



A Project entitled

**Predictors of Physical Educators' Attitudes towards Including Students with ADHD**

Submitted by

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## Declaration

I, **Au Ho Lun**, declare that this research report represents my own work under the supervision of Dr. LI Chunxiao, Lee, and that it has not been submitted previously for examination to any tertiary institution.

Signed \_\_\_\_\_

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1 **Abstract**

2 Students with attention deficit and hyperactivity disorder (ADHD) may have to learn physical  
3 activity in an undesirable setting if the attitudes of teachers are negative. The aim of this  
4 research was to identify predictors of attitudes towards including students with ADHD among  
5 in-service physical educators. In-service physical educators ( $n = 151$ ) from Hong Kong  
6 completed a survey measuring demographic variables, attitudes, self-esteem, and  
7 mindfulness. The results of multiple regression analysis showed that self-esteem was a  
8 positive predictor of attitudes. However, self-esteem was no longer a significant predictor  
9 after mindfulness was entered into the regression model. These findings suggest that  
10 mindfulness based training programs may be promising for improving teachers' attitudes  
11 towards including students with ADHD.

12 *Keywords:* attention disorder, attitude, physical educator, self-esteem, mindfulness

### 13 **Predictors of Physical Educators' Attitudes towards Including Students with ADHD**

14 Conceptually, inclusion is a social justice fulcrum that “involves adopting a broad  
15 vision of education for all by addressing the spectrum of needs of all learners, including those  
16 who are vulnerable to marginalization and exclusion” (United Nations Educational,  
17 Scientific, and Cultural Organization [UNESCO], 2005). Thus, inclusive education as an  
18 educational philosophy suggests that educators should provide the necessary supportive  
19 services and supplementary tools to all students, including those with special educational  
20 needs (SEN), for them to achieve their full potential in appropriate education settings  
21 (National Center on Educational Restructuring and Inclusion, 1995; O'Brien, Kudlacek, &  
22 Howe, 2009). According to Block (1999), inclusion in education is typified by environments  
23 where students with a variety of learning styles and educational needs can successfully learn  
24 in the same environment while being provided necessary support options.

25 Although inclusive education has emerged as a worldwide trend (Florian, 2008),  
26 progress towards it varies across different countries and regions (Grynova & Kalinichenko,  
27 2018). In Hong Kong, the inclusive movement started in 1999, and approximately 43,000  
28 students with SEN are now studying in general public schools with their peers without SEN  
29 (Hong Kong Education Bureau, 2018). Among students with SEN included in general public  
30 schools, among the most common are those with attention deficit hyperactivity disorder  
31 (ADHD; Li, Chen, & Zhang, 2010). ADHD is a neurobehavioral disorder manifesting as

32 inattention, hyperactivity and/or impulsiveness, with a global prevalence rate of 5% among  
33 children (American Psychiatric Association, 2013). It has been estimated that there are over  
34 40,000 children with ADHD in Hong Kong (Legislative Council Paper, 2013), and those  
35 whose IQ is above 70 are usually included in general public school classes (Hong Kong  
36 Education Bureau, 2014).

### 37 **Physical Education Teachers' Attitudes towards ADHD**

38 Including students with ADHD in general physical education (PE) classes can be  
39 challenging as this group of students tends to experience a number of movement-related  
40 difficulties, such as weak fine motor skills (Gilbert, Isaacs, Augusta, MacNeil, & Mostofsky,  
41 2011), delayed development of gross motor skills (Cho, Ji, Chung, Kim, & Joung, 2014), and  
42 low extremity movement preparation (Pedersen & Surburg, 2008). Therefore, schools and  
43 teachers should provide additional support for students with ADHD to experience success in  
44 inclusive PE contexts.

45 Successful inclusive PE experiences rely on several important determinants, one of  
46 which being teachers' attitudes (Block, 2016). Teachers who hold positive attitudes tend to be  
47 willing to spend more time and put more efforts to help students than those who with  
48 negative attitudes (Park & Chitiyo, 2009). More specifically, PE teachers with positive  
49 attitudes can enhance their students' motor and social skills development (Taliaferro,  
50 Hammond, & Wyant, 2015). However, some PE teachers still hold unfavorable attitudes

51 towards including students with SEN, including those with ADHD (Block, 2016). Thus,  
52 understanding predictors of attitudes can help with the development of training programs for  
53 attitude enhancement, subsequently influencing the experiences of those with ADHD in  
54 inclusive PE contexts.

### 55 **Predictors of Attitudes**

56         The formation of teachers' attitudes towards inclusive education can be explained  
57 through several perspectives. One perspective that is often discussed by researchers is related  
58 to teachers' demographic variables that are not modifiable. In general, most previous research  
59 has shown that PE teachers' age, educational level, gender, and teaching experiences are not  
60 significant predictors of attitudes toward inclusive PE (see Tant & Watelain, 2016, for a  
61 review). Conversely, modifiable experiences in the form of training variables, such as  
62 coursework and teaching practicum, have been found to predict teachers' attitudes. For  
63 example, Oh et al. (2010) found that the special education coursework was associated with  
64 pre-service physical educators' attitudes towards teaching students with ADHD. Likewise,  
65 Pedersen, Cooley, and Hernandez (2014) reported that the more pre-service teachers  
66 experienced in inclusive PE practicum (e.g., contact with students with ADHD), the more  
67 positive attitudes towards including students with ADHD they would demonstrate. Positive  
68 contact experiences with students with ADHD may contribute to these positive attitudes  
69 (Anderson, Watt, Noble, & Shanley, 2012).

70 Compared with demographic and training variables, psychological predictors of  
71 teachers' attitudes towards inclusion has received little attention. The present study focuses  
72 on two psychological predictors, self-esteem and mindfulness. Self-esteem is defined as the  
73 totality of an individual's feelings and thoughts with reference to himself as an object  
74 (Rosenberg, 1965). The feelings and thoughts toward one's own worth is believed to account  
75 for the formation of attitude (Ajzen & Fishbein, 1980). Previous literature has demonstrated  
76 that self-esteem connects with the attitudes an individual projects onto others (e.g., Bowland,  
77 Hines-Martin, Edward, & Haleem, 2015; Li & Wu, 2017). In the university setting, a positive  
78 correlation between students' self-esteem and attitudes towards individuals with disabilities  
79 was found (Magsamen-Conrad, Tettech, & Lee, 2016). In addition, one study illustrated a  
80 significant relationship between teachers' self-esteem and their attitudes towards students  
81 with disabilities in inclusive classrooms (Schaefer, 2010). Nonetheless, there is a dearth of  
82 literature examining the relationship between self-esteem and attitudes towards including  
83 students with ADHD among in-service PE teachers.

84 As written by Brown and Ryan (2003), "mindfulness can be considered an enhanced  
85 attention to and awareness of current experience or present reality" (p. 822). The two key  
86 components of mindfulness are self-regulation of attention and nonjudgmental awareness of  
87 experience (Jennings, 2015). The former enhances an individual's moment to moment  
88 awareness on emotional, cognitive and physical experiences (Bishop et al., 2004); while the



89 latter increases coping by decreasing reactivity towards curiosity, openness and acceptance of  
90 certain experiences (Kabat-Zinn, 1994). Mindfulness is considered a crucial factor in building  
91 and transforming attitudes (Shapiro, Carlson, Astin, & Freedman, 2006). Smalley and  
92 Wintson (2010) stated that mindfulness is a technique for people to recognize their emotions:  
93 trying to feel the emotions currently inside you fully and release them in a way that they will  
94 not control you or lead you to harm others (e.g., reacting to misbehaviors of ADHD students).  
95 Some previous literature has supported the link between mindfulness and teachers' attitudes.  
96 For example, Jennings (2015) found that mindfulness had a positive association with  
97 teachers' attitudes towards challenging children. Similarly, Li, Wong, Sum, and Yu (2019)  
98 discovered that mindfulness was positively related to pre-service PE teachers' attitudes  
99 towards students who have autism spectrum disorder. Thus, it is highly possible that PE  
100 teachers who have a high level of mindfulness will tend to have positive attitudes towards  
101 including students with ADHD.

102         The current cross-sectional survey study was undertaken to identify potential  
103 predictors of in-service PE teachers' attitudes towards including students with ADHD. Taken  
104 into consideration the listed evidence (e.g., Hernandez, 2014; Oh et al., 2010), it was  
105 hypothesized that training variables (i.e., number of special education courses and contact  
106 experiences with persons with ADHD) will positively predict PE teachers' attitudes towards  
107 including students with ADHD (Hypothesis 1). We also hypothesized that a higher level of

108 self-esteem and mindfulness would predict a more positive attitude towards including  
109 students with ADHD (Hypotheses 2 & 3; e.g., Magsamen-Conrad et al., 2016; Schaefer,  
110 2010). Findings of this survey are expected to fill the outlined literature gaps as well as bring  
111 practical implications for enhancing PE teachers' attitudes towards the inclusion of students  
112 with ADHD in PE.

## 113 **Methods**

### 114 **Participants**

115 Participants were in-service school physical educators ( $n = 151$ ; male = 55.6%) who  
116 resided and taught in Hong Kong. The proportion of teachers' school level was generally  
117 balanced (primary school = 50.3%; secondary school = 49.7%). The participants' age ranged  
118 from 23 to 58 ( $M = 35.40$ ,  $SD = 8.36$ ) years. Approximately one quarter of the participants'  
119 highest education level was a master's degree, the remainder held a bachelor's degree. The  
120 mean years of teaching was 11.21 years ( $SD = 9.52$ ). Most participants had contact  
121 experiences with students with ADHD in general PE settings (very often = 23.8%; often  
122 27.2%, sometimes = 32.5%; occasionally = 14.6%; almost never = 2.0%). On average, they  
123 completed 1.46 special education courses ( $SD = 1.85$ ) during their pre-service training.  
124 Detailed demographics are included in Table 1.

### 125 **Measures**

126           **Attitudes.** Three questions, which have been used to measure Chinese physical  
127 educators' attitudes towards including students with autism spectrum disorder, were adapted  
128 to assess participants' attitudes towards including students with ADHD (Li et al., 2019).  
129 Participants were informed to answer the question "I think including students with ADHD in  
130 my physical education would be..." using three 7-point linguistic differential scales (from  
131 "extremely harmful" [1] to "extremely beneficial" [7]; from "extremely bad" [1] to "extremely  
132 good" [7]; and from "extremely worthless" [1] to "extremely useful" [7]). For subsequent  
133 analyses, we calculated the scale mean score based on the responses to the three questions.  
134 The scale illustrated great internal reliability in the current sample ( $\alpha = .91$ ).

135           **Self-esteem.** The validated 10-item Chinese version of the Rosenberg Self-Esteem  
136 Scale was used to measure participants' self-esteem (Han, Jiang, Tang, & Wang, 2005;  
137 Rosenberg, 1965). The scale items (e.g., "I feel that I am a person of worth, at least on an  
138 equal place with others") were rated based on a 4-point Likert scale, ranging from 1 (*strongly*  
139 *disagree*) to 4 (*strongly agree*). A mean scale score, derived by averaging the responses to the  
140 scale items, was determined for further analyses. In our sample, the scale showed good  
141 internal reliability ( $\alpha = .85$ ).

142           **Mindfulness.** The Mindfulness in Teaching Scale was used to assess participants'  
143 mindfulness (Frank, Jennings, & Greenberg, 2016). This scale taps into intrapersonal  
144 mindfulness (nine items; e.g., "When I am in the classroom I have difficulty staying focused

145 on what is happening in the present”) and interpersonal mindfulness (five items; e.g., “I am  
146 aware of how my moods affect the way I treat my students”). The former concerns one’s own  
147 awareness of current experience or present reality, while the latter involves awareness and  
148 behavior towards others in general (Frank et al., 2016). To answer the questions, a 5-point  
149 Likert scale ranging from 1 (*never true*) to 5 (*always true*) was used. Back-translation was  
150 implemented after two Chinese and English linguists translated the original English scale into  
151 the Chinese version to secure the quality of translation (Brislin, 1970). Our exploratory factor  
152 analysis with direct oblimin rotation supported the two-factor structure of the scale (Costello  
153 & Osborne, 2005). These two factors (Eigenvalues: 1.7 to 4.2) explained 42.7% of the total  
154 variance in teaching mindfulness and their item factor loadings ranged from .45 to .77. The  
155 two subscales demonstrated adequate to good internal reliability ( $\alpha = .71$  to  $.80$ ) in our  
156 sample. Mean subscale scores, by averaging corresponding subscale item responses, were  
157 computed for subsequent analyses.

### 158 **Data Collection**

159 Upon receiving ethical approval of this research, data collection was conducted  
160 through two modes; on-site and social media administrations. For the on-site administration,  
161 the questionnaires were distributed to physical educators who were engaging in a number of  
162 professional development workshops for sports skills enhancement. Concurrently, the  
163 questionnaires were also made available online using Google Forms and disseminated

164 through social media (i.e., Facebook). Before participants completed the questionnaires,  
165 written/online informed consent was collected. The questionnaires started with demographic  
166 questions, followed by questions about attitudes, self-esteem, and mindfulness. The entire  
167 questionnaire took about 10 minutes to complete. All data were collected from June to  
168 August 2018. Due to the mixed mode of survey administration, the response rate was not  
169 available.

## 170 **Data Analysis**

171 The negatively worded items were reversely coded. Descriptive statistics (i.e.,  
172 percentage, mean, and standard deviation) were used to describe measured variables.  
173 Correlation analyses were conducted to understand the relationship among the variables.  
174 Multiple regression analyses were used to examine the predictors of attitudes. In Model 1,  
175 demographic variables that were significantly correlated with major study variables (i.e.,  
176 attitudes, self-esteem, and mindfulness) were entered. Self-esteem was entered in Model 2.  
177 Finally, mindfulness in teaching was entered in Model 3. All the data analyses were  
178 conducted in IBM SPSS 24 (IBM, Armonk, NY, USA).

## 179 **Results**

### 180 **Descriptive Statistics and Zero-order Correlations**

181 The results of descriptive and correlation analyses are summarized in Table 2. The  
182 participants reported moderate levels of attitudes towards students with ADHD and

183 mindfulness, and a relatively high level of self-esteem. Contact with persons with ADHD was  
184 positively associated with attitudes towards students with ADHD, self-esteem, intrapersonal  
185 mindfulness and interpersonal mindfulness ( $r = .17$  to  $.18, p < .05$ ). Number of special  
186 education courses was positively related to attitudes ( $r = .19, p = .02$ ). Further, there were  
187 positive associations between attitudes and self-esteem, intrapersonal mindfulness, and  
188 interpersonal mindfulness ( $r = .28$  to  $.40, p < .01$ ). As the number of special education  
189 courses and contact with ADHD were the only two demographic items that were significantly  
190 associated with the major study variables, they were controlled in regression analyses.

### 191 **Regression Analyses**

192         The detailed regression statistics are provided in Table 3. In Model 1, the number of  
193 special education courses was the only demographic variable that significantly predicted  
194 attitudes towards including students with ADHD ( $\beta = .17, p = .04$ ). Thus, Hypothesis 1 was  
195 partially supported. In Model 2, self-esteem positively predicted attitudes ( $\beta = .25, p = .002,$   
196  $\Delta R^2 = .06$ ) while number of special education courses was no longer a significant predictor ( $\beta$   
197  $= .16, p = .05$ ). These results supported Hypothesis 2. After controlling for the two  
198 demographic items and self-esteem, intrapersonal mindfulness ( $\beta = .26, p = .002$ ) and  
199 interpersonal mindfulness ( $\beta = .25, p = .002$ ) positively predicted attitudes in Model 3 ( $\Delta R^2$   
200  $= .14$ ), supporting Hypothesis 3. Meanwhile, self-esteem was no longer a significant  
201 predictor of attitudes ( $\beta = .06, p = .48$ ) in Model 3. These predictors represented a small to

202 moderate effect on attitudes. All the predictors explained 26% of the total variance in  
203 attitudes and the effect was interpreted as moderate (Cohen, 1992).

#### 204 **Discussion**

205 The present survey, to our best knowledge, is the first research to examine predictors of  
206 in-service PE teachers' attitudes towards including students with ADHD. In line with  
207 Hypothesis 1, special education related coursework was found to positively predict  
208 participants' attitudes towards including students with ADHD. This might be because  
209 teachers who perceive themselves as obtaining enough knowledge to effectively instruct  
210 students with SEN will show more positive inclusion attitudes than those who do not  
211 (Avramidis, Bayliss, & Burden, 2000). This finding highlights the importance of relevant  
212 professional training. Contrary to Hypothesis 1, contact experience with ADHD did not  
213 predict attitudes. According to the contact hypothesis (Allport, 1979), positive contact  
214 experiences are necessary for leading to a positive attitudinal change. However, it is unknown  
215 what type of contact (e.g., favorable, unfavorable) the participants in this study experienced.  
216 Further, although teachers may form positive attitudes towards students with ADHD with the  
217 increase of contact (e.g., Anderson et al., 2012; Pedersen et al., 2014), they may also  
218 experience anxiety and tensions at the same time. For example, pressures related to meeting  
219 the learning needs of students with ADHD and the students without disabilities in the same  
220 class may create anxiety-building experiences for teachers (Emam & Farrel, 2009).

221 Furthermore, behavioral problems that may be present among students with ADHD may lead  
222 teachers to be apprehensive to interact with them (Robertson, Chamberlain, & Kasari, 2003).

223 In accordance to Hypothesis 2, self-esteem was found to predict attitudes in Model 2.

224 This result is parallel to early studies, in which a positive relationship between self-esteem  
225 and attitudes towards ADHD was evident among classroom teachers and university students  
226 (Magsamen-Conrad et al., 2016; Schaefer, 2010). Self-esteem involves the value-relevant  
227 expression of oneself that may determine psychological outcomes including attitudes (Li &  
228 Wu, 2017; Magsamen-Conrad et al., 2016). Teachers who feel more secure and confident in  
229 themselves tend to demonstrate more positive thinking and emotions as well as are more  
230 willing to accept people with disabilities (Findler, Vilchinsky, & Werner, 2007).

231 Interestingly, self-esteem was no longer a predictor of attitudes toward including  
232 students with ADHD after intrapersonal and interpersonal mindfulness were included in the  
233 regression model. Thus, compared with self-esteem, mindfulness is a more important  
234 predictor of attitudes. This finding is in line with Hypothesis 3 and those findings by Li et al.  
235 (2019) and Jennings (2015), who tested the relationship between mindfulness and pre-service  
236 teachers' attitudes on students with ASD and challenging behaviors, respectively. According  
237 to the Mindfulness in Teaching Scale that was administered in the current project (Frank et  
238 al., 2016), our findings can be explained with the frame of both intrapersonal and  
239 interpersonal mindfulness. Intrapersonal mindfulness allows PE teachers to pay attention at



240 the present moment without making any judgments and to reduce negative emotions towards  
241 students with ADHD (Li et al., 2019; Kabat-Zinn, 1994). Regarding interpersonal  
242 mindfulness, it concerns how PE teachers view and interact with their students. For example,  
243 an interpersonally mindful teacher tends to listen to what students with ADHD say with full  
244 attention and show non-judgmental acceptance to behavioral problems of students with  
245 ADHD (Duncan, Coatsworth, & Greenberg, 2009). Thus, mindfulness is a possible predictor  
246 of PE teachers' attitudes towards including students with ADHD.

### 247 **Limitations and Implications**

248 Two major study limitations should be acknowledged while interpreting the present  
249 findings. First, we used a cross-sectional design that only exposes temporal casual inferences  
250 of the results. Collecting longitudinal data or using intervention approaches are suggested to  
251 replicate and extend the present findings. Moreover, it seems that the contact experience with  
252 students with ADHD rather than the quantity of contact may contribute to the attitudinal  
253 change. Future research should measure this potential predictor. Future investigations could  
254 also explore other potential predictors of attitudes such as self-efficacy (Jennings, 2015).  
255 Despite the limitations, our findings provide a preliminary direction for the schools and  
256 higher education institutions to improve teachers' attitudes towards including students with  
257 ADHD through using a mindfulness-based intervention program.

### 258 **Conclusion**

259           The predictors of PE teachers' attitudes towards including students with ADHD were  
260 investigated in the present study. The number of special education courses, self-esteem, and  
261 mindfulness are associated with attitudes. Compared with the other study variables,  
262 mindfulness is the most important predictor of attitudes. These findings highlight one avenue  
263 to progress inclusive PE practices further through the development of a mindfulness-based  
264 intervention program. Yet, more research is needed to proliferate this research area and  
265 provide further evidence in using mindfulness-based programs for attitudinal enhancement.

266

**References**

- 267 Allport, G. W. (1979). *The nature of prejudice*. Cambridge, MA: Perseus Books.
- 268 American Psychiatric Association (2013). *Diagnostic and statistical manual of mental*  
269 *disorders* (5th ed.). Washington, DC: Author.
- 270 Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviors*.  
271 Englewood Cliffs, NJ: Prentice-Hall.
- 272 Anderson, D. L., Watt, S. E., Noble, W., & Shanley, D. C. (2012). Knowledge of attention  
273 deficit hyperactivity disorder (ADHD) and attitudes toward teaching children with  
274 ADHD: The role of teaching experience. *Psychology in the Schools, 49*(6).  
275 doi:10.1002/pits.21617
- 276 Avramidis, E., Bayliss, P., & Burden, R. (2000). A survey into mainstream teachers' attitudes  
277 towards the inclusion of children with special educational needs in the ordinary school  
278 in one local education authority. *Educational Psychology, 20*(2), 191–211. doi:  
279 10.1080/713663717
- 280 Bishop, S. R., Lau, M., Shapiro, S. L., Carlson, L. E., Anderson, N. D., Carmody, J., &  
281 Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical*  
282 *Psychology: Science and Practice, 11*(3), 230–241. doi:10.1093/clipsy.bph077
- 283 Block, M. E. (1999). Did we jump on the wrong bandwagon? Problems with inclusion in  
284 physical education. *Palaestra, 15*(3), 30-36.

- 285 Block, M. E. (2016). *A teachers' guide to adapted physical education: Including students*  
286 *with disabilities in sports and recreation (4th ed.)*. Baltimore, Maryland: Paul H.  
287 Brookes.
- 288 Bowland, S., Hines-Martin, V. P., Edward, J., & Haleem, A. S. (2015). Reflection on  
289 interdisciplinary teamwork in service-learning. *Partnerships: A Journal of Service-*  
290 *Learning & Civic Engagement*, 6(2), 19–35.
- 291 Brown, K.W., & Ryan, R.M. (2003). The benefits of being present: Mindfulness and its role  
292 in psychological well-being. *Journal of Personality and Social Psychology*, 84(4), 822–  
293 848. doi:10.1037/0022-3514.84.4.822
- 294 Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of*  
295 *Cross-cultural Psychology*, 1(3), 185–216. doi: 10.1177/135910457000100301
- 296 Cho, H., Ji, S., Chung, S., Kim, M., & Joung, Y. (2014). Motor function in school-aged  
297 children with attention-deficit/hyperactivity disorder in Korea. *Psychiatry Investigation*.  
298 11(3), 223–227. doi: 10.4306/pi.2014.11.3.223
- 299 Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155–159.  
300 doi:10.1037/0033-2909.112.1.155
- 301 Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four  
302 recommendations for getting the most from your analysis. *Practical Assessment,*  
303 *Research & Evaluation*, 10(7), 1–9.

- 304 Duncan, L. G., Coatsworth, J. D., & Greenberg, M. T. (2009). A model of mindful parenting:  
305 Implications for parent–child relationships and prevention research. *Clinical Child and*  
306 *Family Psychology Review*, 12(3), 255–270. doi:10.1007/s10567-009-0046-3
- 307 Emam, M. M., & Farrell, P. (2009). Tensions experienced by teachers and their views of  
308 support for pupils with autism spectrum disorders in mainstream schools. *European*  
309 *Journal of Special Needs Education*, 24(4), 407–422. doi:10.1080/08856250903223070
- 310 Findler, L., Vilchinsky, N., & Werner, S. (2007). The Multidimensional Attitudes Scale  
311 Toward Persons With Disabilities (MAS): Construction and validation. *Rehabilitation*  
312 *Counseling Bulletin*, 50(3), 166–176. doi:10.1177/00343552070500030401
- 313 Florian, L. (2008). Special or inclusive education: Future trends. *British Journal of Special*  
314 *Education*, 35(4), 202–208. doi:10.1111/j.1467-8578.2008.00402.x
- 315 Frank, J. L., Jennings, P. A., & Greenberg, M. T. (2016). Validation of the mindfulness in  
316 teaching scale. *Mindfulness*, 7(1), 155–163. doi: 10.1007/s12671-015-0461-0
- 317 Gilbert, D., Isaacs, K., Augusta, M., MacNeil, L., & Mostofsky, S. (2011). Motor cortex  
318 inhibition: A marker of ADHD behavior and motor development in children. *Neurology*,  
319 76(7), 610–614. doi: 10.1212/WNL.0b013e31820c2ebd
- 320 Grynova, M., & Kalinichenko, I. (2018). Trends in inclusive education in the USA and  
321 Canada. *Comparative Professional Pedagogy*, 8(2), 28–34. doi: 10.2478/rpp-2018-  
322 0016

- 323 Han, X., Jiang, B., Tang, J., & Wang, Y. (2005). Issues and suggestions on using the self-  
324 esteem scale. *Chinese Journal of Behavioural Medical Science*, 14, 763.
- 325 Hong Kong Education Bureau. (2014). Summary of major views in past meetings of the  
326 Subcommittee on Integrated Education (LC Paper No. CB(4)391/13-14(03)). Hong  
327 Kong: Legislative Council Secretariat. Retrieved from  
328 <http://library.legco.gov.hk:1080/record=b1163843>
- 329 Hong Kong Education Bureau. (2018). *Student enrolment statistics, 2017/18 (kindergarten,*  
330 *primary and secondary levels)*. Retrieved from  
331 [https://www.edb.gov.hk/attachment/en/about-edb/publications-](https://www.edb.gov.hk/attachment/en/about-edb/publications-stat/figures/Enrol_2017.pdf)  
332 [stat/figures/Enrol\\_2017.pdf](https://www.edb.gov.hk/attachment/en/about-edb/publications-stat/figures/Enrol_2017.pdf)
- 333 Jennings, P. (2015). Early childhood teachers' well-being, mindfulness, and self-compassion  
334 in relation to classroom quality and attitudes towards challenging students. *Mindfulness*,  
335 6, 732–743. doi: 10.1007/s12671-014-0312-4
- 336 Kabat-Zinn, J. (1994). *Wherever you go, there you are: Mindfulness meditation in everyday*  
337 *life*. New York: Hyperion.
- 338 Legislative Council Paper (2013). *Sharing and suggestion by Hong Kong association for*  
339 *AD/HD*. Retrieved from: [http:// www.legco.gov.hk/yr12-](http://www.legco.gov.hk/yr12-13/chinese/panels/ed/ed_ie/papers/ed_ie0430cb4-610-1-c.pdf)  
340 [13/chinese/panels/ed/ed\\_ie/papers/ed\\_ie0430cb4-610-1-c.pdf](http://www.legco.gov.hk/yr12-13/chinese/panels/ed/ed_ie/papers/ed_ie0430cb4-610-1-c.pdf)

- 341 Li, C., Chen, S., & Zhang, J. (2010). A status analysis of the integrated physical education in  
342 Hong Kong elementary schools. *Asian Journal of Exercise & Sports Science*, 7, 35–41.
- 343 Li, C., Wong, N. K., Sum, K. W. R., & Yu, C. W. (2019). Pre-service teachers' mindfulness  
344 and attitudes toward students with autism spectrum disorder: The role of basic  
345 psychological needs satisfaction. *Adapted Physical Activity Quarterly*, 36(1), 150-  
346 163. doi:10.1123/apaq.2018-0044
- 347 Li, C., & Wu, Y. (2017). Improving Special Olympics volunteers' self-esteem and attitudes  
348 towards individuals with intellectual disability. *Journal of Intellectual & Developmental*  
349 *Disability*. doi:10.3109/13668250.2017.1310815
- 350 Magsamen-Conrad, K., Tetteh, D., & Lee, Y. I. (2016). Predictors of disability-related  
351 attitudes: Considering self-esteem, communication apprehension, contact, and  
352 geographic location. *Psychology Research and Behavior Management*, 2016(9), 329–  
353 338. doi:10.2147/PRBM.S113218
- 354 National Center on Educational Restructuring and Inclusion. (1995). *National study of*  
355 *inclusive education*. New York, NY: University of New York Press.
- 356 O'Brien, D., Kudlacek, M., & Howe, P.D. (2009). A contemporary review of English  
357 language literature on inclusion of students with disabilities in physical education: A  
358 European perspective. *European Journal of Adapted Physical Activity*, 2(1), 46–61.  
359

- 360 Oh, H. K., Rizzo, T. L., So, H., Chung, D. H., Park, S. J., & Lei, Q. (2010). Preservice  
361 physical education teachers' attributes related to teaching a student labeled ADHD.  
362 *Teaching and Teacher Education: An International Journal of Research and Studies*,  
363 26(4), 885–890. doi: 10.1016/j.tate.2009.10.027
- 364 Park, M., & Chitiyo, M. (2009). A proposed conceptual framework for teachers' attitudes  
365 towards children with autism. *Southeastern Teacher Education Journal*, 2(4), 43–51.
- 366 Pedersen, S. J., Cooley, P. D., & Hernandez, K. (2014). Are Australian pre-service physical  
367 education teachers prepared to teach inclusive physical education? *Australian Journal of*  
368 *Teacher Education*, 39(8), 51–62. doi:10.14221/ajte.2014v39n8.4
- 369 Pedersen, S. J., & Surburg, P. R. (2008). Lower extremity movement preparation and  
370 children with attention deficit hyperactivity disorder. *Adapted Physical Activity*  
371 *Quarterly*, 25(1), 36–48. doi:10.1123/apaq.25.1.36
- 372 Robertson, K., Chamberlain, B., & Kasari, C. (2003). General education teachers'  
373 relationships with included students with autism. *Journal of Autism and Developmental*  
374 *Disorders*, 33(2), 123–130. doi:10.1023/A:1022979108096
- 375 Rosenberg M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton  
376 University Press.



- 377 Schaefer, J. (2010). *Impact of teacher efficacy on teacher attitudes toward classroom*  
378 *inclusion* (Doctoral dissertation, Capella University). Retrieved from:  
379 <https://search.proquest.com/docview/305243749?pq-origsite=gscholar>
- 380 Shapiro, S.L., Carlson, L.E., Astin, J.A., & Freedman, B. (2006). Mechanisms of  
381 mindfulness. *Journal of Clinical Psychology*, 62(3), 373–386. doi:10. 1002/jclp.20237
- 382 Smalley, S., & Winston, D. (2010). *Fully present: The science, art, and practice of*  
383 *mindfulness*. Boston, Massachusetts: Da Capo Press.
- 384 Taliaferro, A. R., Hammond, L., & Wyant, K. (2015). Preservice physical educators'  
385 self-efficacy beliefs toward inclusion: The impact of coursework and practicum.  
386 *Adapted Physical Activity Quarterly*, 32(1), 49–67. doi:10.1123/apaq.2013-0112
- 387 Tant, M., Watelain, E. (2016). Forty years later, a systematic literature review on inclusion in  
388 physical education (1975–2015): A teacher perspective. *Educational Research*  
389 *Review*, 19, 1–17. doi:10.1016/j.edurev.2016.04.002
- 390 United Nations Educational, Scientific and Cultural Organization (UNESCO). (2005).  
391 *Guidelines for inclusion: Ensuring access to education for all*. United Nations  
392 Educational, Scientific and Cultural Organization. Paris, France.

Table 1

*Demographic and Other Characteristics of Participants (n = 151)*

Characteristics	Valid <i>n</i> (%) / <i>M</i> ( <i>SD</i> )
<b>Gender</b>	
Male	84 (55.6%)
Female	67 (44.4%)
Age	35.40 (8.36)
<b>School level</b>	
Primary school	76 (50.3%)
Secondary school	75 (49.7%)
<b>Education level</b>	
Bachelor's degree	117 (77.5%)
Master's degree	34 (22.5%)
Years of teaching	11.21 (9.51)
<b>Contact with ADHD</b>	
Very often	36 (23.8%)
Often	41 (27.2%)
Sometimes	49 (32.5%)
Occasionally	22 (14.6%)
Almost never	3 (2.0%)
NO of special education courses	1.46 (1.85)

Table 2

*Descriptive Statistics, Internal Reliability, and Zero-order Correlations of Study Variables (n = 151)*

	$\alpha$	Range	$M (SD)$	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Gender	–	–	–	–									
2. Age	–	23–58	35.40 (8.36)	-.03	–								
3. School level	–	–	–	.06	-.36**	–							
4. Education level	–	–	–	-.10	.05	-.16*	–						
5. Years of teaching	–	1–35	11.21 (9.51)	.02	.84**	-.47**	.08	–					
6. Contact experience with ADHD	–	–	–	-.06	-.02	.10	-.08	-.05	–				
7. NO of special education courses	–	0–10	1.46 (1.85)	.01	-.19*	.05	.04	-.19*	.16	–			
8. Attitude	.91	1–7	4.30 (1.01)	-.08	-.11	.02	-.14	-.07	.18*	.19*	–		
9. Self-esteem	.85	1–4	3.36 (0.41)	-.08	.09	-.08	.03	.10	.18*	.09	.28**	–	
10. Intrapersonal mindfulness	.80	1–5	3.96 (0.53)	-.03	.11	-.06	-.00	.10	.17*	.09	.40**	.42**	–
11. Interpersonal mindfulness	.71	1–5	3.75 (0.51)	-.13	-.03	.04	-.10	-.05	.17*	.08	.39**	.35**	.37**

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

Table 3

*Results of Regression Analyses for Attitudes Regressed on Demographic Variables, Self-esteem, and Mindfulness (n = 151)*

Model	Predictors	$\beta$	$t$	$R^2$	$\Delta R^2$
1	(Constant)		13.11**	.06*	.06*
	Contact experience with ADHD	.15	1.86		
	NO of special education courses	.17	2.11*		
2	(Constant)		2.65**	.12**	.06**
	Contact experience with ADHD	.11	1.35		
	NO of special education courses	.16	1.97		
	Self-esteem	.25	3.14**		
3	(Constant)		-0.43	.26**	.14**
	Contact experience with ADHD	.06	0.79		
	NO of special education courses	.14	1.87		
	Self-esteem	.06	0.71		
	Intrapersonal mindfulness	.26	3.21**		
	Interpersonal mindfulness	.25	3.15**		

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

## Appendix

### 1. Consent form for participants

#### 有關資料

#### 《體育教師對專注力失調及過度活躍症兒童在融合體育教學的態度》

誠邀閣下參加李春曉博士負責監督，歐浩倫負責執行的研究計劃。他們是香港教育大學健康與體育學系的教員/學生。

本項研究計畫的目的在於檢測香港在職小學體育教師對專注力失調及過度活躍症兒童在融合體育教學的態度。閣下只需花約 10 分鐘時間回答一份問卷，問卷內容是關於閣下對專注力失調及過度活躍症兒童在融合體育教學的想法，感受和經驗。問卷的答案沒有正誤對錯之分，請您如實作答。

參與本項研究計畫並不會導致閣下面臨任何風險或造成不適影響。閣下的參與純屬自願性質，所有參加者皆享有充分權利在任何時候選擇退出這項研究，更不會因此引致任何不良後果。任何有關閣下的個人資料將會被保密，一切資料的編碼只有研究人員得悉。

閣下的參與純屬自願性質。閣下享有充分的權利在任何時候決定退出這項研究，更不會因此引致任何不良後果。凡有關閣下的資料將會保密，一切資料的編碼只有研究人員得悉。

如閣下想獲得更多有關這項研究的資料，請與歐浩倫聯絡，電話或聯絡她/他們的導師李春曉博士，電話

如閣下對這項研究的操守有任何意見，可隨時與香港教育大學人類實驗對象操守委員會聯絡(電郵：[hrec@eduhk.hk](mailto:hrec@eduhk.hk)；地址：香港教育大學研究與發展事務處)。

謝謝閣下有興趣參與這項研究。

歐浩倫  
首席研究員

香港教育大學  
〈體育系〉  
參與研究同意書

《體育教師對專注力失調及過度活躍症兒童在融合體育教學的態度》

本人 \_\_\_\_\_ 同意參加由李春曉博士負責監督，歐浩倫執行的研究項目。他們是香港教育大學健康與體育學系的教員 / 學生。

本人理解此研究所獲得的資料可用於未來的研究和學術發表。然而本人有權保護自己的隱私，本人的個人資料將不能洩漏。

研究者已將所附資料的有關步驟向本人作了充分的解釋。本人理解可能會出現的風險。本人是自願參與這項研究。

本人理解我有權在研究過程中提出問題，並在任何時候決定退出研究，更不會因此而對研究工作產生的影響負有任何責任。

參加者姓名:

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參加者簽名:

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日期:

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**2. Questionnaire of PE teachers' attitudes towards the inclusion of students with ADHD in PE****《體育教師對專注力失調及過度活躍症兒童在融合體育教學的態度》**

有專注力失調及過度活躍症 (ADHD) 學生會有專注力失調、活動量過高及自制能力弱的情況。比如在體育課堂中，ADHD 學生經常不能集中注意力，亂跑亂爬，無法安靜地參與活動，騷擾別人，或插隊。

融合體育教學是指安排特殊學習需要學生（如 ADHD）與主流學生一起上體育課。

第一部分：請回答下面問題。

1. 任教學校類別:中學/小學/特殊學校/Other: \_\_\_\_\_
2. 年齡: \_\_\_\_\_
3. 性別: \_\_\_\_\_
4. 體育教育的教學年資: \_\_\_\_\_
5. 最高學歷為：文憑/學士/碩士/博士/Other: \_\_\_\_\_
6. 是否有教授 ADHD 學生的經驗: 是/否
7. 與 ADHD 學生接觸的頻率:經常/常常/有時/偶爾/幾乎沒有
8. 修讀過多少個與融合或特殊體育教育有關的科目: \_\_\_\_\_
9. 修讀過多少個與特殊教育（不包括融合或特殊體育教學）有關的科目: \_\_\_\_\_

第二部分：請仔細閱讀下面的句子，選最符合你想法的選項。

1. 我覺得，在我的體育課堂中教授 ADHD 學生是…  
     *非常不好的* 1 2 3 4 5 6 7 *非常好的*
2. 我覺得，在我的體育課堂中教授 ADHD 學生是…  
     *非常愚笨的* 1 2 3 4 5 6 7 *非常明智的*
3. 我覺得，在我的體育課堂中教授 ADHD 學生是…  
     *非常不滿意的* 1 2 3 4 5 6 7 *非常滿意的*

第三部分：請仔細閱讀下面句子，選擇最符合你情況的選項。

請注意，這裡要回答的是你實際上認為你自己怎樣，而不是回答您認為你應該怎樣。

1. 我感到我是一個有價值的人，至少與其他人在同一水準上  
     很不符合 1 2 3 4 非常符合
2. 我感到我有許多好的品質  
     很不符合 1 2 3 4 非常符合

3. 歸根結底，我傾向於覺得自己是一個失敗者  
很不符合 1 2 3 4 非常符合
4. 我能像大多數人一樣把事情做好  
很不符合 1 2 3 4 非常符合
5. 我感到自己值得自豪的地方不多  
很不符合 1 2 3 4 非常符合
6. 我對自己持肯定態度  
很不符合 1 2 3 4 非常符合
7. 總的來說，我對自己是滿意的  
很不符合 1 2 3 4 非常符合
8. 我希望我能為自己贏得更多尊重  
很不符合 1 2 3 4 非常符合
9. 我確實時常感到自己毫無用處  
很不符合 1 2 3 4 非常符合
10. 我時常認為自己一無是處  
很不符合 1 2 3 4 非常符合

**第四部分：請仔細想想以下關於體育教學過程的感受有多頻繁發生在你身上，選上相應的答案數字。**

1. 當我在教授時，我似乎是在“自動進行”教學，沒有太多的意識到我正在做什麼  
幾乎沒有 1 2 3 4 5 經常
2. 當我在課堂上時，我很難持續專注於當下發生的事情  
幾乎沒有 1 2 3 4 5 經常
3. 當我在教授時，我發覺自己會做事心不在焉  
幾乎沒有 1 2 3 4 5 經常
4. 當我在教授時，我太專注於想要達到的教學目標，以至於忽略自己正用什麼教學活動來達到目標  
幾乎沒有 1 2 3 4 5 經常
5. 在學校裡，我通常會一路直奔目的地，而沒有注意到沿途經歷了些什麼  
幾乎沒有 1 2 3 4 5 經常
6. 我倉促地完成教學活動，並沒有真正地留意到所教的教學活動  
幾乎沒有 1 2 3 4 5 經常
7. 當學校裡發生了一些不愉快的事情時，我傾向於將事態嚴重化  
幾乎沒有 1 2 3 4 5 經常
8. 我經常因為忙於思考其他事情，以至於沒有真正地聆聽學生對我說了什麼



幾乎沒有 1 2 3 4 5 經常

9. 當我被教學所困擾而掙紮的時候，我通常會覺得其他老師遇到的教學困難一定比較少

幾乎沒有 1 2 3 4 5 經常

10. 我允許我的學生表達他們的感受，即使有時這會使我感到不舒服

幾乎沒有 1 2 3 4 5 經常

11. 我會認真地聆聽學生的想法，即使有時我並不同意他們的觀點

幾乎沒有 1 2 3 4 5 經常

12. 我意識到我的心情如何影響我對待學生的方式

幾乎沒有 1 2 3 4 5 經常

13. 當我對學生感到心煩時，在採取行動前我會注意到自己當下的情緒

幾乎沒有 1 2 3 4 5 經常

14. 當我對學生感到心煩時，我會冷靜地告訴他們我當下的感受

幾乎沒有 1 2 3 4 5 經常

-----全問卷完-----