to parents of older children.

Overall, the main purpose of our study is to examine if parental third-person effect exists in the cyberbullying context, and if the third-person perceptual gap influences two specific parental responses – support for cyberbullying legislation, and parental mediation. A complementary objective is to examine if parental third-person effect is stronger among parents of younger children compared to older children in this context.

## 2. Method

To test the above hypotheses and research questions, we administered a paper-and-pencil survey to a nationally representative sample of parents of children (aged between 9 and 12) and adolescents (aged between 13 and 17). The sample of parents were garnered from a larger study that was conducted with parent-child dyads, obtained through multi-stage cluster sampling. First, 15 primary schools (elementary/middle school equivalent) and 12 secondary schools (high school equivalent) were randomly selected from the list of schools registered under the Singapore Ministry of Education. Next, four primary schools and four secondary schools were selected from each geographic region in the country - the North, South, East, and West regions in Singapore. Following that, questionnaires were handed out to students of randomly selected classes to bring home, so that one of their parents could fill it out. The total of 1187 parents completed the questionnaire between June and December 2015. The final response rate of the parent participants was 59.6%. The margin of error was approximately  $\pm 3\%$  at the 95% confidence level. Our sample comprised 47.1% male and 52.9% female, with a mean age of 45.17 (SD = 5.24), and a monthly household income ranging from 1 (SGD 1000 or below) to 6 (above SGD 9001) (Median Income = SGD3001 to SGD5000, roughly corresponding with the national median income of Singapore (Ministry of Manpower, 2018)). Approvals were obtained from the university's Institutional Review Board as well as the Singapore Ministry of Education prior to conducting the survey.

### 2.1. Measures

Our questionnaire included the control measures of age, education, and income. As media use and information communications technology (ICT) skills might have a relationship with parental behavioral outcomes in relation to media, such as parental mediation (Jäger, Amado, Matos, & Pessoa, 2010; Livingstone, 2006; Livingstone & Helsper, 2008), we chose to include them as control variables as well. The independent variables of interest to our hypotheses were perceived negative effects of cyberbullying on one's own children, perceived negative effects of cyberbullying on other children, and the third-person perceptual gap. The dependent variables measured were parents' support for cyberbullying legislation, and parental active and restrictive mediation of children's social media use. All measures were pre-tested with local adults who have school-going children before conducting the study, in order to minimize potential sources of confusion among parents in Singapore.

**Social media use** was measured by asking parents to rate how frequently they used each type of social media platform on five 7-point scales, anchored on “not at all” (1) to “very frequently” (7) ( $M = 4.55$ ,  $SD = 2.01$ ,  $Cronbach's \alpha = 0.76$ ). These platforms include (a) blogs, (b) social networking sites like Twitter and Facebook, (c) collaborative websites like Wikipedia, (d) virtual multiplayer game worlds like World of Warcraft, and (e) mobile social apps like Whatsapp and WeChat.

**ICT literacy** was measured by asking parents to indicate the extent

of their agreement with a list of ten statements judging their information and communication technology (ICT) literacy on 7-point scales, anchored on “strongly disagree” (1) and “strongly agree” (7) ( $M = 4.15$ ,  $SD = 1.38$ ,  $Cronbach's \alpha = 0.91$ ). The items were (a) “I know how to solve my own technical problems;” (b) “I can learn new technologies easily;” (c) “I keep up with important new technologies;” (d) “I know about a lot of different technologies;” (e) “I have the technical skills I need to use ICT for learning, and to create artefacts (e.g., presentations, digital stories, wikis, blogs) that demonstrate my understanding of what I have learnt;” (f) “I have good ICT skills;” (g) “I am confident with my search and evaluation skills with regard to obtaining information from the Internet;” (h) “I am familiar with issues related to Internet web-based activities (e.g., cyber safety, search issues, plagiarism);” (i) “I frequently obtain help with my work from my friends over the Internet (e.g., through Skype, Facebook, Whatsapp);” and (j) “ICT enables me to collaborate better with my friends on work and other learning activities.” The items were adapted from Ng (2012).

**Perceived negative effects of cyberbullying on own children** was measured by asking parents to indicate the extent of their agreement with the statement “my child will be negatively affected by cyberbullying on social media” on a scale from 1 = “strongly disagree” to 7 = “strongly agree” ( $M = 4.17$ ,  $SD = 2.01$ ). The item was adapted from Schweisberger, Billinson, and Chock (2014).

**Perceived negative effects of cyberbullying on other children** was measured by a list of statements asking parents how much they think other children will be negatively affected by cyberbullying on social media on six 7-point scales, anchored on “strongly disagree” (1) and “strongly agree” (7) ( $M = 4.69$ ,  $SD = 1.50$ ,  $Cronbach's \alpha = 0.87$ ). These items state their perception of the negative effects of cyberbullying towards their “friend’s children,” their “child’s friends,” their “child’s classmates,” “average students in their child’s school,” “average primary school students in Singapore,” and “average secondary school students in Singapore.”

**Third-person perceptual gap** was calculated by subtracting the score of perceived negative effects of cyberbullying on other children from the score of perceived negative effects of cyberbullying on own children ( $M = .50$ ,  $SD = 2.23$ ) in accordance with previous studies (Gunther, 1995; McLeod et al., 1997).

**Support for cyberbullying legislation** was measured by asking parents to indicate the extent of their agreement with the statement: “I support online anti-harassment laws in Singapore” on a scale anchored on “strongly disagree” (1) and “strongly agree” (7) ( $M = 5.56$ ,  $SD = 1.52$ ).

**Parental mediation of social media use** was measured through two facets – active and restrictive parental mediation. First, active parental mediation was measured by asking parents how frequently they explained, reminded, and guided their children’s use of social media on four 7-point scales, anchored on “not at all” (1) to “very frequently” (7) ( $M = 4.95$ ,  $SD = 1.59$ ,  $Cronbach's \alpha = 0.90$ ). The items are (a) “explain to your child the dangers of social media;” (b) “tell your child about the information they can disclose on social media;” (c) “tell your child to stop any experience on social media if they feel uncomfortable or scared;” and (d) “remind your child not to give out personal information on social media.” The items were adapted from Buijzen and Valkenburg (2005).

Likewise, restrictive parental mediation was measured by asking parents how frequently they explained, reminded, and guided their children’s use of social media on five 7-point scales, anchored on “not at all” (1) to “very frequently” (7) ( $M = 4.41$ ,  $SD = 1.71$ ,  $Cronbach's \alpha = 0.92$ ). The items are (a) “set rules regarding your child’s access to social media, such as Facebook, Twitter, YouTube, Instagram, Whatsapp, etc.,” (b) “restrict the amount of time your child can use social media;” (c) “limit the kind of activities your child can do on social media;” (d) “restrict the type of social media platforms your child can visit;” and (e) “limit your child to using social media only for school work.” The items were adapted from Buijzen and Valkenburg

**Table 1**  
t-tests of parents’ perceived susceptibility of cyberbullying among their own children versus other children.

Sample	Perceived Susceptibility of Cyberbullying (M(SD))				
	Own Children	Other Children	t	p	d
Total Sample	4.18 (2.01)	4.68 (1.50)	7.78	< .001	.45
Parents of Secondary School Adolescents	4.10 (2.01)	4.43 (1.45)	4.09	< .001	.31
Parents of Primary School Children	4.30 (2.01)	5.04 (1.49)	7.11	< .001	.64

Note. Total Sample  $N = 1,187$ , Parents of Secondary School Children  $N = 698$ , Parents of Primary School Children  $N = 489$ .

(2005).

2.2. Analytical approach

The data was analyzed using both paired sample t-tests and hierarchical ordinary least squares regression analyses. In the regression analyses, the independent variables were entered into blocks sequentially, based on the theoretical presumed causal order. We first entered the demographic variables as control variables, followed by parents’ social media use and ICT literacy in the second block. The third-person perceptual gap was entered in the last block. Separate regression analyses were conducted for the two different types of parent responses, and six further regression analyses, were conducted with subsamples of primary and secondary school children’s parents to answer H3.

3. Results

H1 posited that parents will perceive other children to be more prone to the negative effects of cyberbullying, compared to their own child. Table 1 shows the results of the paired-samples t-test that was conducted to test H1. There was a significant difference in the scores for parents’ perceived negative effects of cyberbullying on other children ( $M = 4.68$ ,  $SD = 1.50$ ) as compared to their own children ( $M = 4.18$ ,  $SD = 2.01$ ) supporting H1 ( $t(1186) = 7.78$ ,  $p < .001$ ,  $d = 0.45$ ). As seen in Table 1, this effect was consistent across both parents of secondary school adolescents and primary school children.

H2 posited that parents’ third-person perceptual gap will be negatively associated with their support for anti-cyberbullying legislation. Table 2 shows the final standardized beta coefficients from the hierarchical regression analysis. The results show that parents’ social media

**Table 2**  
Hierarchical OLS regression analysis for support for anti-cyberbullying legislation.

Independent variables	$\beta$ (Pri)	SE B (Pri)	$\beta$ (Sec)	SE B (Sec)
<b>Block 1: Demographics</b>				
Age	.06	.01	.02	.01
Education	-.03	.03	.16**	.03
Income	-.01	.05	.07	.05
Incremental $R^2$ (%)		0.50%		15.40%***
<b>Block 2: Social Media Use &amp; Literacy</b>				
Social Media Use	.13**	.04	.24***	.04
ICT Literacy	.18***	.05	.07	.04
Incremental $R^2$ (%)		5.00%***		3.60%***
<b>Block 3: Third-Person Perceptual gap</b>				
Third-Person Perceptual Gap	-.16***	.03	-.03	.03
Incremental $R^2$ (%)		2.40 $\beta$ ***		0.10%
Total $R^2$ (%)		7.90%***		19.10%***

Note. Parents of Primary School Children  $N = 489$ , Parents of Secondary School Children  $N = 698$ ; Cell entries for all models are final standardized regression coefficients for all blocks; \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

**Table 3**  
Hierarchical OLS regression analysis for parental active mediation.

Independent variables	$\beta$ (Pri)	SE B (Pri)	$\beta$ (Sec)	SE B (Sec)
<b>Block 1: Demographics</b>				
Age	.12**	.01	.05	.01
Education	.06	.03	-.03	.03
Income	-.04	.05	.00	.05
Incremental R <sup>2</sup> (%)		1.70%*		0.40%
<b>Block 2: Social Media Use &amp; Literacy</b>				
Social Media Use	.17***	.04	.15**	.03
ICT Literacy	.27***	.05	.19***	.04
Incremental R <sup>2</sup> (%)		10.50%***		5.70%***
<b>Block 3: Third-Person Perceptual gap</b>				
Third-Person Perceptual Gap	.45***	.03	.40***	.03
Incremental R <sup>2</sup> (%)		19.00%***		15.50%***
Total R <sup>2</sup> (%)		31.30%***		21.60%***

Note. Parents of Primary School Children  $N = 489$ , Parents of Secondary School Children  $N = 698$ ; Cell entries for all models are final standardized regression coefficients for all blocks; \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

**Table 4**  
Hierarchical OLS regression analysis for parental restrictive mediation.

Independent variables	$\beta$ (Pri)	SE $\beta$ (Pri)	$\beta$ (Sec)	SE $\beta$ (Sec)
<b>Block 1: Demographics</b>				
Age	-.08*	.01	.04	.01
Education	.09*	.03	.12	.04
Income	.05	.05	-.06	.06
Incremental R <sup>2</sup> (%)		7.80%***		0.20%
<b>Block 2: Social Media Use &amp; Literacy</b>				
Social Media Use	.14***	.04	-.11*	.04
ICT Literacy	.25***	.05	.21***	.04
Incremental R <sup>2</sup> (%)		8.60%***		3.40%***
<b>Block 3: Third-Person Perceptual gap</b>				
Third-Person Perceptual Gap	.47***	.03	.37***	.03
Incremental R <sup>2</sup> (%)		21.00%***		13.00%***
Total R <sup>2</sup> (%)		37.40%***		16.60%***

use (Pri:  $\beta = 0.13$ ,  $p < .01$ ; Sec:  $\beta = 0.24$ ,  $p < .001$ ) and ICT literacy (Pri:  $\beta = 0.18$ ,  $p < .001$ ) were both significantly correlated with their support for anti-cyberbullying legislation. Parents of adolescents' ICT literacy was not significantly associated with their support for anti-cyberbullying legislation. More importantly, the results show that parents' third-person perceptual gap was significantly and negatively correlated with their support for anti-cyberbullying legislation ( $\beta = -.16$ ,  $p < .001$ ) among parents of primary school children but not secondary school adolescents, lending partial support to H2. All the predictive variables accounted for 7.90% of the variance explained in support for anti-cyberbullying legislation by parents of primary school children, and 19.10% of the variance for parents of secondary school children (see Tables 3 and 4).

RQ1 sought to understand if parents' third-person perceptual gap was associated with parental mediation strategies. Prior to the regression analyses, a confirmatory factor analysis was conducted to ensure that the items load satisfactorily on the separate constructs of active and restrictive mediation. All the items loaded onto the hypothesized latent variables with factor loadings of .60 and above, and the hypothesized model displayed acceptable fit (GFI = .99, RMSEA = 0.05, TLI = 0.98), indicating that it is appropriate to consider active and restrictive mediation as separate latent variables. The results show that parents' social media use (Pri:  $\beta = 0.17$ ,  $p < .001$ ; Sec:  $\beta = 0.15$ ,  $p < .001$ ) was significantly correlated with parental active mediation and restrictive mediation (Pri:  $\beta = 0.14$ ,  $p < .001$ ; Sec:  $\beta = -.011$ ,  $p < .05$ ). Parents' ICT literacy was significantly correlated with both active (Pri:  $\beta = 0.27$ ,  $p < .001$ ; Sec:  $\beta = 0.19$ ,  $p < .001$ ) and restrictive mediation (Pri:  $\beta = 0.25$ ,  $p < .001$ ; Sec:  $\beta = 0.21$ ,  $p < .001$ ). Most importantly, parents' third-person perception was strongly correlated with both active (Pri:  $\beta = 0.45$ ,  $p < .001$ ; Sec:  $\beta = 0.40$ ,

$p < .001$ ) and restrictive parental mediation (Pri:  $\beta = 0.47$ ,  $p < .001$ ; Sec:  $\beta = 0.37$ ,  $p < .001$ ). The predictive variables accounted for 31.30% (Primary school) and 21.60% (Secondary school) of the variance explained in active parental mediation, and 37.40% (Primary school) and 16.60% (Secondary school) of the variance explained in restrictive parental mediation of social media.

Note. Parents of Primary School Children  $N = 489$ , Parents of Secondary School Children  $N = 698$ ; Cell entries for all models are final standardized regression coefficients for all blocks; \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

H3a posited that the relationship between parents' third-person perceptual gap and support for anti-cyberbullying legislation would be stronger among parents of younger children as compared to parents of older children. Further regression analyses supported H3a. While parents' third-person perceptual gap was not significantly associated with support for anti-cyberbullying legislation among parents of adolescents ( $\beta = -.03$ ,  $p = .45$ ), it was significantly correlated among parents of primary school children ( $\beta = -.016$ ,  $p < .001$ ). The total variance explained with the same predictive variables was 19.10% among parents of adolescents, and 7.90% among parents of primary school children.

Similarly, H3b posited that the relationship between parents' third-person perceptual gap and parental mediation would be stronger among parents of younger children as compared to older children. This was supported as well. With regard to parents of primary school children, the third-person perceptual gap was significantly correlated with both active mediation ( $\beta = .45$ ,  $p < .001$ ) and restrictive mediation ( $\beta = 0.47$ ,  $p < .001$ ). The total variance explained was 31.30% in the regression model predicting active mediation, and 37.40% in the regression model predicting restrictive mediation among parents of primary school children. The association between the third-person perceptual gap among parents of adolescents, although significant, are smaller, with the third-person perceptual gap being significantly correlated with both active ( $\beta = .40$ ,  $p < .001$ ) and restrictive mediation ( $\beta = 0.37$ ,  $p < .001$ ). The total variance explained among parents of adolescents are also smaller, with 21.60% in the model predicting active mediation, and 16.60% in the model predicting restrictive mediation.

#### 4. Discussion

Our study aimed to test both the perceptual and behavioral components of the third-person effect among parents, in a context that was unexamined by previous studies. As one of the first few studies documenting the third-person effect among parents' perception of negative media effects, and the first study examining the third-person effect in the context of cyberbullying on social media, our study uniquely contributes to the body of research examining the third-person effect.

Overall, our study supports both the perceptual and behavioral hypotheses of the third-person effect, in the context of parents' perception of negative cyberbullying effects on social media. First, our study found that parents perceive greater negative effects of cyberbullying on other children as compared to their own, supporting the perceptual component of the third-person effect among parents. This corroborates findings from past studies, where parents tended to perceive their children as less prone to negative media influences in general (Hoffner & Buchanan, 2002; Meirick et al., 2009; Nathanson et al., 2002; Tsftati et al., 2005). This effect persisted regardless of the age of their children.

In examining the behavioral hypothesis, we found that parents' third-person perceptual gap was negatively related to their support for anti-cyberbullying legislation. Although this goes against the grain of research examining the third-person effect, where individuals are hypothesized to adopt more protective behaviors if they perceived the media having a greater negative effect on others (Gunther, 1995; Sun, Shen, & Pan, 2008), this was consistent with research examining

parental third-person perception (Hoffner & Buchanan, 2002; Tsfaty et al., 2005). Attribution bias and paternalistic motivation have sometimes been invoked to explain individuals' desire to shield perceived others from negative media effects (Gunther, 1991; Ho & Yee, 2017; Rucinski & Salmon, 1990; Tal-Or, Tsfaty, & Gunther, 2009). While attribution bias can cause a parent to perceive one's child as more resilient and less susceptible to cyberbullying effects, the paternalistic instinct can kick in stronger when it is directed at one's own children. As Hoffner and Buchanan (2002) explained, parents ultimately are still more concerned about their own children, despite perceiving other children as more susceptible to negative influences. This is a natural inclination of parents (Meirick et al., 2009), and can theoretically inform how behavioral outcomes of *parental third-person perception* may differ from individual third-person perception.

With regard to parental mediation as a response of parental third-person perception, our study mirrored a previous study which found a positive correlation between third-person perception and parental mediation strategies (Hoffner & Buchanan, 2002). Although this might seem counterintuitive, especially since it was earlier explained that there is a natural inclination of parents to protect their children from negative media effects, it is possible that the assumed causal direction of parental third-person perception and parental mediation is flipped. Hoffner and Buchanan (2002) suggested so when they explained that parental mediation itself could influence the perceived effects on one's own children. In other words, the more parents guided and coached their own children, the more they will perceive that their own children are able to protect against the negative effects of cyberbullying, while other children are more susceptible to negative effects of cyberbullying on social media. Together with Hoffner and Buchanan (2002), our findings offer support for this rationale.

Lastly, our study sought to examine whether the relationship between the third-person perceptual gap and its responses would differ among parents of younger children as compared to older children. There were two main findings. First, the effect of parents' third-person perceptual gap on their support for anti-cyberbullying legislation was significant only among parents of primary school children, but not adolescents. Scholars have suggested that parents of younger children may feel that their children are still young and impressionable, and therefore more susceptible to media influences (Hoffner & Buchanan, 2002). As the child grows older, parents may perceive their child to be more resistant to media influences as the child starts to internalize the values and beliefs held by his/her parents (Dix et al., 1986). Our results support this, as the mean difference between perceived negative effects of cyberbullying on their own child and other children is 0.33 among parents of adolescents, and more than double at 0.74 among parents of primary school children. It is possible that because of this difference, the third-person perceptual gap is predictive of support for anti-cyberbullying legislation only among parents of younger children.

Second, the positive relationship between the third-person perceptual gap and parental mediation was stronger among parents of primary school children than parents of adolescents. If we take parental mediation as the predictor of the third-person perceptual gap as explained above, it is possible that parents think their mediation strategies have more of an influence on their children at a younger age as compared to at an older age. As Byrne et al. (2014) pointed out, adolescents tend to confide in their friends rather than parents when it comes to cyberbullying. This lowered interaction between parent and adolescent might lead parents of adolescents to think that their mediation strategy has less of an impact on cyberbullying effects, as compared to parents of younger children.

#### 4.1. Theoretical implications

Our study has substantial theoretical implications as it provides new empirical evidence in support of both the perceptual and behavioral components of the third-person effect, when applied to the context of

parents' perception of negative cyberbullying effects. Our results corroborate the findings of Hoffner and Buchanan's (2002) study, and found them to be applicable to the social media context. As proposed by Meirick et al. (2009), our results provided support for the concept of *parental third-person perception*, which can differ from individual third-person perception. Lastly, we identified theoretical nuances in the behavioral manifestations of parental third-person perception, where the relationships between parental third-person perceptual gap and parental responses were stronger among parents of younger children as compared to those with older children. This age dependent effect on the behavioral component of the third-person effect has been discussed in previous literature, but has yet to be empirically tested until now.

#### 4.2. Practical implications

Our study also holds some valuable implications for policymakers. First, our findings highlighted the role of beliefs about cyberbullying effects on one's own children versus other children, in parents' support for protective legislation such as the anti-cyberbullying legislation studied here. This is especially true for parents of young children, compared to parents of adolescents. Policymakers should take parental third-person effect into consideration, along with other stakeholders' viewpoints (such as children, adolescents, and the general public), in order to obtain a more holistic perception of protective legislation to combat cyberbullying. Second, our findings possibly suggest that parents who practice more parental mediation might be overconfident of their own children's susceptibility to cyberbullying effects compared to other children. Since adolescents confide more in their friends than parents when it comes to cyberbullying (Byrne et al., 2014), parents of adolescents might overestimate their influence on their children. Parents ought to be made aware of the dangerous assumption that if they practice greater active and restrictive guidance, their children are less susceptible to cyberbullying effects. While it might be true that active and restrictive guidance do have a desirable effect on cyberbullying effects, thinking that their children are less susceptible compared to others might lead to a false belief that their children are less likely to be caught up in cyberbullying. Previous research have also found that high confidence in their ability to manage their children's Internet use, can lead to parents having lower motivation to update their knowledge of the Internet and engage in effective parental mediation (Shin, 2015).

#### 4.3. Limitations

There are some important limitations to our study. First, due to the cross-sectional design of our data, causality cannot be established. Even though our hypotheses have strong theoretical foundations, future studies should adopt longitudinal designs in order to empirically validate the assumptions of causality inherent in the behavioral component of the third-person effect. This is even more important in light of our findings regarding the third-person perceptual gap and parental mediation, where the current findings appear to suggest parental mediation serving as the causal factor in influencing the third-person perceptual gap. Second, our measure of perceived effects of cyberbullying on own children is a single-item measure. Future studies should use a multi-item scale to strengthen the reliability and validity of any future findings. Third, our study considered two potential parental responses from the third-person perceptual gap. Future studies should consider other types of behavioral outcomes, such as parental monitoring and surveillance, in order to further understand how parental third-person perception can differentially influence various outcomes. Fourth, our study focused on cyberbullying in the context of social media. As Whittaker and Kowalski (Whittaker & Kowalski, 2015) have found, the targets and frequency of cyberbullying can differ between different types of online platforms, with implications for policy and intervention efforts. For instance, image-based social media (such as Snapchat) tend to prompt more intimate sharing with one's social network as compared

to text-based social media (Bayer, Ellison, Schoenebeck, & Falk, 2016; Pittman & Reich, 2016), potentially subjecting youths to greater risk of cyberbullying. Future studies should consider further distinguishing between different types of social media to see how parental third-person perceptions and associated behavioral outcomes may vary across different platforms. Finally, our study conceptualized cyberbullying legislation only through the lens of online-anti-harassment laws. As cyberbullying can be legislated through different legal models and applied to a variety of acts beyond harassment, such as sexual exploitation, parental support for cyberbullying legislation can differ depending on the legal model and the type of cyberbullying that is being targeted to combat. Since our study was conducted among Singaporean respondents, we selected the most relevant legislation, based on the Protection from Harassment Act (2015), as the basis for parents' support for cyberbullying legislation. Future research conducted in other countries should examine support for legislation in a more nuanced manner, taking into consideration other legal models and types of cyberbullying.

## 5. Conclusion

Our study extended the current understanding of the third-person effect by examining how parents' perceived effects of cyberbullying is associated with two behavioral outcomes – support for anti-cyberbullying legislation and parental mediation of social media use. Overall, we found backing for *parental third-person effect*, supporting a set of hypotheses related to but distinct from individual third-person effect. We hope that future research can build on this, and further our understanding of how perceptions of media effects on one's children versus others, can lead to important parental outcomes and behaviors. As these outcomes involve both societal (e.g., support for anti-cyberbullying legislation) and individual (e.g., parental mediation for their own children) consequences, sparking further research in this area will have significant implications for the development and well-being of children and families across the world.

## Conflict of interest declaration

All authors declare they have no competing interests.

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