

Public perceptions of child maltreatment in Singapore: Differences between 1994 and 2010

Zhi Jing Lui^{a,*}, John M. Elliott^b, Chee Wan Koh^{a,1}, Jacky Chin Gee Tan^a, Denise Liu^a, Cuthbert Eng Swee Teo^c

^a Singapore Children's Society, 51 Telok Blangah Crescent #05-01, Singapore 098917, Singapore

^b Department of Psychology, Faculty of Arts and Social Sciences, National University of Singapore, 9 Arts Link, Singapore 117570, Singapore

^c Department of Biological Sciences, Faculty of Science, National University of Singapore, Block S3 #05-01, 16 Science Drive 4, Singapore 117558, Singapore

ARTICLE INFO

Keywords:

Public
Perceptions
Child maltreatment
Singapore
Reporting

ABSTRACT

Perceptions of child maltreatment have been associated with reporting attitudes, and can inform efforts to encourage members of the public to report suspected maltreatment. However, limited research has been done to investigate differences in the public's perceptions of maltreatment over time. Public perceptions of child maltreatment in Singapore were last studied in 1994 ($n = 401$; Elliott, Tong, & Tan, 1997). To understand differences through time, we replicated the 1994 study and surveyed 400 members of the public in 2010. The present report examined (1) differences in perceptions of potentially abusive behaviors between 1994 and 2010; (2) differences in attitudes toward reporting maltreatment; and (3) the association between perceptions of maltreatment and reporting attitudes. Findings suggested that over 16 years, respondents became more tentative when determining the abusiveness of ambiguous behaviors. Differences over time also depended on respondents' education level and age. Attitudes toward reporting maltreatment continued to be positive, and respondents who were more likely to perceive behaviors as abusive indicated that they were also more likely to support reporting suspected maltreatment. Findings suggest that the public's tentativeness in perceiving ambiguous behaviors as abusive could be related to reduced support for the reporting of maltreatment. Public education could focus on raising awareness of the potential harmfulness of ambiguous behaviors to improve the public's ability to detect and report suspected maltreatment.

1. Introduction

Child maltreatment is associated with long-lasting psychological, developmental, and behavioral consequences (e.g., Lansford et al., 2002). Understanding public perceptions of child maltreatment allows policymakers and the local community to stay abreast of the general population's opinions and awareness on the issue (e.g. Gracia & Herrero, 2008), which could inform the development of public education campaigns and policies (Schmid & Benbenishty, 2011). Specifically, perceptions of maltreatment have been found to affect public attitudes toward reporting – the more likely that behaviors suggestive of maltreatment were recognized as abuse, the more likely people were to report these behaviors (e.g. Ashton, 2001; Benbenishty & Schmid, 2013; Chan, Chun, & Chung, 2008). Perception studies could hence inform public education efforts that reframe public discussion on child maltreatment (Fortson, Klevens, Merrick, Gilbert, & Alexander, 2016)

and sensitize individuals to the potential harm of various abusive behaviors. This could in turn improve both detection and reporting of maltreatment.

1.1. Public perceptions of child maltreatment

Perceptions of child maltreatment are not universal; they differ across societies and are thought to change over time (Barnett, Manly, & Cicchetti, 1993). In fact, most studies have focused on differences in perceptions across ethnic groups (Hong & Hong, 1991; Schmid & Benbenishty, 2011), countries (Fakunmoju et al., 2013), and demographic profiles (Ashton, 2004; Bornstein, Kaplan, & Perry, 2007; Evans-Campbell, 2008; Gracia & Herrero, 2008; Portwood, 1998; Price et al., 2001; Qiao & Xie, 2017). For instance, females tend to rate potentially abusive behaviors as being more serious than males (e.g. Bornstein et al., 2007), while older individuals tend to perceive

* Corresponding author at: Research Department, Singapore Children's Society, 51 Telok Blangah Crescent #05-01, Singapore 098917, Singapore.

E-mail address: zjlui@childrensociety.org.sg (Z.J. Lui).

¹ Former research officer at Singapore Children's Society.

maltreatment as being less abusive as compared to younger individuals (Gracia & Herrero, 2008; Qiao & Xie, 2017).

In a discussion on the definition of child maltreatment, Barnett et al. (1993) have suggested that perceptions of maltreatment could also change across time, likely as a result of changing societal norms. For instance, disciplining children using extremely harsh corporal punishment first garnered public attention in the United States during the 19th century, where the first case of child abuse was brought to court (Barnett et al., 1993). Since then, public approval of corporal punishment somewhat diminished. Between 1986 and 2014, the percentage of US respondents who agreed that it was necessary to at times spank a child dropped from > 80% to about 75% (Child Trends, 2015). Awareness of child maltreatment also became increasingly recognized internationally following the 1962 seminal work of Henry Kempe and his colleagues on the battered child syndrome (Doek, 2013).

Differences in perceptions of maltreatment through time may also be partly due to the enactment of laws banning the use of corporal punishment. Reduced support for corporal punishment has been documented in Sweden, the Netherlands, and Germany respectively, following bans of physical punishment (Durrant, 1999; Zolotor & Puzia, 2010). However, in another study involving eight mostly non-Western countries, the association between legal bans and support for corporal punishment was less clear-cut (Lansford et al., 2017). For instance, Togo showed increased use and support of corporal punishment despite legal bans, while countries such as Macedonia and Sierra Leone saw decreasing support for corporal punishment even prior to legal bans. These findings led Lansford et al. (2017) to suggest that perhaps bans alone without public education campaigns on alternative positive parenting strategies might not be sufficient in changing public perceptions of maltreatment. Studies investigating differences in perceptions of child maltreatment over time have thus far focused on differences in attitudes toward corporal punishment. To our knowledge, no study has examined differences in public perceptions of potentially abusive behaviors other than corporal punishment over time.

1.1.1. Perceptions and reporting attitudes of child maltreatment

The public's perceptions of potentially abusive behaviors could influence their attitudes toward reporting instances of child maltreatment (Feng & Levine, 2005). Studies indicated that people were more likely to report behaviors that were recognized as abuse (Benbenishty & Schmid, 2013; Chan et al., 2008). In Hong Kong, these were sexual and physical behaviors (Chan et al., 2008). However, in Israel, behaviors that were more severe were more likely perceived to be abusive (Benbenishty & Schmid, 2013). The tendency to report behaviors that are perceived to be abusive is consistent with the theory of planned behavior, where attitude toward a behavior is one of the components in predicting the intention to perform the behavior (Ajzen, 1991; Armitage & Conner, 2001).

As public perceptions of maltreatment have been suggested to change over time (Barnett et al., 1993), corresponding shifts in the public's reporting attitudes can also be expected. Further, understanding the differences of maltreatment perceptions and reporting attitudes over time could inform advocacy efforts aimed at improving the public's ability to identify and report maltreatment behaviors. This could ensure that cases of child maltreatment are made known to the relevant authorities in a timely fashion.

1.2. Singapore

Situated in Southeast Asia, Singapore is a city-state with a land area of 275 mile² and a population of 5.6 million, of which 3.4 million are citizens (Singapore Department of Statistics, 2011c). In 2010, Singaporeans were made up of Chinese (74.1%), Malays (13.4%), Indians (9.2%), and other races (3.3%; Singapore Department of Statistics, 2011a).

In Singapore, child maltreatment is defined as acts of commission or

omission by caregivers that result in harm to a child's physical, emotional, and/or psychological well-being (Ministry of Social and Family Development, 2016). The Singapore Ministry of Social and Family Development recognizes four categories of child maltreatment – physical abuse, emotional abuse, neglect, and sexual abuse, which are consistent with the categories used by other countries (Fakunmoju et al., 2013; Portwood, 1999; Schmid & Benbenishty, 2011). Singapore investigated 390 cases of suspected child maltreatment in 2010, of which 188 cases were suspected physical abuse, 58 cases sexual abuse, and 144 cases neglect (Ministry of Social and Family Development, 2018). In addition, Singapore recognizes that value judgements of the community can help determine whether any given behavior constitutes maltreatment (Ministry of Social and Family Development, 2016). Moreover, while Singapore identifies as an Asian society, it is also cosmopolitan with both Eastern and Western influences. The exposure to and negotiation of values relating to child care and parenting have been suggested to affect local attitudes and treatment of children (Elliott, Tong, & Tan, 1997). This is in line with the understanding in the literature that societies differ in the behaviors that could be considered as potentially abusive (Barnett et al., 1993; Gelles, 1975).

Public perceptions of child maltreatment were first investigated in 1994 in Singapore. Findings suggested that respondents were most disapproving of behaviors suggesting sexual abuse, followed by physical abuse, emotional maltreatment, and neglect (Elliott et al., 1997; Tong, Elliott, & Tan, 1996). The public was supportive of reporting instances of maltreatment in 1994. Since 1994, Singapore has shown increasing commitment toward preventing child maltreatment through legislative and public education efforts. In 1995, Singapore acceded to the United Nations Convention on the Rights of the Child (UNCRC), in which Article 19 states that children have the right to be protected from violence (United Nations, 1989). The main legislation protecting children and young persons from maltreatment, the Children and Young Persons Act (CYPA, 2001), was also amended in 2001 to include emotional maltreatment. Between 1994 and 2010, the government and nonprofit organizations also implemented systematic public education efforts to prevent maltreatment (e.g. Ministry of Social and Family Development, 2016). Changes in legislation and associated initiatives may to some extent reflect changes in public attitudes, and may also in turn affect such attitudes (Lansford et al., 2017). Without investigating the causes and consequences of legislative change directly, it is not possible to address its relative contribution toward changes in perceptions.

1.3. Research questions

The present study seeks to understand whether members of the public perceive child maltreatment differently over 16 years in Singapore, between 1994 and 2010. To this end, this study replicates the 1994 study (Elliott et al., 1997) and then investigates: (1) differences in public perceptions of behaviors suggesting child maltreatment between 1994 and 2010; (2) differences in public attitudes toward reporting child maltreatment across the years; and (3) the relationship between child maltreatment perceptions and reporting attitudes.

2. Methods

2.1. Participants

All participants were Singaporeans above the age of 18. The 1994 sample comprised of 401 respondents residing in public housing, while the 2010 sample had 500 respondents, of which 400 were residing in public flats and 100 in private properties. The 1994 survey did not sample Singaporeans residing in private housing. To ensure that any differences in perceptions we find is an effect of time instead of changing housing types, we included only respondents living in public housing in our analyses.

Table 1
Demographic characteristics of 1994 and 2010 participants.

Variable	1994		2010		χ^2
	n	%	n	%	
Gender					2.32
Male	171	42.6	193	48.3	
Female	230	57.4	207	51.7	
Age					42.65***
18–29 years old	94	23.4	99	24.8	
30–49 years old	241	60.1	167	41.8	
50 years old and above	59	14.7	134	33.5	
Not stated	7	1.7	0	0.0	
Race					5.78
Chinese	314	78.3	297	74.3	
Malay	58	14.5	57	14.2	
Indian	22	5.5	40	10.0	
Others	7	1.7	6	1.5	
Education level					44.65***
Primary and below	120	29.9	68	17.0	
Secondary	176	43.9	140	35.0	
Post-secondary and above	104	25.9	192	48.0	
Not stated	1	0.2	0	0.0	
Parenthood status					4.07*
Yes	284	70.8	257	64.3	
No	115	28.7	143	35.8	
Not stated	2	0.5	0	0.0	
No. of children					6.49
None	115	28.7	143	35.8	
One	53	13.2	56	14.0	
Two	131	32.7	103	25.8	
Three or more	100	24.9	98	24.5	
Not stated	2	0.5	0	0.0	
Flat size					52.70***
HDB 1- to 2-room	17	4.2	13	3.3	
HDB 3-room	187	46.6	104	26.0	
HDB 4-room	142	35.4	159	39.8	
HDB 5-room/ executive/ maisonette	54	13.5	124	31.0	
Not stated	1	0.2	0	0.0	

Note. HDB refers to the Housing Development Board, the government agency that manages public housing in Singapore. Respondents who did not state their demographic information were excluded from the Chi-square test; total *n* for each demographic variable ranges from 794 to 801.

*** $p < .001$.

* $p < .05$.

Public housing in Singapore is unique. While in many Western countries it caters to the lower-income populations, public housing in Singapore meets housing needs of the working class and most of the middle class (Vasoo & Lee, 2001), and in most cases they own their homes. As 82.4% of Singapore's resident population stayed in public housing in 2010 (Singapore Department of Statistics, 2011b), the sample, while not nationally representative, covers a wide range of the population.

There were demographic differences between the two samples (see Table 1). While respondents were similar in terms of racial composition, gender, and number of children, they differed in age, education level, flat size, and parenthood status. Compared to the 1994 sample, respondents in the 2010 study were older, more highly educated, resided in larger flats, and less likely to be parents. Demographic differences between the 1994 and 2010 samples are consistent with demographic changes observed on a national level over the period of study (Ng, 2015; Singapore Department of Statistics, 2006; Teo, 2013).

2.2. Procedure

The procedure of the current study followed closely to that of the 1994 study (see Tong et al., 1996 for the complete procedures used in 1994). The study was approved by the internal ethics review committee of the [organization masked for double-blind review]. Multi-stage sampling was conducted in 2010 to obtain a random sample of

Singapore citizens residing in public housing. Households were first grouped by flat size into units of 200 households each. The units were then randomly selected for each flat size to reflect the corresponding proportions of Singaporean households in these flat types. Following that, individual households were randomly selected from each selected unit.

The survey was conducted through face-to-face interviews by trained interviewers. Respondents were informed that their participation was confidential, anonymous, and voluntary, and that they could withdraw at any time during the survey. After screening the respondents based on inclusion criteria of age and nationality, the interviewers guided them through the structured interview. The survey took no more than 15 min to complete. At the end of the survey, the respondents were given a thumb drive as a token of appreciation, as well as a booklet on the prevention of child maltreatment. While the survey was not expected to pose any physical or psychological risks to participants, participants were debriefed and provided with a social assistance hotline that they could contact should they experience any distress following the survey.

2.3. Materials

The two-part questionnaire was the same as that used in the 1994 study (refer to Tong et al., 1996 for details).

The first section included 18 behaviors that could be potentially harmful to children. These behaviors were selected for their relevance to the Singapore context. Some examples are “Having sex with child” and “Telling child other children are better” (see Fig. 1 for all items). Respondents were asked to indicate their perceptions of the abusiveness of each behavior on the following response categories – *is abuse/ neglect*, *can be abuse/ neglect*, or *is not abuse/ neglect*. The second section was a yes-no question that measured the public's attitudes toward reporting suspected maltreatment. Respondents were asked if cases of maltreatment should be reported.

2.4. Analyses

Adjacent categories modeling (Agresti, 1989) was conducted to investigate whether perceptions of the abusiveness of the 18 behaviors differed between 1994 and 2010. Adjacent categories modeling was selected as the response categories were ordinal (*not abuse*, *can be abuse*, *is abuse*) and it permits comparisons between pairs of adjacent categories. We fitted models for each of the 18 behaviors to determine if in 2010, there was a significant difference from 1994 in the proportion of (i) *is abuse* and *can be abuse*, and (ii) *is not abuse* and *can be abuse*, with *can be abuse* as the reference category. As participants across both years differed in terms of age, education level, and whether they are a parent, these variables were included as control variables to ensure that differences in perceptions that we find are due to the effect of time, instead of changing demography (see Table 1). Each model included year of study, demographic variables acting as controls, as well as the interaction between year and demographic control variables. The reference categories were as follows: year of study (1994), age (18–29 years old), education level (primary education or below), and parenthood status (not a parent). Even though flat size of respondents also differed across the years, we did not include it as control. As both flat size and education level could be proxies of socio-economic status, multicollinearity could be an issue if both variables were included in the analyses. Education level was chosen over flat size as a control variable because it has been commonly used in the maltreatment literature (e.g. Ashton, 2004; Chan et al., 2008) and allows for comparison with other studies. To correct for multiple comparisons, we adjusted the *p* values using the false discovery rate technique (Benjamin & Hochberg, 1995).

An important assumption in the modeling of ordinal responses is the proportionality assumption, which treats the effect of predictors as constant across every paired comparison of adjacent categories,

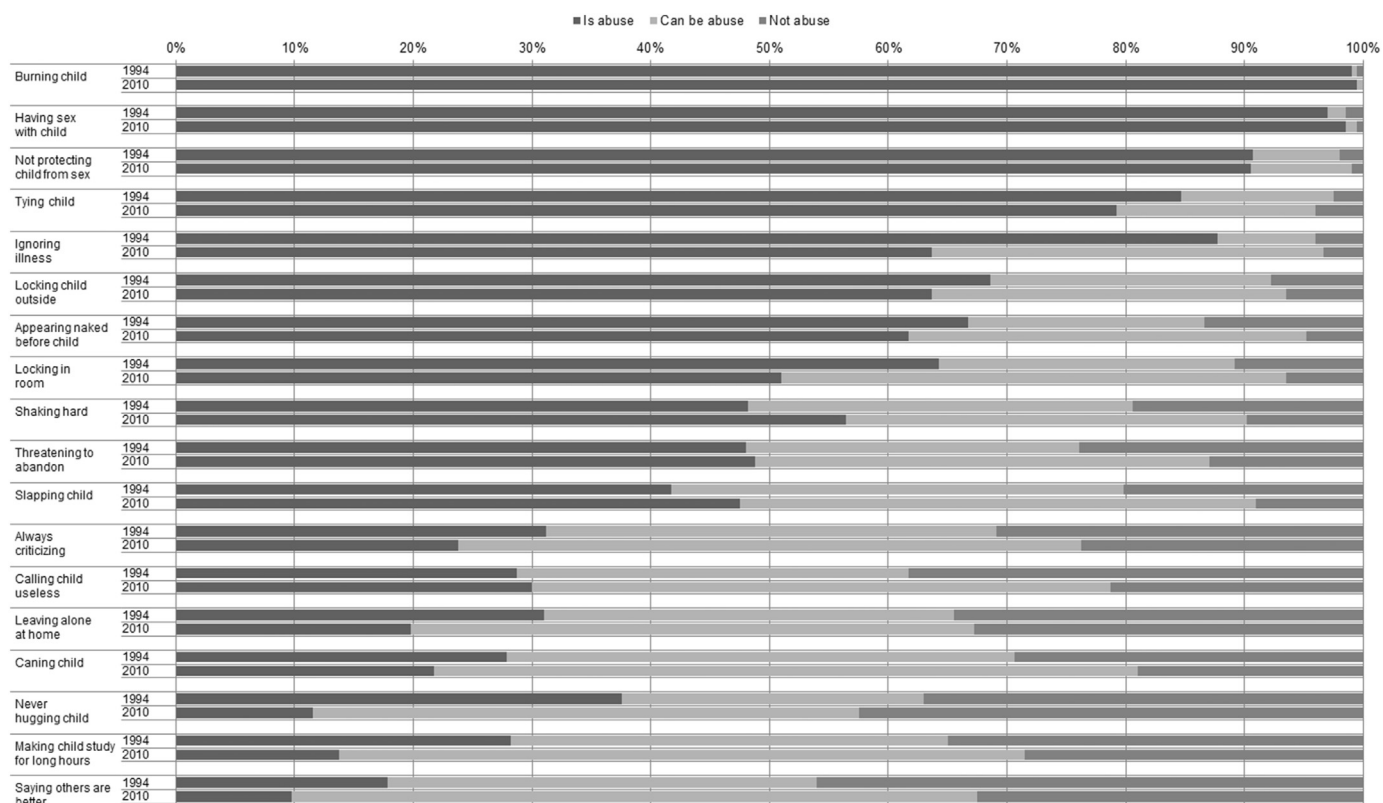


Fig. 1. Stacked and clustered row charts illustrating response profile of participants toward 18 behaviors suggesting child maltreatment.

resulting in a parsimonious model. Using the likelihood ratio test, we tested for violation of the proportionality assumption by comparing the fit of the adjacent categories model with estimated coefficients held constant against the model with this assumption relaxed. Relaxing the model constraint allows the coefficients to vary freely across each paired comparison of adjacent categories. Relaxing the model in this way also suggests that the complexity of our data cannot be fully captured by a single coefficient for each item. The unconstrained adjacent categories model is equivalent to the multinomial logit model (Fullerton, 2009). The proportionality assumption was satisfied for four behaviors: “Burning child”, $\chi^2(6) = 7.11, p = .31$; “Having sex with child”, $\chi^2(6) = 4.65, p = .59$; “Not protecting child from sex”, $\chi^2(6) = 6.27, p = .39$; and “Tying child”, $\chi^2(6) = 2.17, p = .90$. For the remaining 14 behaviors that did not satisfy the proportionality assumption, we relaxed the model constraint for the effects of predictors to be held constant across comparisons of different pairs of adjacent categories, as recommended by Fullerton and Xu (2016).

Logistic regression was conducted to determine if there was a significant difference in the proportion of participants who supported reporting child maltreatment as a function of year of study and perceptions of maltreatment, with age, education level, and parenthood status included as control variables. The predictor, perceptions of maltreatment, was derived by summing participants' scores on the 18 items that measured their perceptions of the abusiveness of behaviors. Responses were recoded as 1 for *not abuse*, 2 for *can be abuse*, and 3 for *is abuse*.

3. Results

3.1. Responses to perceptions of child maltreatment

Fig. 1 presents participants' responses to the 18 behaviors in descending degrees of consensus. Most participants agreed that behaviors causing severe and immediate impact were abusive, but responses on the abusiveness of less obviously harmful behaviors were more varied

across both years.

3.2. Modeling child maltreatment perception changes

3.2.1. Severe behaviors

No differences in perceptions between the 1994 and 2010 samples were observed for four severe behaviors: “Burning child”, $\chi^2(6) = 10.54, p = .12$; “Having sex with child”, $\chi^2(6) = 8.98, p = .19$; “Not protecting child from sex”, $\chi^2(6) = 3.70, p = .72$; and “Locking child outside”, $\chi^2(12) = 21.22, p = .06$. For the remaining 14 behaviors, the full models comprising year of study, demographic control variables, and the interaction terms of year and control variables fitted significantly better than the models without any predictors, as indicated by the significant likelihood ratio tests in Table 2. Thirteen out of 14 of these behaviors had significant main or interaction effect of year of study, with the exception of “Slapping child”. As our study focuses on perception differences over time and “Slapping child” was not perceived differently across the years, the behavior was not included in Table 3. Only significant main effects of year and significant interaction effects between year and demographic control variables of the remaining 13 behaviors were reported in Table 3.

3.2.2. Ambiguous behaviors

Among the 13 ambiguous behaviors, there was a significant main effect of year of study for 10 behaviors. Participants from 2010 tended to give more *can be abuse* rather than *not abuse* and *is abuse* responses to six behaviors: “Ignoring illness”, “Locking in room”, “Caning child”, “Never hugging child”, “Making child study for long hours”, and “Saying others are better” (see Table 3). They were also more likely to give *can be abuse* rather than *not abuse* responses to “Threatening to abandon” and “Shaking hard”. For “Leaving alone at home”, participants from 2010 were more likely to respond with *can be abuse* rather than *is abuse*. They were also more likely to give responses of lower abusiveness to “Tying child”.

Table 2
Likelihood ratio test comparing improvement in model fit with inclusion of predictors.

Behaviors	$\chi^2(12)$	McFadden's R^2
Shaking hard	36.72	0.04
Appearing naked before child	43.60	0.05
Calling child useless	46.94	0.04
Always criticizing	66.15	0.06
Ignoring illness	102.23	0.10
Locking in room	43.06	0.03
Caning child	46.50	0.03
Never hugging child	92.26	0.05
Making child study for long hours	66.71	0.04
Saying others are better	49.54	0.03
Tying child ^a	26.00	0.03
Leaving alone at home	37.51	0.02
Threatening to abandon	34.79	0.02
Slapping child	45.87	0.03

Note. False discovery rate adjusted p -value was $< .001$ for all behaviors.
^a Due to fulfilling the proportionality assumption, the degree of freedom = 6. When the proportionality assumption is met, there is no need to model parameters separately for each paired adjacent categories. By holding parameter values constant, the number of parameters that needs to be estimated will be equal to the number of parameters to be estimated for a single paired adjacent category.

Table 3
Parameter estimates of main and interaction effects of year of study on participants' perceptions of behaviors suggesting child maltreatment.

	β (SE) [OR]									
	Not abuse vs. can be abuse					Can be abuse vs. is abuse				
	Year	Year ^a Secondary	Year ^a Tertiary	Year ^a 30–49	Year ^a ≥ 50	Year	Year ^a Secondary	Year ^a Tertiary	Year ^a ≥ 50	
Shaking hard	-1.98 (0.81) ^a [7.1] ^a					1.11 (0.55) ^a [3.0]		-1.37 (0.51) ^{**} [3.9] ^b		
Appearing naked before child					3.12 (1.45) ⁺ [22.6]	-1.40 (0.55) ^{**} [4.1] ^b		-1.40 (0.55) ^{**} [4.1] ^b		
Calling child useless	-1.57 (0.63) ^a [4.8] ^a	1.11 (0.50) ^a [3.0]	1.22 (0.57) ^a [3.4]			2.37 (0.63) ^{***} [10.7]	-1.11 (0.52) ^a [3.0] ^b	-2.37 (0.59) ^{***} [10.7] ^b		
Always criticizing	-3.34 (0.76) ^{***} [28.2] ^a		1.50 (0.61) ^a [4.5]	1.50 (0.70) ^a [4.5]	2.44 (0.83) ^{**} [11.5]	2.38 (0.60) ^{***} [10.8]		-1.82 (0.56) ^{**} [6.2] ^b	-1.92 (0.66) ^{**} [6.8] ^b	
Ignoring illness	-1.34 (0.47) ^{**} [3.8] ^a					1.66 (0.23) ^{***} [5.3]				
Locking in room	-0.99 (0.30) ^{***} [2.7] ^a					0.87 (0.17) ^{***} [2.4]				
Caning child	-0.60 (0.20) ^{**} [1.8] ^a					0.42 (0.19) ^a [1.5]				
Never hugging child	-0.38 (0.18) ^a [1.5] ^a					1.71 (0.23) ^{***} [5.5]				
Making child study for long hours	-0.57 (0.18) ^{**} [1.8] ^a					1.03 (0.22) ^{***} [2.8]				
Saying others are better	-0.65 (0.17) ^{***} [1.9] ^a					0.96 (0.25) ^{***} [2.6]				
Tying child	0.46 (0.17) ^{**} [1.6]					0.46 (0.17) ^{**} [1.6]				
Leaving alone at home						0.71 (0.20) ^{***} [2.0]				
Threatening to abandon	-0.79 (0.23) ^{***} [2.2] ^a									

^a Odds ratio of *can be abuse* compared to *not abuse*.
^b Odds ratio of *is abuse* compared to *can be abuse*.
^{***} $p < .001$.
^{**} $p < .01$.
^{*} $p < .05$.

3.2.3. Interaction between year of study and demographic characteristics

Analyses examining perception differences over time found significant interaction effects between year of study and some demographic variables included as controls. There was a significant interaction between year of study and education level for four of the 13 behaviors: “Shaking hard”, $\chi^2(10) = 19.11, p = .04$; “Appearing naked before child”, $\chi^2(10) = 23.55, p = .01$; “Calling child useless”, $\chi^2(10) = 27.58, p = .002$; and “Always criticizing”, $\chi^2(10) = 23.39, p = .01$ (see Table 3). From 1994 to 2010, tertiary-educated participants tended to respond with *is abuse* more than *can be abuse* to “Shaking hard” and “Appearing naked before child”, when compared to their primary-educated counterparts. They were also more likely to respond with *not abuse* and *is abuse* rather than *can be abuse* to “Calling child useless” and “Always criticizing” across the years. They were less likely to respond with *can be abuse* to these behaviors. Compared to primary-educated respondents, secondary-educated participants also tended to respond to “Calling child useless” with *not abuse* and *is abuse* rather than *can be abuse* across the years.

There was a significant interaction between year of study and age for two of the 13 behaviors. Compared to respondents aged 18–29, participants aged 50 or older tended to give more *not abuse* rather than *can be abuse* responses to “Appearing naked before child” and more *not abuse* and *is abuse* rather than *can be abuse* responses to “Always criticizing” in 2010 than in 1994. Participants between the ages of 30 and 49 from 2010 tended to give more *not abuse* rather than *can be abuse*

responses to “Always criticizing” than in 1994, compared to their younger counterparts.

There was no significant interaction between year of study and parenthood status. Due to the large number of findings, Table 3 summarizes only the significant main effects of year and interaction effects of year and demographic control variables.²

3.3. Attitudes toward reporting child maltreatment

The majority of participants across both studies felt that child maltreatment should be reported (93.8% in 1994; 95.3% in 2010). The full model, which comprised year of study, perceptions of maltreatment, and demographic control variables, fitted the data better than a model without any predictors, $\chi^2(7) = 20.07, p = .01$, McFadden's $R^2 = 0.06$. Year of study did not predict participants' support of reporting maltreatment. However, perceptions of maltreatment predicted attitudes toward reporting, Wald $\chi^2(1) = 2.86, p = .004, OR = 1.1$.

4. Discussion

Our study examined (1) differences in perceptions of child maltreatment between 1994 and 2010; (2) differences in public attitudes toward reporting child maltreatment across the years; and (3) the relationship between perceptions of child maltreatment and reporting attitudes. Public perceptions of very severe maltreatment behaviors showed no shifts over time, while public perceptions of behaviors that might be more ambiguous have differed between 1994 and 2010 (Research Question 1).

4.1. Changes in perceptions of ambiguous behaviors

Public perceptions of 13 out of 18 behaviors differed across time. These behaviors had only a moderate level of consensus (see Fig. 1), suggesting that the public might hold more diverse views on these behaviors. A potential reason could be that these behaviors are not as severe as those discussed earlier. For these ambiguous behaviors such as “Caning child” and “Never hugging child”, the 2010 cohort was less likely to endorse *not abuse* and *is abuse* responses, when compared to the 1994 cohort. Instead, the 2010 cohort was more likely to consider that these behaviors might be potentially abusive. The shift away from *not abuse* responses could indicate that the Singaporean public may be increasingly aware of the potential abusiveness of parenting behaviors that may have been considered normative. This could be a positive shift, as past studies have shown that parents who were less approving of spanking were less likely to use physical punishment as a parenting strategy (e.g. Chavis et al., 2013; Scholer, Hamilton, Johnson, & Scott, 2010), and that better recognition of child maltreatment has been linked to greater likelihood of reporting (e.g. Chan et al., 2008). An increased awareness of the abusiveness of maltreatment behaviors could suggest that the public has a greater awareness of positive parenting practices, which could also improve rates of reporting maltreatment instances. However, the public also perceived the less severe behaviors as being less explicitly abusive, as evidenced from their shift away from *is abuse* responses. This suggests that while the public is more aware of the potential abusiveness of the ambiguous behaviors, they might also be more aware of variations in context and severity that play a part in deciding if a behavior constitutes abuse and needs to be reported. As ambiguity in behaviors has been associated with a reluctance to report potential abuse, especially when coupled with incomplete information typical in real-life settings (Falkiner, Thomson, & Day, 2017), the public's increased tentativeness toward whether these ambiguous behaviors constitute abuse could also be related to a

reduced likelihood of reporting. More research is needed to understand the relationship between public's perceptions of potentially abusive behaviors and their reporting behaviors. Specifically, to what extent the Singapore public are unsure of what is abuse, and to what extent they are sure, but differ among themselves as to the conditions under which an act may become abusive, would require an analysis of the conditions under which *can be abuse* replies are elicited.

Respondents' education level and age were associated with how their perceptions of maltreatment differed across time. Between 1994 and 2010, the increase in the likelihood of perceiving “Shaking hard” and “Appearing naked before child” as more abusive was higher among tertiary-educated respondents than among primary-educated respondents. Respondents of a higher education level seemed better able to recognize the potential harm of these behaviors over the years than their counterparts with a lower education level. Interestingly, the effect of education on the differences in maltreatment perceptions over time was not consistent across behaviors. Across the years, the more educated respondents were increasingly split on whether behaviors suggesting emotional abuse are abusive. In 2010, they were more likely to perceive “Calling child useless” and “Always criticizing” as either definitely abusive or not abusive over time, compared to those with a lower education level. The finding points to the particularly ambiguous and even controversial nature of some emotionally abusive behaviors. The effect of age on how perceptions differ across years was also mixed. Over time, older respondents were more likely to perceive “Appearing naked before child” and “Always criticizing” as less abusive than their younger counterparts. However, those above 50 years old were also more divided in their perception of the behavior “Always criticizing”, where they were more likely to perceive the behavior as either being abusive or not abusive over time.

To our knowledge, the present study is one of the first to show how differences in maltreatment perceptions over time could depend on demographic profiles.

While empirical data of interaction effects might be lacking, the need to consider how context and multiple identities work together to influence individuals' perspectives of the reality have been suggested in a recent theoretical discussion of the intersectionality framework by Nadan, Spilsbury, and Korbin (2015). For instance, an individual could be from the 1994 cohort, have a university degree, and be a parent. According to intersectionality theory, these multiple identities could *simultaneously* influence one's perceptions of maltreatment, thus making it inadequate to examine cohort and demographic factors independently. Our findings of interaction effects represent preliminary support for the framework. Future studies could examine how other demographic variables might be related to perception shifts over time. More research on the underlying mechanisms of these interaction effects could also be useful for the development of more nuanced public education campaigns to improve public awareness of child maltreatment.

4.2. No differences in perceptions of severe behaviors

Unlike the more ambiguous behaviors, the public perceived severe behaviors as abusive by the public in both 1994 and 2010. These behaviors include “Burning child”, “Having sex with child”, and “Not protecting child from sex”. While past studies have ascertained that severe behaviors were perceived as being abusive across cultures (e.g., Benbenishty & Schmid, 2013; Fakunmoju et al., 2013), our findings extend previous research to suggest that these behaviors are also perceived as being abusive *over time*.

4.3. Attitudes toward reporting child maltreatment and its relationship with maltreatment perceptions

The public was supportive of reporting of maltreatment, with > 90% of the respondents from both years (93.8% in 1994 and 95.3% in

² Full results, including non-significant findings, are available upon request from the Corresponding Author.

2010) agreeing that cases of maltreatment should be reported (Research Question 2). The finding suggests a strong consensus among the public in the need to intervene in suspected cases of maltreatment.

The more respondents perceived potential behaviors as abusive, the more likely they agreed that maltreatment should be reported (Research Question 3). Our results are in line with previous studies, which have found a similar relationship between perceptions and reporting of maltreatment (Ashton, 2001; Chan et al., 2008; Gilbert et al., 2009). As the Singaporean public was more tentative over the years in whether ambiguous behaviors are abusive, they might be less likely to report these behaviors. Families within which these ambiguous behaviors occur might not receive the appropriate support as a result.

4.4. Implications for policies, practice, and services

Public education efforts could focus on educating the public, including children, on the potentially harmful consequences of ambiguous behaviors such as “Never hugging child”. Parents could be advised to use positive parenting strategies to avoid inflicting unintentional harm on their children. Campaigns could also equip Singaporeans with the knowledge of where they could seek help if they or other children they know might be experiencing potential maltreatment. Improving knowledge of maltreatment could encourage Singaporeans to err on the side of caution by approaching community-based agencies when they suspect that there is abuse, even when they might not be certain of the behaviors' abusiveness.

Community-based agencies could then perform a preliminary assessment of the case, provide support to the suspected victim and family, and when necessary, escalate the case to child protective services and the police. The supporting role of agencies within the community helps to avoid overwhelming the child protective services and the police force, and at the same time ensures that potentially maltreated children and their families receive support. This is in line with the Singapore government's approach to child protection, where community-based resources are partners within the child protection system that help to support cases of maltreatment that might not require immediate attention from the child protective services (Ministry of Social and Family Development, 2016). Given the importance of these agencies in cases of maltreatment, professionals working within the community should also receive training on the management of child maltreatment to ensure that reported cases receive the appropriate attention. Such training should also place greater emphasis on the more ambiguous behaviors, such as “Caning child” and “Never hugging child”, as these behaviors might be less likely identified as being potentially abusive.

Demographic profiles of age and education level are important to consider in public education. As the differences in maltreatment perceptions across the years varied for different groups of the public, public education could be customized based on the perceptions of specific groups. For instance, more highly educated respondents were more likely to perceive potentially emotionally abusive behaviors, such as “Calling child useless” and “Always criticizing” as being definitely abusive or definitely not abusive in 2010. Based on this finding, campaigns promoting awareness of emotional maltreatment could target more highly educated members of the public. Messages conveyed through the campaign can also be informed by the population's existing perceptions of emotional maltreatment. One cost-effective way to disseminate targeted messages could be via popular websites, where messages could be selectively shown to more users of a certain demographic profile.

4.5. Limitations and future directions

Our study is one of the first that has examined differences in public perceptions of child maltreatment over time. It also extends previous literature to consider interaction effects between time and demographic

variables. Nevertheless, some limitations of our study include the use of an ordinal scale in measuring perceptions, a small sample size, and our sampling of only members of the public residing in public housing. The 3-point ordinal scale used to measure maltreatment perceptions of was chosen in the earlier 1994 study to simplify the response scale for the public. It was retained in 2010 to ensure comparability of perceptions between two time points. However, the measure was limited in the amount of variance that it could capture and the statistical analyses that could be applied. For instance, its non-continuous nature required the use of adjacent categories modeling, which was limited in comparing across three response categories. Future studies could include response categories with a wider-range continuous scale, which would yield greater variance necessary to detect differences of perceptions across items and allow the use of alternative statistical tools that could examine maltreatment perceptions in a more parsimonious fashion.

Our current study also examined relatively small samples of 401 in 1994 and 400 in 2010, and focused on Singaporeans residing in public housing, both of which limit the generalizability of our findings to the overall population. For instance, by sampling only Singaporeans residing in public housing, we could have excluded Singaporeans of the highest socio-economic status. While 80% of Singaporeans reside in public housing, more are now living in private housing such as condominiums (Singapore Department of Statistics, 2016). The growing percentage of Singaporeans residing in private housing signals the increasing importance of including them in future studies. Moving forward, an examination of perception differences between residents of public and private housing would provide a more complete picture of Singaporeans' perceptions of child maltreatment.

5. Conclusion

Public perceptions of child maltreatment inform us how people in a specific context and point in time look at the issue. Perceptions remained constant over time for extremely harmful behaviors suggesting maltreatment, but varied for the more ambiguous behaviors. The public were more likely to consider ambiguous behaviors as potentially abusive and were also less likely to agree that these behaviors were definitely abusive or not abusive. Perception differences over time also depended on behaviors and respondent profiles, which highlights the context-specific nature of maltreatment behaviors. As child maltreatment perceptions have implications on reporting attitudes, they should be studied regularly to inform policies and public education as part of Singapore's child protection efforts.

Funding

This research was initiated, funded, and supported by Singapore Children's Society. This research did not receive any specific grant from other funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of interest

None.

Acknowledgements

The authors would like to thank all interviewers and members of the public who made the collection of study data possible both in 1994 and 2010. The authors also would like to acknowledge the assistance provided by the many colleagues at Singapore Children's Society to this project one way or another.

References

Agresti, A. (1989). Tutorial on modeling ordered categorical response data. *Psychological*

- Bulletin, 105, 290–301. <https://doi.org/10.1037/0033-2909.105.2.290>.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T).
- Armitage, C. J., & Conner, M. (2001). Efficacy of the Theory of Planned Behaviour: A meta-analytic review. *The British Journal of Social Psychology*, 40(Pt 4), 471–499. <https://doi.org/10.1348/014466601164939>.
- Ashton, V. (2001). The relationship between attitudes toward corporal punishment and the perception and reporting of child maltreatment. *Child Abuse & Neglect*, 25(3), 389–399. [https://doi.org/10.1016/S0145-2134\(00\)00258-1](https://doi.org/10.1016/S0145-2134(00)00258-1).
- Ashton, V. (2004). The effect of personal characteristics on reporting child maltreatment. *Child Abuse & Neglect*, 28(9), 985–997. <https://doi.org/10.1016/j.chiabu.2004.03.012>.
- Barnett, D., Manly, J. T., & Cicchetti, D. (1993). Defining child maltreatment: The interface between policy and research. In D. Cicchetti, & S. Toth (Eds.), *Child abuse, child development and social policy. Advances in applied developmental psychology*. Norwood, NJ: Ablex.
- Benbenishty, R., & Schmid, H. (2013). Public attitudes toward the identification and reporting of alleged maltreatment cases among social groups in Israel. *Children and Youth Services Review*, 35(2), 332–339. <https://doi.org/10.1016/j.chiayouth.2012.11.013>.
- Benjamin, Y., & Hochberg, Y. (1995). Controlling the false discovery rate: A practical and powerful approach to multiple testing. *Journal of the Royal Statistical Society Series B (Methodological)*, 57(1), 289–300. <https://doi.org/10.2307/2346101>.
- Bornstein, B. H., Kaplan, D. L., & Perry, A. R. (2007). Child abuse in the eyes of the beholder: Lay perceptions of child sexual and physical abuse. *Child Abuse & Neglect*, 31(4), 375–391. <https://doi.org/10.1016/j.chiabu.2006.09.007>.
- Chan, Y., Chun, P. R., & Chung, K. (2008). Public perception and reporting of different kinds of family abuse in Hong Kong. *Journal of Family Violence*, 23(4), 253–263. <https://doi.org/10.1007/s10896-007-9149-0>.
- Chavis, A., Hudnut-Beumler, J., Webb, M. W., Neely, J. A., Bickman, L., Dietrich, M. S., & Scholer, S. J. (2013). A brief intervention affects parents' attitudes toward using less physical punishment. *Child Abuse & Neglect*, 37(12), 1192–1201. <https://doi.org/10.1016/j.chiabu.2013.06.003>.
- Child Trends (2015). Attitudes toward spanking: Indicators of child and youth well-being. Retrieved October 5, 2017, from https://www.childtrends.org/wp-content/uploads/2012/10/51_Attitudes_Toward_Spanking.pdf.
- Children and Young Persons Act. Rev. ed. Cap 38 (2001). Retrieved January 23, 2018, from <https://sso.agc.gov.sg/Act/CYPA1993>.
- Doek, J. (2013). Henry Kempe's legacy: National and international impact. In R. Krugman, & J. Korbin (Eds.), *C. Henry Kempe: A 50 year legacy to the field of child abuse and neglect* (pp. 221–229). Springer.
- Durrant, J. E. (1999). Evaluating the success of Sweden's corporal punishment ban. *Child Abuse and Neglect*, 23(5), 435–448. [https://doi.org/10.1016/S0145-2134\(99\)00021-6](https://doi.org/10.1016/S0145-2134(99)00021-6).
- Elliott, J. M., Tong, C. K., & Tan, P. M. E. H. (1997). Attitudes of the Singapore public to actions suggesting child abuse. *Child Abuse & Neglect*, 21(5), 445–464. [https://doi.org/10.1016/S0145-2134\(97\)00005-7](https://doi.org/10.1016/S0145-2134(97)00005-7).
- Evans-Campbell, T. (2008). Perceptions of child neglect among urban American Indian/Alaska native parents. *Child Welfare*, 87(3), 115–142.
- Fakunmoju, S. B., Bammek, F. O., Antwi Bosiakoh, T., Asante, R. K. B., Wooten, N. R., Hill, A. C., & Karpman, H. (2013). Perception and determination of child maltreatment: Exploratory comparisons across three countries. *Children and Youth Services Review*, 35(9), 1418–1430. <https://doi.org/10.1016/j.chiayouth.2013.06.001>.
- Falkiner, M., Thomson, D., & Day, A. (2017). Teachers' understanding and practice of mandatory reporting of child maltreatment. *Children Australia*, 42(1), 38–48. <https://doi.org/10.1017/cha.2016.53>.
- Feng, J., & Levine, M. (2005). Factors associated with nurses' intention to report child abuse: A national survey of Taiwanese nurses. *Child Abuse & Neglect*, 29(7), 783–795. <https://doi.org/10.1016/j.chiabu.2004.11.006>.
- Fortson, B. L., Klevens, J., Merrick, M. T., Gilbert, L. K., & Alexander, S. P. (2016). *Preventing child abuse and neglect: A technical package for policy, norm, and programmatic activities*. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.
- Fullerton, A. S. (2009). A conceptual framework for ordered logistic regression models. *Sociological Methods and Research*, 38, 306–347. <https://doi.org/10.1177/0049124109346162>.
- Fullerton, A. S., & Xu, J. (2016). *Ordered regression models: Parallel, partial, and non-parallel alternatives*. FL, USA: Chapman & Hall/CRC.
- Gelles, R. J. (1975). The social construction of child abuse. *The American Journal of Orthopsychiatry*, 45(3), 363–371. <https://doi.org/10.1111/j.1939-0025.1975.tb02547.x>.
- Gilbert, R., Kemp, A., Thoburn, J., Sidebotham, P., Radford, L., Glaser, D., & MacMillan, H. L. (2009). Recognising and responding to child maltreatment. *The Lancet*, 373(9658), 167–180. [https://doi.org/10.1016/S0140-6736\(08\)61707-9](https://doi.org/10.1016/S0140-6736(08)61707-9).
- Gracia, E., & Herrero, J. (2008). Beliefs in the necessity of corporal punishment of children and public perceptions of child physical abuse as a social problem. *Child Abuse & Neglect*, 32(11), 1058–1062. <https://doi.org/10.1016/j.chiabu.2008.05.004>.
- Hong, G. K., & Hong, L. K. (1991). Comparative perspectives on child abuse and neglect: Chinese versus Hispanics and Whites. *Child Welfare*, 70(4), 463–475.
- Lansford, J. E., Cappa, C., Putnick, D. L., Bornstein, M. H., Deater-Deckard, K., & Bradley, R. H. (2017). Change over time in parents' beliefs about and reported use of corporal punishment in eight countries with and without legal bans. *Child Abuse & Neglect*, 71, 44. <https://doi.org/10.1016/j.chiabu.2016.10.016>.
- Lansford, J. E., Dodge, K. A., Pettit, G. S., Bates, J. E., Crozier, J., & Kaplow, J. (2002). A 12-year prospective study of the long-term effects of early child physical maltreatment on psychological, behavioral, and academic problems in adolescence. *Archives of Pediatrics & Adolescent Medicine*, 156(8), 824–830. <https://doi.org/10.1001/archpedi.156.8.824>.
- Ministry of Social and Family Development (2016). Protecting children in Singapore. Retrieved March 24, 2017, from https://www.msf.gov.sg/publications/Documents/Hi%20res_Child%20Protection%202016_2.pdf.
- Ministry of Social and Family Development (2018, March 23). Child abuse investigations. Retrieved December 4, 2018, from <https://www.msf.gov.sg/research-and-data/Research-and-Statistics/Pages/Child-Abuse-Investigations.aspx>.
- Nadan, Y., Spilsbury, J. C., & Korbin, J. E. (2015). Culture and context in understanding child maltreatment: Contributions of intersectionality and neighborhood-based research. *Child Abuse & Neglect*, 41, 40–48. <https://doi.org/10.1016/j.chiabu.2014.10.021>.
- Ng, K. (2015, July 1). Singapore feeling impact of rapidly ageing population. TODAY. Retrieved 15 September, 2017, from <http://www.todayonline.com/singapore/singapore-feeling-impact-rapidly-ageing-population>.
- Portwood, S. G. (1998). The impact of individuals' characteristics and experiences on their definitions of child maltreatment. *Child Abuse & Neglect*, 22(5), 437–452. [https://doi.org/10.1016/S0145-2134\(98\)00008-8](https://doi.org/10.1016/S0145-2134(98)00008-8).
- Portwood, S. G. (1999). Coming to terms with a consensual definition of child maltreatment. *Child Maltreatment*, 4(1), 56–68. <https://doi.org/10.1177/1077559599004001006>.
- Price, J. H., Islam, R., Gruhler, J., Dove, L., Knowles, J., & Stults, G. (2001). Public perceptions of child abuse and neglect in a Midwestern urban community. *Journal of Community Health*, 26(4), 271–284. <https://doi.org/10.1023/A:1010356528082>.
- Qiao, D. P., & Xie, Q. W. (2017). Public perceptions of child physical abuse in Beijing. *Child & Family Social Work*, 22(1), 213–225. <https://doi.org/10.1111/cfs.12221>.
- Schmid, H., & Benbenishty, R. (2011). Public attitudes toward child maltreatment in Israel: Implications for policy. *Children and Youth Services Review*, 33(7), 1181–1188. <https://doi.org/10.1016/j.chiayouth.2011.02.015>.
- Scholer, S. J., Hamilton, E. C., Johnson, M. C., & Scott, T. A. (2010). A brief intervention may affect parents' attitudes toward using less physical punishment. *Family & Community Health*, 33(2), 106–116. <https://doi.org/10.1097/FCH.0b013e3181d592ef>.
- Singapore Department of Statistics, Ministry of Trade and Industry (2006). Housing mobility between 1995 and 2005. Retrieved 13 March, 2017, from https://www.singstat.gov.sg/docs/default-source/default-document-library/publications/publications_and_papers/households_and_housing/op-s10.pdf.
- Singapore Department of Statistics, Ministry of Trade and Industry (Ministry of Trade and Industry, 2011a). Census of population 2010 statistical release 1: Demographic characteristics, education, language and religion. Retrieved December 4, 2018, from <https://www.singstat.gov.sg/publications/cop2010/cop2010-sr1>.
- Singapore Department of Statistics, Ministry of Trade and Industry (Ministry of Trade and Industry, 2011b). Census of population 2010 statistical release 2: Households and housing. Retrieved February 23, 2018, from <https://www.singstat.gov.sg/publications/cop2010/cop2010-sr2>.
- Singapore Department of Statistics, Ministry of Trade and Industry (Ministry of Trade and Industry, 2011c). Census of population 2010 statistical release 3: Geographic distribution and transport. Retrieved December 4, 2018, from <https://www.singstat.gov.sg/publications/cop2010/cop2010-sr3>.
- Singapore Department of Statistics, Ministry of Trade and Industry (2016). *General household survey 2015*. Retrieved 30 July, 2017, from http://www.singstat.gov.sg/docs/default-source/default-document-library/publications/publications_and_papers/GHS/ghs2015/ghs2015.pdf.
- Teo, Z. W. (2013, March). Educational profile of Singapore resident non-students, 2002–2012. *Statistics Singapore Newsletter*, 1–7. Retrieved 11 March, 2017, from https://www.singstat.gov.sg/docs/default-source/default-document-library/publications/publications_and_papers/education_and_literacy/ssnmar13-pg1-7.pdf.
- Tong, C. K., Elliott, J. M., & Tan, P. M. E. H. (1996). *Public perceptions of child abuse and neglect in Singapore*. Singapore: Singapore Children's Society.
- United Nations (1989). *The convention on the rights of the child*. New York: United Nations. Retrieved January 24, 2018, from https://downloads.unicef.org.uk/wp-content/uploads/2010/05/UNCRC_united_nations_convention_on_the_rights_of_the_child.pdf.
- Vasoo, S., & Lee, J. (2001). Singapore: Social development, housing and the Central Provident Fund. *International Journal of Social Welfare*, 10(4), 276–283. <https://doi.org/10.1111/1468-2397.00186>.
- Zolotor, A. J., & Puzia, M. E. (2010). Bans against corporal punishment: A systematic review of the laws, changes in attitudes and behaviours. *Child Abuse Review*, 19(4), 229–247. <https://doi.org/10.1002/car.1131>.