'Can I trust you?' A study of the psychological factors influencing school children's decision to trust and peer's perception of their trustworthiness

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Abstract

How children's trust beliefs in others and how peers determine children's levels of trustworthiness is the bedrock of all relationships. Yet very little prior research exists on understanding the nature of this relationship and even fewer studies compare across cultures to understand the specificity of potential interventions. This study addressed these gaps by conducting a set of serial mediation models to test the hypothesized causal flow from social mistrust and its subscales (home, school, general mistrust) to anxiety to aggression and to peer-rated untrustworthiness in 2,464 school children aged 8-14 years from the UK ($N = 994$; $M = 11.38$ years, female = 45.6%) and Hong Kong ($N = 1,470$, $M = 11.46$ years, female = 47.1%). Increased levels of self-reported social mistrust (and its associated subscales) were found to be independently associated with increased untrustworthiness in both countries. Children with high levels of social mistrust, particularly school mistrust, were more likely to have high levels of anxiety and aggressive behaviors concurrently, which in turn was associated with higher levels of peer-rated untrustworthiness. This explanatory model suggests that future longitudinal intervention studies that aim to reduce aggressive responses from suspicious children may improve peer's perception of untrustworthiness and childhood relationships with others.

Keywords: Childhood, Social Trust, Trustworthiness, Anxiety, Aggression, Peers, Cross-cultural

1   INTRODUCTION

Trust is the bedrock of relationships, and the prolonged absence of trust can negatively impact an individuals' mental health and development. On the one end of the developmental spectrum, attachment literature and developmental psychologists like Erikson (1958) have shown that trust is an important first stage of an infant's psychosocial development, the cornerstone of the infant-mother relationship that enables the infant to navigate the world safely and carry with its experiences to inform future relationships. On the other hand, clinical psychologists working with patients with extreme mistrust (e.g., persecutory delusions) have also documented sustained distressing fear of others that impairs daily functioning. This latter paranoia defined as the unfounded fixed belief that others intentionally cause the individual harm (Freeman & Garety, 2000) is not only the most reported symptom by patients with schizophrenia, but they exist on a continuum of severity in about 10%-15% of adults in the community even though they do not have any clinical diagnosis (Freeman, 2006). Whilst a certain level of paranoia maybe evolutionarily advantageous (Raihani & Bell, 2019), in adults this paranoia has often been implicated with poor psychological wellbeing (Freeman et al., 2014) including anxiety, worries, depression, insomnia, and aggression in adults (Drake et al., 2014; Freeman et al., 2012; Freeman et al., 2017; Tone & Davis, 2012), and thus important for further investigation.

Recent studies of young children and adolescents in the community have helped provide evidence of trust and mistrust in middle childhood. In a large cross-sectional study of Italian 10–11-year-olds, Rotenberg et al., (2013) investigated children's trust beliefs parents, trust beliefs in peers, and associated peer-rated trustworthiness assessed by perceptions of keeping promises ($N = 105$). Testing a hypothetical mediation model, they found that trust beliefs in peers mediated the relationship between trust beliefs in parents and behavior-dependent trust in peers (e.g., relying on peers in a trusting way), with girls being more likely to trust their peers than boys. In another study of UK and Hong Kong school children aged 8 to 14 years, 8%-16% of school children reported persistently high levels of suspicions – as measured by the Social Mistrust Scale (SMS) – and these same children also reported significantly higher levels of anxiety, low self-esteem, aggression, and callous-unemotional traits compared with their trusting peers (Wong, Freeman, & Hughes, 2014). Similarly, in study of 2,094 healthy twins of the same ages, social mistrust was also found to exist on a continuum of severity and to be moderately heritable at 19%-40% (Zhou et al., 2018). Specifically, mistrust in the home (40%) was found to be more heritable compared with mistrust in the school (26%) and general mistrust in others (19%) suggesting higher genetic influences for mistrust in the

home, than mistrust in the school. Why we see differences in children's trust and peer-rated trustworthiness, how much of it is due to school factors, are underexplored.

Only two studies to date on extreme childhood mistrust, or suspiciousness, have sought to answer this question. Bird et al. (2017) conducted a 3-month follow-up study of 11–15-year-old help-seeking adolescents ($N = 34$) in England and found that self-reported levels of paranoia were maintained by affective processes (persistent levels of anxiety, depression, worry, negative self-beliefs, perceptual anomalies, insomnia) and negative peer experiences (bullying, and cyber victimization). Unlike adult studies of paranoia, adolescent paranoia was unrelated to cognitive reasoning biases (e.g., jumping-to-conclusions). Conversely in another cross-sectional study of 8-14-year-old school children in England ($n = 34$) and Hong Kong ($n = 73$), persistently mistrustful children were more likely to report experiences of bully victimization and hostile attribution biases compared to their trusting peers (Wong, 2015), as tested theoretically using mediation models. Based on this literature, it is conceivable that children's suspicions towards others, a result of internal anxiety and hostile reactivity towards others, may in turn result in being perceived as untrustworthy and suspicious by peers. While studies to date primarily rely on self-reported symptoms which may inflate observed relationships, additional informants from children's social circle in schools, such as peer-reports, may help provide a more holistic understanding of the maintenance factors of childhood paranoia.

To address the gaps above, this study examines whether children's suspiciousness (x) is negatively related to poorer peer-ratings of trustworthiness (y). Next, a set of multiple serial mediation models were conducted to test the hypothesized causal relationships that child's self-reported levels of anxiety (m_1) and aggressive behaviors (m_2) mediate the children's suspiciousness-peer-rated trustworthiness relationship. It is hypothesized that children reporting higher levels of suspiciousness toward others will be views as more untrustworthy by peers (hypothesis 1). Specifically, children's suspicions about others precipitates internal feelings of anxiety about social situations and their externalizing behavioral responses that may then result in being viewed as more untrustworthy by peers (hypothesis 2). No hypothesis was made about country differences.

2   MATERIALS AND METHODS

2.1. Participants

A total of 2,464 school children aged 8-14 years from the UK (N = 994; M = 11.38 years, SD = 1.84, female = 45.6%) and Hong Kong (N = 1,470, M = 11.46 years, SD= 1.68, female = 47.1%) took part in a 50-minute whole-class questionnaire survey on self-rated social anxiety, social mistrust/suspiciousness, aggressive behaviors, peer-rated trustworthiness and background variables like age, sex, ethnicity, language spoken at home, and socioeconomic status. English was the predominant spoken language at home for both UK (90%) and Hong Kong (59.3%) children, though not surprising given these Hong Kong children who attended international schools have English as the primary language of instruction. Most children were classified as being in the high socioeconomic status band at 73.5% to 78.1% respectively for the UK and Hong Kong (see Table 1).

[Insert Table 1]

The analytic sample for this study included complete data from UK and Hong Kong based on the self-reported social mistrust (independent variable) and peer-rated trustworthiness (dependent variable). There were country differences in levels of social mistrust whereby children in England reported higher levels of school mistrust (r = -0.9, p <.001) while children in Hong Kong reported higher levels of general mistrust (r = 0.6, p =.004) compared to their peers, even after partialing out the respective correlations with other mistrust subscales. Thus, analyses were conducted independently first in the UK sample before replicating them in the larger Hong Kong sample.

2.2. Materials

Social mistrust (Suspiciousness). This was assessed dimensionally using the Social Mistrust Scale (SMS) (Wong et al. 2014), a 12-item child-report measure of paranoid suspicions ranging from 0 to 24, where a higher score denotes higher levels of suspiciousness. Summing relevant items created 3 subscales measuring mistrust at school, mistrust at home, and general mistrust (reverse-coded). Sample items include: "I worry too much about others trying to get at me at school" (school mistrust), "have you ever thought that people are following you or spying on you at home?" (home mistrust) and "I have someone whom I can trust at home/school" (reverse-coded for general mistrust). The SMS has a reading age appropriate for 8-year-olds and above and has good test-retest reliability (ICC = 0.80, r = 0.80) and convergent/discriminant validity as shown in previous studies (Wong et al., 2014). The internal reliability for this study is good (α = 0.75). Data were available on 2,549 children (UK = 1,079, HK = 1,470).

Untrustworthiness. Extending from the classroom sociometric peer-nomination of children's social status as measured by the *Liked-Most/-Least* (Coie & Dodge, 1988), 2 additional items were used to assess *Trusted-Most/-Least*. Children nominated up to three peers whom they trusted most and least, which were summed and standardized by class size. For ease of interpretation, peer-rated untrustworthiness was defined such that a more positive score reflected more *untrustworthiness*. Data were available on (UK=1,050, HK = 1,471).

Social Anxiety. This was assessed using the standardized Social Anxiety Scale – Child (SAS-C; La Greca & Stone, 1993) appropriate for middle childhood and includes 18-items (4 filler items excluded for analyses) on a 5-point Likert scale ranging from 'Not at all' (1) and 'Sometimes' (3) to 'All the time' (5). Scores were normally distributed in both countries and the internal reliability for this study was good ($\alpha = 0.75$). Data were available on (UK=786, HK = 1,140).

Aggression. The Reactive-Proactive Questionnaire (RPQ) is a well-established measure of reactive provoked aggression (11-items) and proactive instrumental aggression (12-items) (Raine et al. 2006). The 23-item self-report was measured on a 3-point scale (Never (0), Sometimes (1), and Often (2)) resulting in a score ranging from 0 to 46. Sample items include: "How often have you gotten angry when others threatened you?" (reactive) and "How often have you had fights with others to show who was on top?" (proactive). Reactive ($\alpha = 0.84$) and proactive ($\alpha = 0.80$) subscales showed good internal reliabilities in this study. As the reactive and proactive subscales are highly correlated, 'pure' subscale scores were computed by regressing proactive subscales onto the reactive subscale to create a standardized proactive score based on the original authors' recommendations. Data were available on 2,028 children (UK = 865, HK = 1,163) on the total and subscale scores.

Control variables. Children self-reported their date of birth to calculate their age, sex (female = 1, male = 0), ethnicity, and socioeconomic status as measured by the 4-item Family Affluence Scale (FAS), which ranges from 0 to 9 (0–3 = low, 4–6 = medium, 7–9 = high affluence) (Boyce et al. 2006). Sample items include: "Does your family own a car, van, or truck?" (No [0], Yes One [1], Yes two or more [2]) or "During the last 12 months, how often did you travel away on holiday with your family" (Not at all [0], Once [1], Twice [2], More than twice [3]). Data were available on 2,532 children (UK = 1,098, HK = 1,434).

2.3. Statistical analysis

Pearson's and Spearman's rank (non-normal) correlations were conducted to assess the bivariate associations between all study variables by country (see Table 2). The PROCESS v.3.5. SPSS macro was used to test the theoretical causal pathways from suspiciousness (x) to peer-rated untrustworthiness (y), through social anxiety (m_1) and aggression (m_2) (Hayes 2017) first in the UK sample, then replicated separately in the Hong Kong sample. While full mediation is unlikely, partial mediation is established when indirect pathways through the mediators (m_1, m_2) are significant (i.e., the confidence interval excludes 0) and the direct pathway between the independent variable (x) and dependent variable (y) remains significant. The percentage explained by the mediation model is computed by a calculating the ratio of the indirect effect total against the total effect of the model without the mediators (100*(indirect effect / total effect)). Bias-corrected bootstrapping with 95% confidence intervals at 20,000 samples were used to provide more conservative estimates of the indirect effects than the Sobel Test which has been criticized. Finally, to assess the extent of mediation, a hierarchical multiple regression model was conducted with peer-rated untrustworthiness (DV) predicted by anxiety and aggression (in step 1) and suspiciousness (in step 2). Identical analyses were rerun with country as the moderator to test for country contrasts and controlling for confounders (gender, age, ethnicity, socioeconomic status, verbal ability).

3   RESULTS

3.1   Covariates

For both the UK and Hong Kong, bivariate relationships were observed in the expected direction between all study variables (see Table 2). Social mistrust is positively associated with higher levels of untrustworthiness for both the UK and Hong Kong, $r = .16$ and .14 ($p < .001$), respectively. Social mistrust is positively and moderately correlated with higher levels of anxiety ($r_{range} = .40$-.49) and aggression ($r_{range} = .32$-.36), while peer-rated untrustworthiness is only associated with aggression ($r_{range} = .05$-.13) and not anxiety ($ps > .05$). Peers rated boys as more untrustworthy than girls and children with poorer verbal ability were viewed as more untrustworthy. Self-reported mistrust was also associated with poorer verbal ability, younger children (<10y vs 11y+), and lower socioeconomic status. A linear regression showed that only gender ($\beta = -.52$, $p < .001$) and verbal ability ($\beta = -.01$, $p < .05$) were significant predictors in mistrust-untrustworthiness relationship, hence these were included in all serial mediation models, $F(5,2130) = 24.54$, $p < .001$).

[Insert Table 2]

3.2 Serial Multiple Mediation Model - Full sample

A serial mediation model with the full sample shows that indirect pathways flowing from social mistrust (x) to peer-rated untrustworthiness (y) through anxiety (m_1) and aggression (m_2) found that anxiety ($\beta = 2.05$, $SE = .092$, $p < .001$) and aggression ($\beta = .07$, $SE = .012$, $p < .001$) were significant mediators of the social mistrust and untrustworthiness relationship accounting for 4.29% of the relationship, controlling for gender and verbal ability in all pathways ($R = .24$, $R^2 = .056$, $F[5, 1559] = 18.47$, $p < .001$) (see Figure 1). It is worth noting that although the confidence intervals of the total indirect effect pathways of social mistrust on untrustworthiness crosses 'zero' to suggest that there is no significant effect of the mediators, the reality is there is still a partial effect but that the mediator acts as a suppressor variable.

[Insert Figure 1]

Home, School, and General Mistrust Subscales

To assess whether mistrust subscales were associated with peer-rated untrustworthiness, three additional serial mediation models with mistrust subscales (IV) was used to predict peer-rated untrustworthiness (DV). The indirect pathways from home mistrust (x1) to untrustworthiness (y1) through anxiety was non-significant ($p = .247$) but it was significant through aggression ($\beta = .03$, $SE = .009$, $p < .001$), resulting in a partial mediation accounting of 8.89% of home mistrust-untrustworthiness relationship ($R = .20$, $R^2 = .041$, $F[5, 1559] = 13.31$, $p < .001$). The same relationship and pathways were found for general mistrust predicting untrustworthiness being partially mediated by aggression but not anxiety ($p = .145$), accounting for 5.07% of the relationship ($R = .22$, $R^2 = .048$, $F[5, 1559] = 15.73$, $p < .001$). However, for school mistrust, the indirect pathways were all significant, resulting in a partial mediation accounting for 9.26% of the school mistrust and untrustworthiness relationship ($R = .23$, $R^2 = .052$, $F[5, 1559] = 17.24$, $p < .001$). These findings suggest that the overall effects of self-reported social mistrust on peer-rated untrustworthiness is particularly true of school mistrust.

3.3 Serial Multiple Mediation Model - By country

To examine whether there are country differences in the serial mediation models, separate models with social mistrust and subscales (x) predicting untrustworthiness (y) through the mediator anxiety (m_1) and aggression (m_2) were run controlling for gender and verbal ability for each country.

United Kingdom (UK)

In the UK, all indirect pathways through anxiety ($p = .31$) and aggression ($p = .99$) were not significant, although the overall model was significant ($R = .20$, $R^2 = .038$, $F[5, 536] = 5.22$, $p < .001$) (see Supplementary 1). Three additional serial mediation models with mistrust subscales (home, school, general mistrust) predicting peer-rated untrustworthiness were conducted. All indirect pathways for all three mistrust subscales home mistrust (*direct effect: $\beta = .08$, SE = .05, p = .126*), school mistrust (*direct effect: $\beta = .16$, SE = .04, p < .001*), and general mistrust included 'zero' in the confidence intervals and thus were non-significant.

Hong Kong (HK)

In Hong Kong, replicating the same serial mediation model from social mistrust (x) predicting peer-rated untrustworthiness (y) mediated by anxiety (m$_1$) and aggression (m$_2$) found that indirect pathways through anxiety ($\beta = 1.85$, $SE = .118$, $p < .001$) and aggression ($\beta = .07$, $SE = .014$, $p < .001$) were significant mediators, explaining 7.14% of the mistrust-untrustworthiness relationship ($R = .26$, $R^2 = .069$, $F(5, 1017) = 15.19$, $p < .001$) (see Figure 2).

[Insert Figure 2 & Figure 3]

Home, School, and General Mistrust Subscales

Three additional serial mediation models with mistrust subscales predicting peer-rated untrustworthiness were conducted to understand the specificity of the mediation.

The indirect pathways from home mistrust (x) to untrustworthiness (y) was non-significant through anxiety (p = .071) but it was significant through aggression ($\beta = .05$, $SE = .009$, p<.001) (*direct effect: $\beta = .05$, SE = .04, p = .218*), whereby aggression explains 13.1% of the home mistrust-untrustworthiness relationship. The same relationship was found for general mistrust and untrustworthiness, where the indirect pathway through aggression ($\beta = .03$, $SE = .01$, $p < .001$) driving the serial mediation as the indirect pathway through anxiety was not significant as the confidence intervals crosses zero [-.03, .00] ($R = .26$, $R^2 = .067$, $F(5, 1017) = 14.67$, $p < .001$).

However, for school mistrust, the indirect pathways were all significant, resulting in a partial mediation accounting for 15.05% of the school mistrust and untrustworthiness relationship ($R = .25$, $R^2 = .064$, $F[5, 1017] = 13.95$, $p < .001$). These findings suggest that the overall effects of

self-reported social mistrust on peer-rated untrustworthiness observed in the full sample is specific to school mistrust and, from the Hong Kong sample.

Extent of Serial Multiple Mediation

A hierarchical multiple regression model with untrustworthiness as the dependent variable controlling for gender and verbal ability (entered in step 1), anxiety and aggression as mediators (entered in step 2) and predicting suspiciousness (in step 3) found that both anxiety and aggression were significant explaining 32.69% of the variance in the suspiciousness and untrustworthiness relationship (see Figure 3). Specifically, these mediation effects were strongest for school mistrust and untrustworthiness relationship, explaining 42.22%.

[Insert Figure 3]

DISCUSSION

Although past studies have investigated the importance of child's trust beliefs in peers and parents in relation to peer-rated trustworthiness primarily based on 'secret keeping' behaviors, few studies have examined the causes of this relationship in childhood suspiciousness (e.g., mistrust that others will cause harm) in relation to peer's perception of trustworthiness and even fewer studies have investigated young children and adolescents in two culturally independent samples. A primary reason for this impediment is that until recently we did not know that adult paranoia/suspiciousness is also common and exists in an attenuated form in younger children in the form of social mistrust. Related to the first, a second impediment has been the lack of child-appropriate and culturally appropriate tools to investigate childhood mistrust. The current student addressed thee concerns by testing several serial multiple mediation models to understand theoretically whether both anxiety and aggression mediated the suspiciousness and untrustworthiness relationship in two large samples of ethnically diverse UK and Hong Kong schoolchildren aged 8-to14-years-old, using child-appropriate dimensional tools.

Consistent with previous developmental studies of children's trust beliefs and peer's trust ratings (Rotenberg et al., 2013), this study demonstrated that UK and Hong Kong schoolchildren with higher levels of social mistrust, specifically school mistrust, were more likely to be rated by peers as more untrustworthy – confirming hypothesis 1. This is not surprising as previous studies have shown that children and adolescents were more likely to have concurrent emotional and behavioral problems

including poor peer relationships as well (Bird et al., 2017; Wong et al., 2014). Our finding concurs with the notion that UK and Hong Kong school children with high levels of suspicions, particularly suspicions pertaining to others at school, may be more likely to be perceived as being less trustworthy by their peers, which in turn can lead to a never-ending vicious negative cycle (e.g., avoiding peers, peers don't have an opportunity to engage with the child either).

In terms of our proposed mediators of the suspiciousness-untrustworthiness relationship being first through anxiety and then aggression, our study findings partially confirm hypothesis 2. In Hong Kong, the theoretically causal relationship flowing from suspiciousness to anxiety, then aggression and to untrustworthiness is significant across all mistrust subscales (via aggression not always anxiety) but specifically from school mistrust which explains 42.22% of the school mistrust-untrustworthiness relationship. This finding is consistent with past studies of international samples (Singapore) that are of a similar age group to this sample (Raine et al. 2006; Seah & Ang, 2008). One explanation could be that children who are highly suspicious of others more often are anxious in social situations which could lead them to withdraw from social situations altogether. This in turn promotes fewer interactions with classmates, resulting in perceived untrustworthiness compared with children who are deemed to be more trusting. This is not different to past studies showing that peer-problems and self-esteem mediates the suspiciousness and aggression relationship (Wong & Raine, 2019), hence it is conceivable that this suspicions that leads to aggressive responses may precipitate negative peer relationships.

There are many reasons why these findings do not replicate in the UK sample. One reason could be due to the significantly small sample size in the UK ($N = 542$) which is almost half that of the Hong Kong sample, and therefore may not be large enough to detect significance. A second reason could be a genuine cultural difference between the UK and Hong Kong, although you would then expect the relationships between all study variables to be different, which it is not. Further comparison testing country difference in the full sample was also not significant ($p > .05$). Nonetheless, this is an interesting finding that should be interpreted with caution. Should future studies recruiting larger samples of children (be it in the UK or those from another country) test this research question we will be able to confirm the effects.

Several study caveats need to be emphasized. First, while mediation analyses were conducted to test theoretical causal models in this cross-sectional study, randomized controlled trials that experimentally manipulate anxiety and aggressive behaviors are required to establish causality.

Second, mediation findings from Hong Kong though only partially replicated in the UK ought to be further investigated. Third, this sample with a maximum age of 14 may under-represent the strength of mediating effects in older teenagers, as we may expect levels of anxiety to increase in older teens and aggressive behaviors to decrease with age.

Despite these limitations, these initial study findings help address the question of *why* children's decision to trust in others may impact reciprocal peer perceptions of trustworthiness. By considering anxiety and aggression as potential mediators that account for over two-thirds of the suspiciousness and untrustworthiness relationship in the school context, the current study findings may suggest modest interventions for children in handling their levels of aggression (e.g., breathing exercises or backward counting when feeling upset instead of acting out). This study also adds to the literature by providing a theoretical framework appropriate for further investigation into the relationship between child and peer-reports of trust. Future research could benefit from recruiting a more socioeconomically diverse sample of participants to further clarify the generalizability of these findings. If replicated, with a three time-point experimental design, results may have clinical and educational implications for helping self-identified mistrustful children improve their relationships with their peers in the by reducing levels of anxiety in social situations and promoting more positive peer-to-peer contact.

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Table 1. Participant characteristics.

	UK % (n)	Hong Kong % (n)
Age		
Primary (<=10 years)	31.9	25.4
Secondary (11+years)	67.5	74.6
Missing	0.6	-
n	994	1470
Ethnicity		
British	**76.2**	12.0
Irish	0.6	0.8
Mixed White & Black Caribbean	0.8	0.1
Mixed White & Black African	1.0	0.2
Mixed White & Asian	1.4	8.4
Asian British Indian	1.3	8.4
Asian British Pakistani	1.1	0.7
Asian British Bangladeshi	1.9	0.2
Black or Black British Caribbean	0.2	0.0
Black or Black British African	1.0	0.2
Asian Chinese	1.1	**51.7**
Asian Japanese	0.2	1.7
Asian Korean	0.4	2.6
Other	12.8	13.0
n	988	1,461
Language spoken at home		
English	90.0	59.3
German	0.3	0.3
Bangladeshi	1.0	-
Polish	0.9	-
French	0.1	0.5
Dutch	0.2	0.3
Spanish	0.2	0.2
Japanese	0.2	1.0
Korean	0.3	2.2
Chinese	0.3	11.0
Greek	0.2	-
Cantonese	0.1	19.0
Russian	0.6	0.1

Hindi	0.1	1.3
Other	7.0	6.3
Missing	2.5	1.5
n	969	1,448
Socioeconomic Status (SES)		
Low	1.5	0.5
Medium	20.4	17.8
High	73.5	78.1
Missing	4.5	3.7
n	949	1,470

Table 2. Bivariate correlations for all study variables for UK (downward) and Hong Kong sample (horizontal).

|	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Gender (male = 0. female =1)	-	.03	.00	-.02	.06*	-.01	-.17**	-.02	.02	-.02	-.03	.13**	-.09**	-.03	-.05
2. Age (<10y =0, 11y+ =1)	-.01	-	.08**	.13**	.21**	-.03	-.02	-.14**	-.17**	-.14**	-.03	.09**	.02	.03	.01
3. Ethnicity	-.03	-.24**	-	.20**	-.04	-.05*	-.03	-.03	-.04	.01	-.05	.04	-.01	-.01	.02
4. Language	.01	-.16**	.46**	-	-.15**	-.05*	.03	-.06*	-.08**	.00	-.05*	.11**	-.03	-.09**	.08**
5. Verbal Ability	.01	.23**	-.13**	-.06	-	.00	-.06*	-.08**	-.09**	-.13**	.03	-.04	.00	.09**	-.10**
6. Socioeconomic status (low=1, med=2, high=3)	.00	.07*	.01	.00	.13**	-	.03	-.03	.01	-.01	-.06*	-.07*	.03	.03	-.01
7. Untrustworthiness	-.13**	.01	.06	.11**	-.08*	-.04	-	.14**	.06*	.12**	.11**	.00	.13**	.05	.05
8. Mistrust Total	.01	-.20**	.03	.00	-.11**	-.07*	.16**	-	.65**	.79**	.65**	.40**	.36**	.24**	-.01
9. Home Mistrust	.03	-.21**	.00	.00	-.12**	-.01	.10**	.62**	-	.41**	.21**	.19**	.24**	.12**	.06
10. School Mistrust	.04	-.15**	.05	-.01	-.13**	-.08*	.13**	.83**	.42**	-	.22**	.43**	.28**	.22**	-.03
11. General Mistrust	-.05	-.10**	.00	.01	-.01	-.01	.10**	.60**	.13**	.21**	-	.18**	.24**	.16**	-.02
12. Anxiety	.16**	.03	.04	.05	.03	-.03	.03	.49**	.21**	.53**	.25**	-	.29**	.29**	-.11**
13. Aggression	-.16**	-.01	.02	-.04	.01	-.05	.04	.32**	.25**	.26**	.21**	.26**	-	.63**	.05
14. Reactive	-.03	.02	.05	-.05	.10**	-.04	-.05	.22**	.14**	.21**	.13**	.22**	.69**	-	-.67**
15. Proactive	-.09*	-.03	-.04	.04	-.09*	.02	.11**	-.06	.01	-.08*	-.02	-.11**	-.11**	-.72**	-
UK															
M	.46	.68	3.31	-	13.40	1.75	-.06	3.72	.81	1.78	1.13	44.48	9.11	.02	-.03
Mdn	.00	1.00	1.00	-	13.00	2.00	-.09	3.00	.00	1.00	1.00	44.00	8.00	-.09	-.16
SD	.50	.47	4.58	-	3.92	.47	1.60	3.54	1.44	1.93	1.44	14.66	6.97	1.01	.99
Variance	.25	.22	21.01	-	15.34	.22	2.56	12.52	2.07	3.71	2.06	214.95	48.53	1.02	.97
Skewness (SE)	.18 (.08)	-.77 (.08)	1.69 (.08)	-	-.40 (.09)	-1.64 (.08)	.35 (.08)	1.44 (.08)	2.25 (.08)	1.00 (.08)	1.54 (.08)	.46 (.09)	1.52 (.09)	.78 (.09)	2.24 (.09)
Kurtosis (SE)	-1.97 (.16)	-1.41 (.16)	1.10 (.16)	-	.29 (.18)	1.73 (.16)	.29 (.15)	2.88 (.15)	5.39 (.15)	.25 (.15)	2.72 (.15)	.12 (.18)	3.51 (.18)	2.10 (.18)	9.91 (.18)
Range	1	1	14	56	22	2	9	24	8	8	8	72	46	10.00	9.70
Min-Max	0-1	0-1	1-15	1-57	1-23	0-2	-4-5	0-24	0-8	0-8	0-8	18-72	0-46	-3.60-6.40	-3.55-6.15
N	993	988	988	969	749	949	994	994	994	994	994	705	775	775	775
Missing	1	6	6	25	245	45	0	0	0	0	0	289	219	219	219
Hong Kong															
M	.47	.75	9.21	-	10.30	1.81	-.04	3.60	.82	1.51	1.26	45.00	8.11	.01	.00
Mdn	.00	1.00	11.00	-	12.00	2.00	-.18	3.00	.00	1.00	1.00	45.00	7.00	-.08	-.17
SD	.50	.44	4.02	-	6.65	.41	1.61	3.43	1.43	1.90	1.37	14.40	6.15	1.00	1.00
Variance	.25	.19	16.16	-	44.21	.17	2.61	11.74	2.04	3.60	1.88	207.42	37.86	1.00	1.00
Skewness (SE)	.12 (.06)	-1.13 (.06)	-.93 (.06)	-	-.52 (.06)	-1.76 (.07)	.38 (.06)	1.19 (.06)	2.07 (.06)	1.29 (.06)	1.14 (.06)	.26 (.07)	1.20 (.07)	.69 (.07)	1.52 (.07)
Kurtosis (SE)	-1.99 (.13)	-.72 (.13)	-.36 (.13)	-	-1.09 (.13)	1.76 (.13)	.26 (.13)	1.18 (.13)	4.12 (.13)	.93 (.13)	1.12 (.13)	-.21 (.15)	1.80 (.14)	.63 (.14)	4.68 (.14)
Range	1	1	13	-	22	2	10	17	8	8	7	71	44	7.17	8.95
Min-Max	0-1	0-1	1-14	1-68	0-22	0-2	-4 - 6	0-17	0-8	0-8	0-7	18-89	0-44	-3.37-3.80	-2.79-6.15
N	1469	1470	1461	1448	1470	1416	1470	1470	1470	1470	1470	1123	1151	1151	1151
Missing	1	0	9	22	0	54	0	0	0	0	0	347	319	319	319

Notes. **. $P < .01$. *. $P < .05$. *SE* = standard error, *Mdn* = Median, *SD* = standard deviation.

Figure 1. *A serial mediation model flowing from social mistrust (SMS) to anxiety (SAS-C), aggression (RPQ) and peer-rated trustworthiness for the UK and Hong Kong controlling for gender and verbal ability (N=1565).*
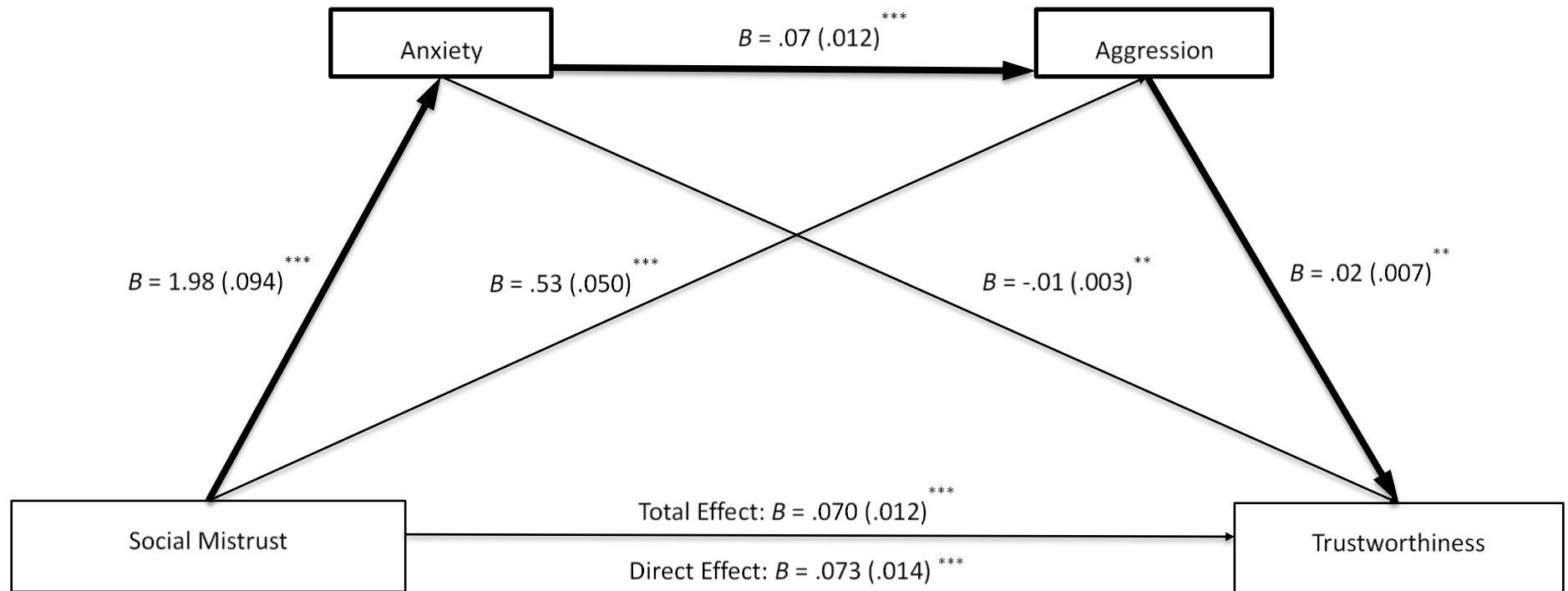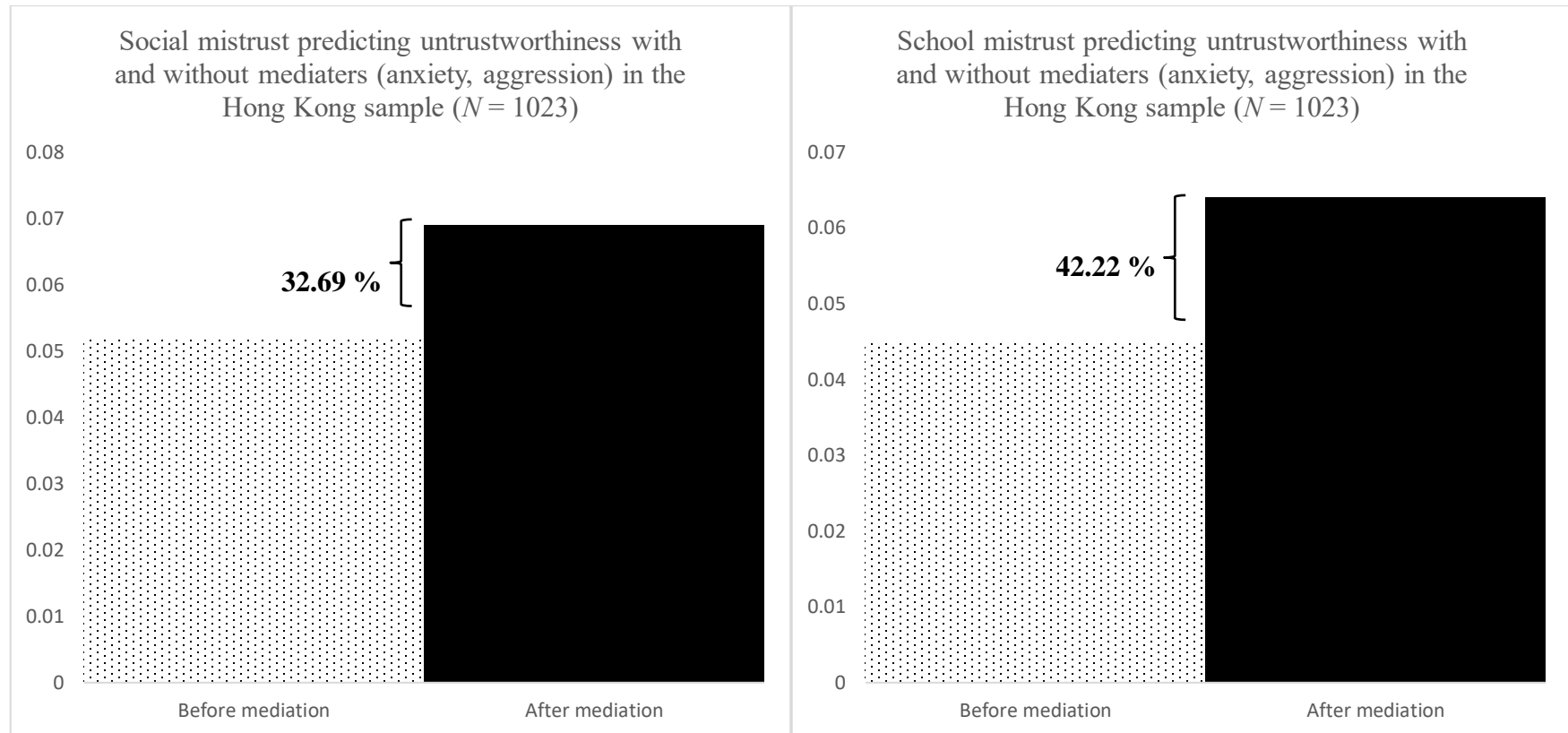

Notes.*** *p*<.001, ** *p*<.01, * *p*<.05. *B* = unstandardized coefficients, SE = standard errors in brackets. *R* = .24, R^2 = .056, *F*(5, 1559) = 18.47, *p* <.001.

Figure 2. *A serial mediation model flowing from social mistrust (SMS) to anxiety (SAS-C), aggression (RPQ) and peer-rated trustworthiness controlling for gender and verbal ability for Hong Kong (N=1023).*
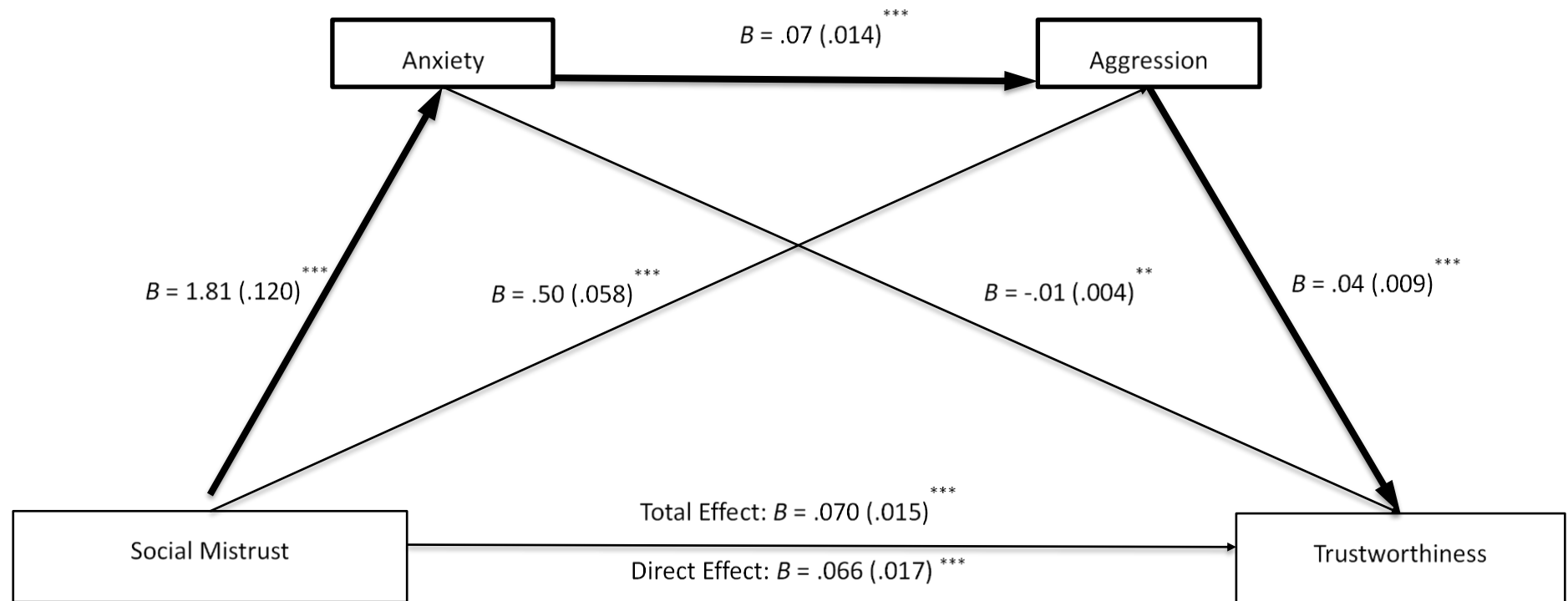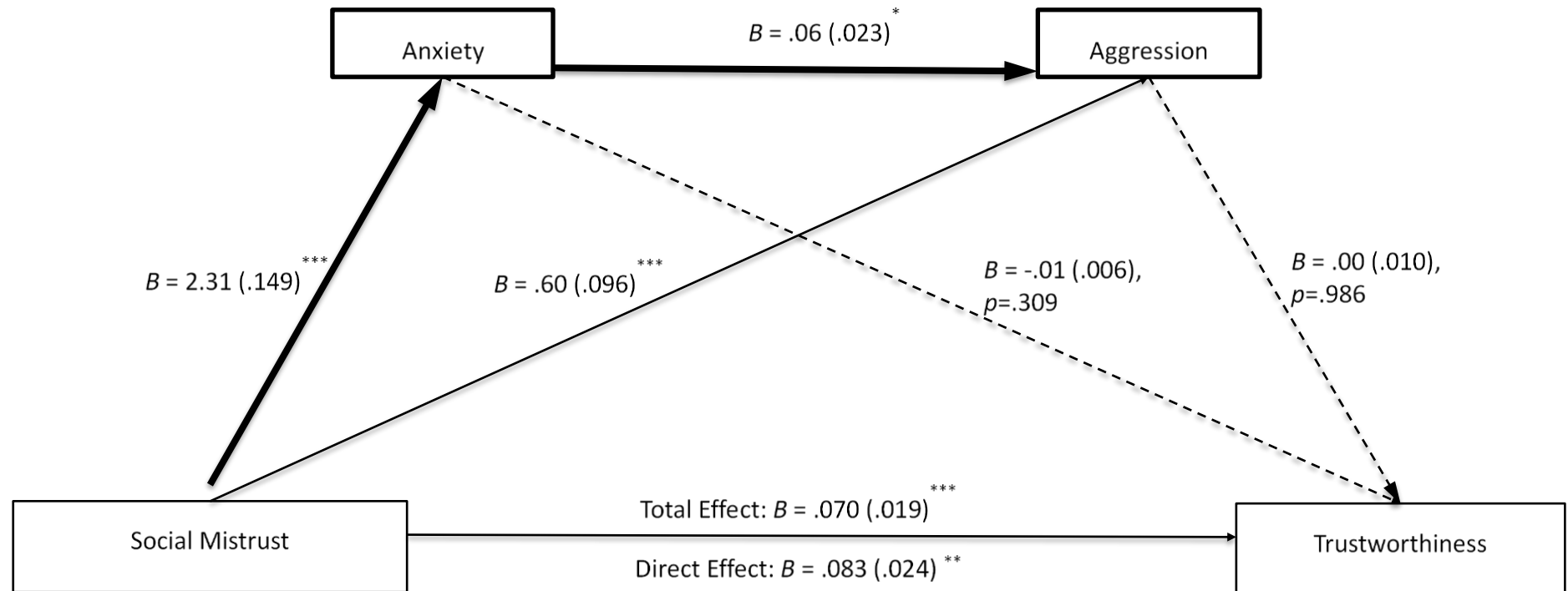

Notes.*** $p<.001$, ** $p<.01$, * $p<.05$. *B* = unstandardized coefficients, SE = standard errors in brackets. *R* = .26, R^2 = .069, *F*(5, 1017) = 15.19, *p* <.001.

Figure 3. Bar graph showing the variance explained (R^2) by anxiety and aggression in the social mistrust and school mistrust relationship with peer-rated untrustworthiness in the Hong Kong sample.

Supplementary 1. *A serial mediation model flowing from social mistrust (SMS) to anxiety (SAS-C), aggression (RPQ) and peer-rated trustworthiness controlling for gender and verbal ability for the UK (N=542).*

Notes.*** *p*<.001, ** *p*<.01, * *p*<.05. *B* = unstandardized coefficients, SE = standard errors in brackets. *R* =.22, R^2 = .046, *F*(5, 536) = 5.22, *p* <.001.