

Humane Attitudes and Empathic Tendencies in Chinese Young People: Implications for Humane Education

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Received: September 6, 2018

Accepted: October 13, 2018

Online Published: December 28, 2018

doi:10.5539/ies.v12n1p53

URL: <https://doi.org/10.5539/ies.v12n1p53>

Abstract

This is the first study to investigate humane attitudes toward animals and empathic tendencies toward humans among Chinese adolescents and young adults. The present study administered two scales, the Animal Attitude Scale (AAS) and Interpersonal Reactivity Index (IRI), to 471 Hong Kong secondary school and university students who were between the ages of 14 and 25. The findings of the present study suggest that Chinese secondary school and university students tend to consider the instrumental value of animals used for the benefit of humans. Animal use for luxury purposes was most unacceptable, while animal use for survival purposes was most acceptable to these students. The many undecided responses on animal welfare issues might reflect students' lack of knowledge regarding the availability of non-animal alternatives in our lives. The results also show that there is a strong link between humane attitudes and human empathy in the young people in Hong Kong. Gender and education level were found to be significant factors of a humane attitude as well as human-directed empathy. The current study implies that a humane education (HE) program could be particularly beneficial to the empathy development of male adolescents.

Keywords: Chinese, empathy, humane attitude, humane education, positive education program, young people

1. Introduction

A growing body of research in recent decades demonstrates the benefits of school-based humane education (HE) programs (Chapman, 2000; Coleman, Hall, & Hay, 2008; Spiegel, 2000; Wilson, Dwyer, & Bennett, 2002). Credit for this growth has been ascribed to a variety of factors, including the efficiency of enhancing the interpersonal strengths of students. As stated by Fung (2017), HE is not only for the promotion of animal welfare but also a developmental program to cultivate kindness, love and empathy in children and adolescents. Through a variety of humane-themed lessons or activities, sometimes in the presence of therapy animals, students are taught to be sensitive to animals' needs and to treat them with kindness. Over the past two decades, some studies have suggested that humane attitudes toward animals are positively correlated with empathy to humans (Daly & Morton, 2009; Preylo & Arikawa, 2008; Signal & Taylor, 2007; Taylor & Signal, 2005). Recent studies have also evidenced that HE programs are positive interventions in promoting students' humane attitudes toward the treatment of animals (Ascione, Latham, & Worthen, 1985; Cameron, 1983; Nicoll, Samuels, & Trifone, 2008) and human-directed empathy (Arbour, Signal, & Taylor, 2009; Ascione, 1992; Ascione & Weber, 1996; Fitzgerald, 1981; Paul, 2000).

The current promising findings of HE programs, however, mainly emerged from the studies of elementary school students (Arbour et al., 2009; Ascione, 1992; Sprinkle, 2008). Ascione (1992) assessed the impact of a year-long school-based HE program on first, second, fourth and fifth graders' attitudes toward the treatment of animals as well as human-directed empathy. The results suggested that the elementary school students who were exposed to HE curricula were more likely to have positive attitudes toward animals. The correlations between a humane attitude and empathy measures were found to be significantly positive in the study. Sprinkle (2008) study was conducted to evaluate the effects of a school-based HE program for fourth, fifth and sixth graders. The results indicated that the HE program had a positive effect on normative beliefs about aggression and levels of empathy in elementary school students. Arbour et al. (2009) evaluated an eight-lesson HE program for fourth graders. It was found that the human-directed empathy of the male fourth graders was significantly increased after their participation in the HE program.

As the above review reveals, HE programs are typically administered to elementary school-aged children. However, the promotion of empathy development and responsibility among secondary school and university students who grow up in highly competitive modern societies are as important as those among school children. While educators place great importance on students' kindness and compassion, HE has not gained sufficient attention in the secondary school and university contexts. Currently, there are only a few studies of HE programs for young people. One of these studies is the transformational HE program by Mims and Waddell (2015). In their study, a HE program for middle and high school students aged 12 to 18 was conducted to help high risk adolescents in an alternative school to process and make ethical and humane decisions through working with animals. The program aimed at promoting compassion and encouraging responsibility in these adolescents. Mims and Waddell (2015) concluded that the program enabled the adolescents to find feasible solutions for a healthy and just society.

Given that a better understanding is fundamentally important to the design and implementation of school-based humane education programs for secondary school and university students, this investigation sought to examine Chinese adolescents' and young adult's attitudes toward animals and their empathic tendencies toward humans. Of interest to this study was whether the levels of human-oriented and animal-oriented empathy were correlated. Additionally, whether these attitudes were influenced by education level and gender was also of interest. Specifically, the research questions are

- 1) What are the attitudes toward animals among Chinese secondary school and university students?
- 2) What are the empathic tendencies toward humans among Chinese secondary school and university students?
- 3) Are these attitudes influenced by education level and gender?
- 4) Are levels of human-oriented and animal-oriented empathy correlated among Chinese secondary school and university students?

2. Method

2.1 Participants and Procedures

Permission to conduct the study was obtained from the Education University of Hong Kong's Human Research Ethics Committee. Four hundred and seventy-one (279 female, 192 male) students from three local secondary schools in Hong Kong and the Education University of Hong Kong participated in this study. The participants were informed about this study and were given the opportunity to complete the questionnaire during class time. It was made clear that participation in the study was voluntary. Additionally, it was explicitly explained to the participants that they had the right to refuse to participate or to withdraw from the study at any time without any penalty or prejudice to their interests. A convenience sample was used. The age of the participants ranged from 14 to 25 years; the average age was 18.28 ± 2.624 years. The participants were Secondary 4 to Secondary 6 students and Year 3 to Year 5 students. Ninety-eight percent of the respondents identified themselves as living in Hong Kong, which is a vibrant and cosmopolitan city with a population of approximately seven million people, predominantly Chinese.

2.2 Instruments

A small number of demographic details, such as age, gender and education level as well as two previously validated instruments were used in the present study. The two scales were translated into traditional Chinese and then were back-translated. The translated versions of the two instruments had been used in an investigative study of preservice teachers by the author.

2.2.1 Animal Attitudes Scale (AAS) (Herzog, Betchart, & Pittman, 1991)

The Animal Attitudes Scale (AAS) is a measure of attitudes toward the use of animals in society and animal welfare issues. The responses to the 20 items are given on a 5-point Likert scale, ranging from "Strongly Disagree", "Disagree", "Undecided", "Agree" to "Strongly Agree" in response to statements regarding attitudes toward the treatment of animals. The total scores range from 0 to 80. Responses with lower scores express lesser pro-animal attitudes. Sample items include "Wild animals, such as mink and raccoons, should not be trapped and their skins made into fur coats", "Much of the scientific research done with animals is unnecessary and cruel", and "I think it is perfectly acceptable for cattle and hogs to be raised for human consumption". Eleven items are reverse-coded. The high internal consistency of this scale had been reported in previous studies (e.g., Cronbach's $\alpha = 0.91$; Herzog et al., 1991; Cronbach's $\alpha = 0.86$; Signal & Taylor, 2007). In the present study, the internal reliability of the AAS was 0.86.

2.2.2 Interpersonal Reactivity Index (IRI) (Davis, 1980)

The Interpersonal Reactivity Index (IRI) is a measure of empathy. The instrument has been used in many previous studies (for example, Daly & Morton, 2009; Taylor & Signal, 2005). The responses of the 28 items are given on a

5-point Likert scale, ranging from “Describes Me Well” to “Does Not Describe Me Well”, in response to statements regarding human-directed empathy. The total scores range from 0 to 112. The measure has four subscales each composed of 7 different items. These subscales are empathic concern (EC), which “assesses ‘other-oriented’ feelings of sympathy and concern for unfortunate others” (e.g., *Sometimes I don't feel very sorry for other people when they are having problems.*); perspective taking (PT), which is “the tendency to spontaneously adopt the psychological point of view of others” (e.g., *I try to look at everybody's side of a disagreement before I make a decision.*); fantasy (FS), which “taps respondents’ tendencies to transpose themselves imaginatively into the feelings and actions of fictitious characters in books, movies, and plays” (e.g., *I really get involved with the feelings of the characters in a novel.*); and personal distress (PD), which “measures ‘self-oriented’ feelings of personal anxiety and unease in tense interpersonal settings” (e.g., *When I see someone get hurt, I tend to remain calm.*) (Davis, 1983). The EC and FS are emotional subscales, while the PT and PD are cognitive subscales. In the present study, the total internal reliability of Davis’ IRI was 0.77.

2.3 Data Analysis

All data was input into a SPSS 25 database for conducting statistical analysis. The reversed scored items in the AAS and the IRI were recoded. To answer the research questions of the present study, a number of statistical methods were conducted. Firstly, descriptive statistics were computed for demographic data and the two instruments to understand the humane attitude and human empathy among Chinese secondary school and university students. Secondly, four independent sample t-tests were conducted to determine whether there are significant differences on the education level and gender in the AAS as well as the IRI. Finally, Pearson product-moment correlations between AAS score and the total score of the IRI as well as AAS score and the scores of the IRI's sub-scales (PT, FS, EC and PD) were calculated for the total students, secondary students and university students, with positive correlations indicating higher scores on the AAS to be related to higher levels of IRI total and an IRI sub-scale.

3. Results

3.1 Attitudes toward Animals among Chinese Adolescents and Young Adults

The secondary school and university students were asked to rate their responses (from 0 to 4 marks) to 20 statements about the treatment of animals. Responses with higher scores express more pro-animal attitudes. An independent sample t-test was conducted to compare the AAS in males and females. There was a significant difference in the scores for males ($M=42.28$, $SD=10.60$) and females ($M=50.15$, $SD=9.24$); $t(469)=-8.55$, $p=.000$ (Table 1). This result suggested that gender has an effect on the humane attitudes of young people. Specifically, the results suggest that female students indicated more pro-welfare attitudes than male students.

Table 1. Means and standard deviations of AAS and IRI total and subscales scores by gender and education level

	Total participants (n=471)		Male (n=192)		Female (n=279)		Sig. of gender difference	Secondary (n=285)		University (n=186)		Sig. of education level difference
	M	SD	M	SD	M	SD		M	SD	M	SD	
AAS	46.94	10.54	42.28	10.60	50.15	9.24	.000**	45.53	11.42	49.11	8.62	.000**
IRI_total	65.04	9.50	63.01	10.60	66.43	8.40	.000**	63.40	10.36	67.55	7.35	.000**
PT	16.92	3.31	16.57	3.54	17.15	3.13	.062	16.51	3.51	17.54	2.87	.001**
FS	17.21	4.18	16.93	4.31	17.41	4.08	.216	16.75	4.54	17.92	3.44	.003**
EC	16.51	3.61	15.73	3.79	17.05	3.37	.000**	15.90	3.86	17.45	2.95	.000**
PD	14.40	3.93	13.78	4.03	14.82	3.80	.005**	14.24	4.25	14.65	3.37	.268

Note. PT=perspective taking; FS=fantasy; EC=empathic concern; PD=personal distress; * $p<.05$, ** $p<.01$.

Another independent sample t-test was conducted to compare the AAS in secondary school students and university students. There was a significant difference in the scores for secondary school students ($M=45.53$, $SD=11.42$) and university students ($M=49.11$, $SD=8.62$); $t(469)=3.64$, $p=.000$ (Table 1). The results show that most scores were between 41 and 50 (36.84%) in secondary school students and between 51 and 60 (37.63%) in university students

(Figure 1). The findings reveal that university students were more concerned about animal welfare and treatment than secondary school students.

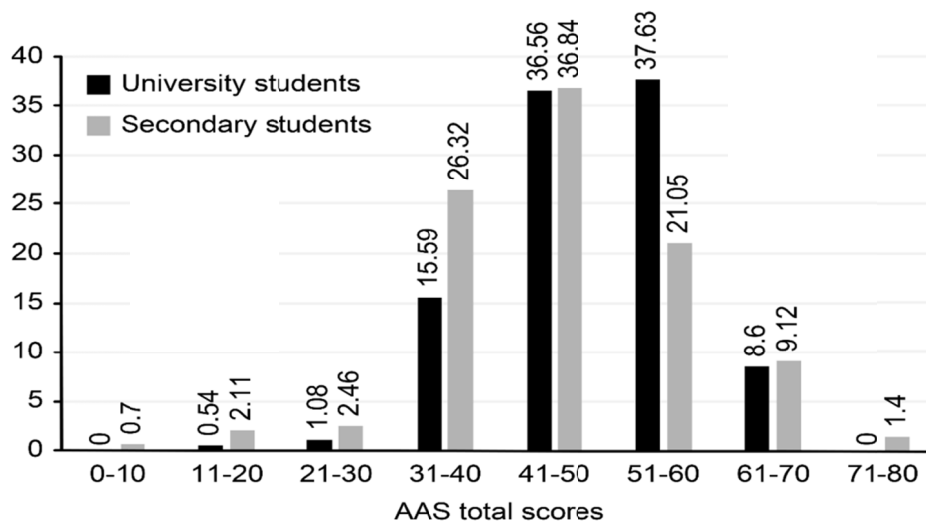


Figure 1. AAS total scores of the university and secondary students

To understand their responses toward specific animal welfare issues, the mean response and the percentage of the number of respondents on each item of the AAS were reported. Table 2 shows that scores of the secondary school students ranged from 1.18 to 3.18, and the scores of the university students ranged from 1.28 to 3.32. The two highest-score items and the two lowest-score items expressing pro-animal attitudes were exactly the same between the secondary school students and the university students. The former were (a) wild animals, such as mink and raccoons, should not be trapped and their skins made into fur coats and (b) it is morally wrong to hunt wild animals just for sport. The latter were (a) I think it is perfectly acceptable for cattle and hogs to be raised for human consumption and (b) continued research on animals will be necessary if we are to ever conquer diseases such as cancer, heart disease, and AIDS. Further examination of Table 2 shows that one-third of the secondary school and university students were undecided on 11 issues, such as *I think people who object to raising animals for meat are too sentimental* and *In general, I think that human economic gain is more important than setting aside more land for wildlife*.

Table 2. Hong Kong secondary and university students' attitude towards animals

Items of Animal Attitude Scale (AAS)	Secondary (n=285)			University (n=186)		
	Undecided	Mean	SD	Undecided	Mean	SD
1 It is morally wrong to hunt wild animals just for sport.	24.2%	2.95	1.00	12.9%	3.09	0.80
2* I do not think that there is anything wrong with using animals in medical research.	35.4%	1.83	1.11	43.5%	2.12	0.95
3 There should be extremely stiff penalties including jail sentences for people who participate in cockfighting.	40.7%	2.44	0.99	50.0%	2.49	0.75
4 Wild animals, such as mink and raccoons, should not be trapped and their skins made into fur coats.	14.4%	3.18	0.96	7.0%	3.32	0.74
5* There is nothing morally wrong with hunting wild animals for food.	33.3%	1.99	1.18	36.6%	2.06	1.07
6* I think people who object to raising animals for meat are too sentimental.	44.2%	1.89	1.02	44.1%	2.16	0.89
7 Much of the scientific research done with animals is unnecessary and cruel.	39.3%	2.36	1.03	31.2%	2.56	0.84
8* I think it is perfectly acceptable for cattle and hogs to be raised for human consumption.	26.7%	1.18	0.93	33.3%	1.28	0.76
9* Basically, humans have the right to use animals as we see fit.	37.5%	1.86	1.09	43.5%	2.17	0.90
10 The slaughter of whales and dolphins should be immediately stopped even if it means some people will be put out of work.	23.9%	2.81	1.09	18.8%	3.03	0.93

11	I sometimes get upset when I see wild animals in cages at zoos.	27.7%	2.59	1.06	31.7%	2.73	0.85
12*	In general, I think that human economic gain is more important than setting aside more land for wildlife.	44.6%	2.02	0.98	38.2%	2.17	0.93
13*	Too much fuss is made over the welfare of animals these days when there are many human problems that need to be solved.	40.0%	2.14	0.98	32.3%	2.37	0.92
14*	Breeding animals for their skins is a legitimate use of animals.	23.2%	2.63	1.16	14.5%	2.86	1.02
15*	Some aspects of biology can only be learned through dissecting preserved animals such as cats.	30.2%	1.88	1.20	39.2%	1.94	0.97
16*	Continued research with animals will be necessary if we are to ever conquer diseases such as cancer, heart disease, and AIDS.	34.0%	1.68	1.07	43.5%	1.87	0.90
17	It is unethical to breed purebred dogs for pets when millions of dogs are killed in animal shelters each year.	34.4%	2.51	1.04	36.0%	2.59	0.91
18*	The production of inexpensive meat, eggs, and dairy products justifies maintaining animals under crowded conditions.	37.5%	2.19	1.05	32.3%	2.53	0.96
19	The use of animals such as rabbits for testing the safety of cosmetics and household products is unnecessary and should be stopped.	30.2%	2.58	1.04	33.3%	2.74	0.91
20	The use of animals in rodeos and circuses is cruel.	29.5%	2.83	1.01	25.8%	3.02	0.82

Note. *These items marked are reversed scored.

3.2 Effects of Gender and Education Level on the Empathy of Chinese Adolescents and Young Adults

The secondary school and university students were asked to rate their responses (from 0 to 4 marks) to 28 statements about their empathy. Responses with higher scores express more empathy to humans. An independent sample t-test was conducted to compare the IRI in males and females. There was a significant difference in the scores for males ($M=63.01$, $SD=10.60$) and females ($M=66.43$, $SD=8.40$); $t(469)=-3.90$, $p=.000$ (Table 1). This result suggested that gender has an effect on the empathy of young people. Specifically, the results suggest that female students indicated more empathic attitudes than male students.

Another independent sample t-test was conducted to compare the IRI in secondary school students and university students. There was a significant difference in the scores for secondary school students ($M=63.40$, $SD=10.36$) and university students ($M=67.55$, $SD=7.35$); $t(469)=4.74$, $p=.000$ (Table 1). The result reveals that university students were more empathic than the secondary school students.

3.3 Correlations of Human-Oriented and Animal-Oriented Empathy for Chinese Adolescents and Young Adults

The Pearson correlations between the AAS and IRI totals as well as the AAS and IRI subscales (PT, FS, EC and PD) are presented in Table 3. The correlation coefficients are also presented by gender and educational level. Four observations were identified. (1) It was found that the AAS had a positive correlation with the IRI ($r=.39$, $p<.01$) and its three subscales (PT: $r=.25$, $p<.01$; FS: $r=.24$, $p<.01$; EC: $r=.47$, $p<.01$) for the whole sample. (2) EC was found to be highly correlated with the AAS in the whole sample ($r=.47$, $p<.01$), in male secondary school students ($r=.53$, $p<.01$), in male university students ($r=.44$, $p<.01$), in female secondary school students ($r=.35$, $p<.01$), and in female university students ($r=.39$, $p<.01$). (3) The AAS was not found to be correlated with the IRI in male university students. (4) Among the IRI subscales, PD was found not to be correlated with the AAS in the whole sample, male secondary school and university students as well as female secondary school and university students.

Table 3. Correlations between AAS and IRI total and sub-scales

AAS	IRI total score	PT	FS	EC	PD
Total participants (n=471)	.000**	.000**	.000**	.000**	.207
Secondary students (n=285)	.000**	.000**	.000**	.000**	.276
Female secondary students (n=149)	.000**	.127	.001**	.000**	.435
Male secondary students (n=136)	.000**	.000**	.010**	.000**	.144
University students (n=186)	.000**	.035*	.021*	.000**	.848
Female university students (n=130)	.000**	.359	.027*	.000**	.615
Male university students (n=56)	.090	.045*	.392	.001**	.137

Note. PT= perspective taking; FS= fantasy; EC=empathic concern; PD= personal distress; ** $p<.01$, * $p<.05$.

4. Discussion

This is the first study to investigate humane attitudes toward animals and empathic tendencies toward humans among Chinese adolescents and young adults. The present study aimed at understanding the humane attitudes of secondary school and university students in order to guide the direction of the implementation of school-based HE. Consistent with previous research (Daly & Morton, 2009; Preylo & Arikawa, 2008) reporting that there was a correlation between animal-directed empathy and human-directed empathy in adults, the current result indicates that humane attitudes and human empathy are highly correlated in the sample of young people. One notable finding was that, independent of gender and education level, all the young people who scored higher on humane attitude had higher scores on empathic concern (EC). The EC, which is an emotional subscale of the IRI, has been found to relate to global measures of emotion. The EC reflects a general concern for others as it examines people's tendency to experience warmth and compassion (Davis, 1980). The present study revealed that there was a strong link between humane attitude and human empathy, particularly in emotional empathy, in the young people who ranged from 14 to 25 years old. This empirical finding further justifies the rationale behind the implementation of the school-based HE program: the education of humane attitudes and behaviors is possible to cultivate kindness, love and empathy in students (Faver, 2010; Fung, 2017; Weil, 2004).

In addition to establishing the strong link between humane attitudes and human empathy in the population of young people, the present study also provides information relating to their humane attitudes. Specifically, it was found that the primary motivational considerations of Chinese young people's humane attitudes tended to be utility. The utility view represents human's perceptions of animals' instrumental value (Serpell, 2004). Both the secondary school and university students most accepted animal use for meat consumption and medical research, while they least accepted animal use for luxury garments and entertainment. This finding implies that young people could accept animal suffering in medical experiments when they believe the experiments are necessary. As found by Knight, Vrij, Bard, and Brandon (2009), people will accept animal experiments because they believe that animal use in medical research can improve their understanding and their estimation of the risk to humans. Based on the above discussion, it is very likely that knowledge of the availability of non-animal alternatives is critical for young people to make humane choices in their lives. The current findings, however, reveal that one-third of the secondary school as well as the university students rated "undecided" on 11 out of 20 animal welfare issues. The results suggest that they might lack knowledge about the availability of non-animal alternatives. As such, it is suggested that young people be educated about recent developments in non-animal alternatives in the science and medical fields as well as in our daily living through school-based HE programs.

A further aim of the present study was to figure out whether or not gender and education level effect humane attitudes and human empathy. This study confirmed what many previous Western studies (e.g., Phillips et al., 2012; Taylor & Signal, 2005) have already shown: gender was found to be a significant factor of humane attitude as well as human-directed empathy. Female students were more empathic toward animals and humans. Education level was also found to be a significant factor of animal-directed and human-directed empathy in the current study. Compared with secondary school students, the university students were identified as more empathic toward animals and humans. This result was consistent with the finding of Mazas et al. (2013): university students always have higher scores than secondary school students on pro-animal items. In short, male and secondary school students were less concern with animal welfare and have lower levels of human empathy. These two findings help us to determine the priorities for school-based HE, which should be administered to secondary school boys to raise their awareness of animal welfare issues and, more importantly, to raise their empathy level toward humans.

Several limitations of this study should be noted. First of all, this was a convenience sample. Secondary 1 to Secondary 3 students and Year 1 to Year 2 students were not included in the present study. Future research endeavors should also include them in order to glean a more definitive examination of humane attitudes and empathic tendencies in Chinese young people. Second, a number of other variables remain unexplored. Future studies are encouraged to include more measures, such as socioeconomic status, religion and pet ownership experience. Finally, the single measure of humane attitudes by the AAS provided limited data. In the current study, the many undecided responses of the students on animal welfare issues might reflect their lack of knowledge regarding the availability of non-animal alternatives in our lives. Future studies could include more measures to understand students' knowledge about animal use and welfare.

5. Conclusion

The present study examined attitudes toward animal welfare and empathy toward human in Chinese secondary school and university students. This study has at least two implications to the educators. First, because research on the humane attitudes of secondary school students has been limited to Western countries, for example, Germany

(Binngießer, Wilhelm, & Randler, 2013), Italy (Pagani, Robustelli, & Ascione, 2007), and Spain (Mazas, Manzanal, Zarza, & María, 2013), it remains unclear whether the humane attitudes of adolescents would be similar in a culture such as that found in Hong Kong, a high density urban city. The current study filled the literature gap by providing information to guide humane educators to promote HE programs as school-based empathy enhancement programs. Humane educators should consider the priority of interventions even though the incorporation of animal welfare issues into different educational stages can foster responsible and environmentally friendly behaviors. The current study implies that school-based HE programs that include the recent development of non-animal alternatives in the science and medical fields and in our daily lives could be effective empathy development programs for male adolescents in the secondary school context. Second, although past research found that humane attitude is positively associated with human-directed empathy in adults (e.g., Daly & Morton, 2009; Preylo & Arikawa, 2008; Signal & Taylor, 2007; Taylor & Signal, 2005), to my knowledge, no study has simultaneously examined the correlation between animal-directed and human-directed empathy in secondary school students. In the current study, a strong link between animal-directed and human-directed empathy in Chinese young people is established. The establishment of this link in the adolescent population is important, as it provides direction for educators, psychologists, and school social workers to promote HE programs as empathy development programs in secondary schools.

Acknowledgments

The work described in this paper was supported by the Start-up Grant (RG 99/2016-2017R) at the Education University of Hong Kong.

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