



Perceptions of Dishonesty: Understanding Parents' Reports of and Influence on Children and Adolescents' Lie-Telling

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Abstract

Previous studies suggest parents lack knowledge regarding child and adolescent lie-telling; however, no study to date has examined children's and parents' reports of lying within parent-child dyads. The current study examined parents' knowledge of and influence on children's and adolescents' lie-telling. Parent-child dyads ($N = 351$) completed self-report surveys. Children (8–14 years, 52.3% children female) reported on prosocial and antisocial lie-telling. Parents ($M_{\text{age}} = 41.68$, 89.5% parents female) reported on their child's lie-telling, as well as their own honesty-targeted parenting strategies and modeling of dishonest behaviors. Parents' reports were unrelated to children's and adolescents' reports of prosocial and antisocial lie-telling. Additionally, parents' honesty-targeted parenting strategies and modeling of dishonesty did not predict children's lie-telling. Parents' behaviors predicted their reports of children's lie-telling, suggesting parents' behaviors bias their reports. Parents' biased perception of adolescents lie-telling may have negative implications for parent-child relationships.

Keywords Prosocial lie-telling · Antisocial lie-telling · Lie-telling · Parenting · Modeling

Introduction

Trust is vital for healthy interpersonal relationships, with violations of trust resulting in negative outcomes such as poor relationship satisfaction (Conley et al. 2011) and increased delinquency (Kerr et al. 1999). One of the key pillars of a trusting relationship is honesty (Rotenberg 1994). Honesty is not only important for building trust between parents and children, but parents are responsible for socializing their children around the social norm of honesty (Heyman et al. 2009). Yet, previous research has demonstrated that adolescents regularly use deception, particularly with their parents (Jensen et al. 2004). Thus, the present study examined parents' perceptions of and influence on their own children's lie-telling.

According to the Speech Act Theory (Austin 1962; Grice 1980; Searle 1969), the value of a speech act, such as a lie, is determined by social and moral conventions

(i.e., the conventionality component). One of the most important conventions is the general cooperative rule which states that the goal of a speech act is to help and not harm, thus encouraging statements that help while discouraging statements that harm others (Sweeter and Holland 1987). Importantly, the context in which the statement is made can influence the statement's value. In an informational setting the goal is to provide all relevant information and, thus, honesty is integral in this setting (Grice 1980). In a politeness setting the goal is to communicate in a manner that maintains social relationships, and in some situations dishonesty can aid in that goal (Lakoff 1973). Based on these rules and norms the conventionality component dictates whether lie-telling has a positive or negative value, resulting in two types of lies: antisocial and prosocial lies. Antisocial lies are typically told in the informational setting and are told to benefit the self; these lies are typically deemed unacceptable as they violate the general cooperative rule. In contrast, prosocial lies are typically told within a politeness setting for the benefit of others (e.g., lying to protect someone's feelings, such as telling someone you like the gift they gave you when in fact you do not like the gift to avoid hurting their feelings) and are often deemed acceptable because they follow the general cooperative rule.

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The influence of socialization around the conventionalities of honesty is evident during adolescence, which is shown by the increasingly negative evaluations of antisocial lies and positive evaluations of prosocial lies compared to childhood (Bussey 1999; Genyue et al. 2011; Lee and Ross 1997). While both types of lies have been shown throughout childhood (Evans and Lee 2013; Evans et al. 2011; Talwar and Lee 2002, 2008; Williams et al. 2017; Williams et al. 2016), research during adolescence has primarily focused on antisocial lies (Evans et al. 2011; Jensen et al. 2004) or overall rates of lie-telling without distinguishing between prosocial and antisocial lies (Debey et al. 2015). Given the differences in how adolescents evaluate prosocial and antisocial lies, there may be differences in how often adolescents tell each of these lies. Thus, research that examines both prosocial and antisocial lie-telling during adolescence as distinct behaviors is warranted. Specifically, the present study asked parents and adolescents to report on lies to protect others as a measure of prosocial lying, given that this type of lie is commonly told and evaluated positively in a western cultural context (Heyman et al. 2009). To measure antisocial lie-telling, parents and children reported on lies about serious transgressions because they are increasingly common during adolescence, easily remembered, and may have more serious consequences (e.g., engaging in risk behaviors parents would not allow; Gingo et al. 2017). Given these consequences, antisocial lies about serious transgressions are important to avoid or discourage.

Self-report research indicates that lie-telling increases throughout childhood, peaks during adolescence (13–17 years old, ~3 lies per day; Levine et al. 2013), then decreases during adulthood (~1 lie per day; Debey et al. 2015). It is likely that lie-telling increases due to adolescents' desire for autonomy from parental control. In fact, adolescents often recommend, justify, and use lie-telling as a means of controlling parents' knowledge of their behavior (Finkenauer et al. 2005; Smetana et al. 2009). Lies about personal behaviors are most common (relationships, activities with peers) because they consider these behaviors to be private and under their own jurisdiction, while lies concerning health and safety behaviors (e.g., alcohol consumption) are often told out of fear of punishment (Chan et al. 2015). This increase in lie-telling is important to continue to examine, particularly lies to parents because parents need to be aware of adolescents' behaviors for safety and well-being. Additionally, parents are responsible for teaching children the importance of honesty and trust in interpersonal relationships (Heyman et al. 2009).

While self-report research indicates that lie-telling peaks in adolescence, deception detection research and parent reports suggest that parents are not always aware of their children's lies. Experimental lie-detection studies have

found that parents tend to perform at chance levels in judging the veracity of their own children's and adolescents' statements and perform significantly below chance at detecting lies (Evans et al. 2016; Talwar et al. 2015). In fact, parents demonstrate a strong truth bias when detecting their own children's lies, potentially reflecting a desire to trust their own children (Evans et al. 2016). Further, while parent-reports suggest a decrease in lie-telling starting in late-childhood (Gervais et al. 2000), children and adolescents' self-reports suggest that lie-telling peaks during adolescence (Debey et al. 2015). The inconsistent developmental patterns reported by adolescents and parents are likely a reflection of parents' inability to detect their own children's lies due to the increased ability to avoid leaking incriminating details (e.g., revealing knowledge that only a transgressor would be aware of) during late-childhood and adolescence (Evans et al. 2011). However, no study to date has directly compared parents' reports of their children's lie-telling to children and adolescents' self-reported lie-telling.

Despite parents' potential lack of awareness of children and adolescent dishonesty, they may still influence dishonest behaviors. For example, adolescents' lying has been found to be positively related to strict, low warmth parenting (Cumsille et al. 2010). While various aspects of parenting, such as parenting style, have been shown to be related to adolescents' dishonesty, there is limited research examining parenting strategies that specifically target dishonest behavior (i.e., honesty-targeted parenting strategies). Laboratory-based studies can provide insight as to what types of strategies might effectively discourage antisocial lie-telling, such as focusing on the positive outcomes of truth-telling rather than the negative outcomes of lie-telling (Lee et al. 2014). For example, Lee and colleagues demonstrated that reading a moral story emphasizing the positive outcome of honesty significantly increased truth-telling rates while emphasizing the negative consequences of lie-telling did not influence children's honesty (Lee et al. 2014). Furthermore, Talwar and colleagues have demonstrated that more severe negative consequences for lie-telling, such as highly punitive school environments, foster more frequent and skillful lie-telling (Talwar and Lee 2011). Taken together, these studies suggest that parents who focus on the benefits of honesty, rather than the negative outcomes of dishonesty, may be more successful in encouraging their own children's truth-telling. Previous research has focused on how these techniques or disciplinary strategies affect children's antisocial lie-telling; however, given that lie-telling increases during adolescence, parents would benefit from understanding which strategies effectively increase honesty in adolescence. In particular, lies to parents about a variety of topics and activities (including safety concerns like drinking and sex) increase with age, therefore it is

important to examine parenting strategies that may assist in effectively increasing honesty so adolescents are more likely to disclose concerning behaviors.

Honesty promotion techniques have primarily been examined in the context of antisocial lies (lies told to benefit the self, such as concealing a transgression). When it comes to prosocial lies, parents may not have the same goals. In fact, parents may choose to encourage prosocial dishonesty. Specifically, as parents socialize children around the norms of politeness settings, they may encourage children to lie if it benefits the lie recipient (e.g., protect the lie recipient's feelings; Bussey 1999; Sweeter and Holland 1987). Thus, research is needed on parenting methods for socializing children around when it is acceptable or unacceptable to tell lies.

Another method that may influence children's dishonesty is modeling (Maccoby 1992). There are several ways that parents may model that lie-telling is acceptable. First, when children observe dishonesty, parents may implicitly teach children that dishonesty is acceptable. For example, it is common for parents to use lying as a strategy to correct, control, or influence children's behavior and emotions (e.g., telling children their dog went to live on a farm instead of saying it died; Heyman et al. 2009). Thus, children whose parents lie more often may learn that lying is an acceptable behavior and in turn lie more often themselves. In fact, adults who report that their parents used lying to manage their behavior during childhood report lying more themselves in adulthood, despite also reporting that their parents emphasized the importance of honesty (Heyman et al. 2009). Additionally, parents who consider lie-telling to be acceptable in other ways, such as asking children to lie or keep secrets for them, may also model to their children that dishonesty is acceptable and indirectly encourage lie-telling. However, no study to date has directly examined parents' dishonest behaviors in relation to their children's lie-telling behavior.

Parents' honesty-targeted parenting strategies and own (dis)honest behaviors and attitudes may not only influence their children's lie-telling, but also how parents perceive and report on children and adolescents' lie-telling. Honesty-targeted parenting strategies can either focus on the benefits or consequences of (dis)honesty, and parents' use of these strategies may also influence how they perceive their children's lie-telling. Parenting strategies often reflect parents' values (Padilla-Walker and Thompson 2005). The type of parenting strategy used may be reflective of the value parents place on honesty or dishonesty, as well as indicate the type of behavior they expect to observe in their children. The value parents place on antisocial and prosocial lies likely differs, given that Speech Act Theory suggests that the value placed on a lie differs by context. For example, in the context of antisocial lie-telling, parenting strategies used

to encourage honesty place the focus or value on truth-telling, which may lead to parents' perceiving their children as more honest. In contrast, parenting strategies that discourage antisocial lie-telling place the focus on dishonesty, which may lead to parents perceiving their children as telling more lies. In the context of prosocial lie-telling, focusing on the positive and negative outcomes would both be used to encourage dishonesty because honesty may be harmful to others while dishonesty may be beneficial. Given that both strategies may be used to encourage and value prosocial dishonesty, it is likely that parents engaging in either of these strategies expect their children to tell prosocial lies.

Additionally, it is likely that parents own dishonest behaviors and attitudes influence their perceptions of others' dishonesty, including their children. Research suggests that individuals are biased towards believing others behave in similar ways to them (Mullen et al. 1985; Ross et al. 1977). This may also be the case for lying, where those who engage in more frequent dishonesty expect others to do so as well. In fact, those who lie also perceive others as more likely to be dishonest both in laboratory (Evans and Lee 2014) and day-to-day (Sagarin et al. 1998) contexts. This may also be the case in parent-child relationships, where parents who model and are more accepting of dishonesty may also perceive their children as being more dishonest. Given that previous research has not yet examined how parents' behaviors influence their reports of their children's lying, further examination of this relationship is warranted.

The Present Study

Given that parents perform below chance when detecting their own children's lies and the inconsistencies between self- and parent-reports, it was hypothesized that parental reports would not predict their children's reports of prosocial lies, antisocial lies, or lies to parents. Regarding parents' influence, it was expected that more frequent use of parenting strategies that focus on honesty would predict less frequent self-reported antisocial lying, while parenting strategies that focus on the consequences of lie-telling would predict greater self-reported antisocial lie-telling. Given that parents likely encourage prosocial lie-telling, both types of parenting strategies would be positive predictors of children's prosocial lie-telling. Furthermore, when parents report higher rates of dishonesty, their children will also report telling more prosocial and antisocial lies (Heyman et al. 2009).

Regarding parental biases, it was predicted that parenting strategies emphasizing the results of honesty would be negatively associated with parental reports of children's antisocial lie-telling, as focusing on honesty would lead

parents to perceive less frequent lie-telling. In contrast, parenting strategies emphasizing the consequences of dishonesty would be positively associated with parental reports of antisocial lie-telling, because focusing on dishonesty would lead to perceptions of more frequent lie-telling. Additionally, both honesty-targeted parenting strategies would be positively associated with perceptions of prosocial lying, because both strategies would be used to teach children when it is appropriate or necessary to tell prosocial lies. Finally, parents who reported greater parental modeling of dishonesty themselves would also report that their children lied more often.

Method

Participants

The present sample was drawn from a larger 3-year longitudinal study examining risk behaviors. Measures in the current study were only included in the first year of data collection, thus only year 1 data is presented. The present sample consisted of 352 parent–child dyads. The child and adolescent sample consisted of 352 students ($M_{\text{age}} = 10.73$, $SD = 1.71$, range = 8–14 years old, 52.3% female) recruited from elementary schools in a mid-sized city in Southern Ontario, Canada. Parent reports indicated that children's ethnicity was White (89.9%), Black (4.3%), Indigenous (2.3%), Latin American/Hispanic (3.6%), Asian (1.6%), or other (11.6%). One parent of each child also participated in the study ($N = 352$, $M_{\text{age}} = 41.68$, $SD = 5.71$, range = 26–58, 89.5% female), and reported their ethnicity as White (87.5%), Black (1.4%), Indigenous (1.7%), Latin American/Hispanic (2.3%), Asian (14.8), or other (10.2%).

Measures

Self-Report Lying

Children were asked to report on a variety of lying behaviors reflecting in the previous year. First, children were asked to report generally on lying to parents (*How often have you lied to your parents?*) on a 5-point scale (1 = never, 5 = 10 or more times). Additionally, children reported their frequency of antisocial lying (*How often have you lied to your parents about something important?*) on a 5-point scale (1 = never, 5 = 10 or more times). Given that the measure for antisocial lie-telling was phrased more generally (lied about something important), participants were asked to provide an example of something they lied about. These open-ended responses were coded thematically to assess the types of lies children were reporting. Finally, children reported on the frequency of prosocial

lying to protect someone's feelings (*How often have you told a lie to make someone feel good about themselves? E. g., telling someone you like a gift they gave you even if you don't like it*) on a 5-point scale (1 = never, 5 = 10 or more times).

Parent-Reported Lying

Parents were asked to reflect on the previous year and report on how often their child told antisocial lies (*My child lies to hide something they have done wrong*) and prosocial lies (*My child tells lies to protect other people's feelings*) on a four-point scale (1 = never, 4 = always).

Honesty-Targeted Parenting Strategies

Parents were asked to report on the frequency with which they discuss the results of being honest (positive approach) and the consequences of telling lies (negative approach) on a four-point scale (1 = never, 4 = always).

Parental Modeling of Dishonesty

Parents were asked how often they ask their child to keep a secret on a 4-point scale (1 = never, 4 = always), and whether they have ever told their child a lie about something important (1 = yes, 0 = no). Additionally, parents reported whether they think it is sometimes okay to lie on a five-point scale (1 = strongly disagree, 5 = strongly agree).

Procedure

Participants were recruited through visits to schools and completed surveys during school hours. Participants provided informed assent and parents provided informed consent prior to commencing the study. Parents completed the surveys at home and returned them to their school in sealed envelopes. Participating children received gifts (e.g., backpacks) and parents received gift cards (\$5) as compensation.

Missing Data

Across variables, 1.8% of responses were missing. Full information maximum likelihood estimation was used to address missing data. In this method, all existing values in the variables of interest are used to estimate the values that are missing.

Results

Children's open-ended responses where they provided an example of a lie to their parents about something important

were analyzed to assess whether children's antisocial lies were similar to parent-reported antisocial lies (*to hide something they have done wrong*). Approximately one third of participants provided examples ($n = 106$). Of these examples, the majority (65.1%) were to get out of trouble, 5.6% about school (poor performance, not doing homework), 7.5% about mental health/mood, 13.2% said they did not remember what they lied about, and 8.5% other types of lies. Thus, the majority of lies reported by children were lies to hide something they have done wrong, and this interpretation was consistent across age ($r = 0.026$).

Preliminary hierarchical regression analyses were performed for each research question. First, sex was included as a covariate in all analyses, but was not a significant predictor and thus was excluded from final models. Additionally, these preliminary analyses assessed whether interaction terms (age by lie type/parent behavior) would contribute to the models. Interaction terms did not significantly contribute to the models; thus, the best fitting models are presented without interaction terms. See Table 1 for descriptive statistics. All variables were treated as continuous in the preliminary and primary analyses.

Predicting Children's Self-Reported Lie-Telling

Lying to Parents

A regression predicting children's self-reported lying to parents in general (*How often have you lied to your parents?*) was performed, with age and parents' reports of children's prosocial and antisocial lying as predictors. The model was significant, $F(3, 348) = 6.25$, $p < 0.001$, $R^2 = 0.05$. Age was a significant positive predictor, such that as age increased, participants reported significantly more lies to parents. Additionally, antisocial lie-telling was a significant positive predictor, such that parents' reports of greater antisocial lie-telling predicted greater children's self-reported lying to parents. Parent-reported prosocial lie-telling was not significantly related to children's self-reported lying to parents (see Table 2 for full model results).

Antisocial Lying

A regression predicting children's self-reported antisocial lying (*How often have you lied to your parents about something important?*) was performed, with age and parents' reports of children's antisocial lying entered as predictors. The model was significant, $F(2, 349) = 8.50$, $p < 0.001$, $R^2 = 0.05$. As age increased, children reported significantly more antisocial lies. Consistent with predictions, parent-reported antisocial lie-telling was not significantly related to children's self-reported antisocial lie-telling (see Table 3 for full model results).

Table 1 Descriptive statistics for study variables

Variable	Mean (SD)
Children's reports	
Antisocial lies	1.75 (1.08)
Prosocial lies	2.23 (1.21)
Parents' reports	
Children's antisocial lies	1.65 (0.59)
Children's prosocial lies	1.81 (0.61)
Discussing results of honesty	3.08 (0.78)
Discussing consequences of lie-telling	3.11 (0.80)
It is sometimes okay to lie	3.08 (1.02)
Asked child to keep a secret	1.55 (0.50)
Told a lie about something important (% yes)	27%

Table 2 Parent reports predicting children's self-reported lying to parents

Variable	<i>b</i>	<i>SE b</i>	β	<i>t</i>	<i>p</i>
Age	0.12	0.04	0.19	3.55	<0.001
PR antisocial lies	0.29	0.10	0.15	2.83	0.005
PR prosocial lies	-0.03	0.10	-0.01	-0.26	0.794

Table 3 Parent reports predicting children's self-reported antisocial lie-telling

Variable	<i>b</i>	<i>SE b</i>	β	<i>t</i>	<i>p</i>
Age	0.13	0.03	0.21	3.95	<0.001
PR antisocial lies	0.15	0.10	0.08	1.58	0.116

Prosocial Lying

A regression predicting children's self-reported prosocial lying (*How often have you told a lie to make someone feel good about themselves?*) was performed, with age and parents' reports of children's prosocial lying entered as predictors. The model was significant, $F(2, 349) = 14.31$, $p < 0.001$, $R^2 = 0.08$. As age increased, participants reported significantly more prosocial lies. However, consistent with predictions, parents' reports did not predict children's reports of prosocial lie-telling (see Table 4 for full model results).

Parent Behaviors Predicting Children's Self-Report Lie-Telling

Lying to Parents

A regression predicting children's self-reported lying to parents (*How often have you lied to your parents?*) was

Table 4 Parent reports predicting children's self-reported prosocial lie-telling

Variable	<i>b</i>	<i>SE b</i>	β	<i>t</i>	<i>p</i>
Age	0.19	0.04	0.27	5.30	<0.001
PR prosocial lies	0.05	0.10	0.02	0.47	0.639

Table 5 Predicting children's self-reported lying to parents using honesty-targeted parenting strategies and parental modeling of dishonesty

Variable	<i>b</i>	<i>SE b</i>	β	<i>t</i>	<i>p</i>
Age	0.12	0.04	0.18	3.32	0.001
Discussing results of honesty	-0.08	0.13	-0.06	-0.62	0.538
Discussing consequences of lie-telling	0.12	0.13	0.09	0.95	0.343
Asked child to keep secret	0.11	0.12	0.05	0.87	0.388
Lied to child	-0.00	0.14	-0.00	-0.02	0.983
Sometimes okay to lie	-0.06	0.06	-0.05	-0.89	0.372

performed, with age, honesty-targeted parenting strategies, and parental modeling entered as predictors. The model was significant, $F(6, 345) = 2.16$, $p = 0.047$, $R^2 = 0.04$. As age increased, participants reported significantly more lies to parents. Contrary to predictions, neither parenting strategies nor parental modeling predicted children's self-reported lying to parents (see Table 5 for full model results).

Antisocial Lying

A regression predicting children's self-reported antisocial lying (*How often have you lied to your parents about something important?*) was performed, with age, honesty-targeted parenting strategies, and parental modeling entered as predictors. The model was significant, $F(6, 345) = 3.03$, $p = 0.007$, $R^2 = 0.05$. As age increased, children were significantly more likely to tell antisocial lies. Contrary to predictions, neither parenting strategies nor parental modeling predicted children's self-reported antisocial lie-telling (see Table 6 for full model results).

Prosocial Lying

A regression predicting children's self-reported prosocial lying (*How often have you told a lie to make someone feel good about themselves?*) was performed, with age, honesty-targeted parenting strategies, and parental modeling entered as predictors. The model was significant, $F(6, 345) = 5.16$, $p < 0.001$, $R^2 = 0.08$. As age increased, children were significantly more likely to tell prosocial lies. Contrary to predictions, neither parenting strategies nor parental modeling predicted children's self-reported prosocial lie-telling (see Table 7 for full model results).

Table 6 Predicting children's self-reported antisocial lie-telling using honesty-targeted parenting strategies and parental modeling of dishonesty

Variable	<i>b</i>	<i>SE b</i>	β	<i>t</i>	<i>p</i>
Age	0.13	0.03	0.21	3.90	<0.001
Discussing results of honesty	-0.10	0.13	-0.08	-0.81	0.417
Discussing consequences of lie-telling	0.18	0.12	0.14	1.47	0.144
Asked child to keep secret	0.12	0.12	0.05	1.00	0.320
Lied to child	0.01	0.13	0.00	0.04	0.966
Sometimes okay to lie	-0.01	0.06	-0.01	-0.20	0.846

Table 7 Predicting children's self-reported prosocial lie-telling using honesty-targeted parenting strategies and parental modeling of dishonesty

Variable	<i>b</i>	<i>SE b</i>	β	<i>t</i>	<i>p</i>
Age	0.19	0.04	0.27	5.24	<0.001
Discussing results of honesty	0.17	0.14	0.11	1.18	0.239
Discussing consequences of lie-telling	-0.15	0.14	-0.10	-1.09	0.278
Asked child to keep secret	-0.04	0.13	-0.02	-0.28	0.779
Lied to child	-0.15	0.14	-0.06	-1.05	0.293
Sometimes okay to lie	0.04	0.07	0.03	0.55	0.584

Parents' Behaviors Predicting Parents' Perceptions of Lie-Telling

Antisocial Lying

A regression predicting parents' reports of children's antisocial lying was performed, with age, honesty-targeted parenting, and parental modeling entered as predictors. The model was significant, $F(6, 345) = 4.28$, $p < 0.001$, $R^2 = 0.07$. Age was not significant; unlike child reports, parents did not report an increase in children's antisocial lie-telling with age. Consistent with predictions, parenting about the consequences of lying was a significant positive predictor, such that as the frequency of engaging in this parenting strategy increased, parents reported significantly greater antisocial lie-telling. Parenting about the results of honesty and parental modeling of dishonesty did not emerge as significant predictors (see Table 8 for full model results).

Prosocial Lying

A regression predicting parents' reports of children's prosocial lying was performed, with age, honesty-targeted parenting, and parental modeling entered as predictors. The model was significant, $F(6, 345) = 6.42$, $p < 0.001$, $R^2 = 0.10$. Unlike children's self-reports, parents did not report that prosocial lie-telling increased with age. Parenting about

Table 8 Predicting parents' perceptions of antisocial lie-telling using honesty-targeted parenting strategies and parental modeling of dishonesty

Variable	<i>b</i>	<i>SE b</i>	β	<i>t</i>	<i>p</i>
Age	−0.03	0.02	−0.09	−1.74	0.084
Discussing results of honesty	−0.13	0.07	−0.17	−1.90	0.059
Discussing consequences of lie-telling	0.24	0.07	0.33	3.16	<0.001
Asked child to keep secret	0.11	0.06	0.09	1.73	0.084
Lied to child	−0.03	0.07	−0.02	−0.45	0.654
Sometimes okay to lie	0.05	0.03	0.08	1.50	0.135

the results of honesty and the consequences of dishonesty were not significant predictors. Consistent with predictions, parental modeling behaviors were significant positive predictors. Parents who frequently asked their child to keep a secret, lied to their child about something important, or more strongly agreed that lie-telling is acceptable reported greater prosocial lies (see Table 9 for full model results).

Discussion

Parents are responsible for socializing their children around the norms of honesty, such as teaching children in what contexts a lie may be more appropriate than the truth. Given that lie-telling increases during adolescence, parents would benefit from knowing what behaviors and parenting strategies are most effective for encouraging honesty in adolescents. Previous research has focused on the extent to which various honesty promotion techniques influence younger children's antisocial lie-telling in laboratory contexts. The current study is the first to assess parents' knowledge of, influence on, and biases regarding adolescents' daily lie-telling. Although the findings showed that parents were not consistent with children's reporting and did not appear to influence their children's lie-telling, parents' own behaviors biased their reports of their children's lie-telling.

First, in line with predictions, parents' reports were not consistent with children's reports of prosocial and antisocial lies. These findings are consistent with previous studies demonstrating that parents are poor at identifying the veracity of children's reports in lie-detection studies and that parents' and children's reports of children's lie-telling across studies reveal inconsistent developmental trends (Evans et al. 2016). These findings are the first to examine parent and child reports of lie-telling in the same study, revealing that these inconsistent patterns are not due to differences across studies but indeed represent different perceptions of the self-reported behavior. It is likely that parents' reports were unrelated to children's self-reports because children's lies become increasingly sophisticated

Table 9 Predicting parents' perceptions of prosocial lie-telling using honesty-targeted parenting strategies and parental modeling of dishonesty

Variable	<i>b</i>	<i>SE b</i>	β	<i>t</i>	<i>p</i>
Age	0.02	0.02	0.04	0.84	0.401
Discussing results of honesty	0.13	0.07	0.16	1.81	0.072
Discussing consequences of lie-telling	−0.08	0.07	−0.10	−1.11	0.268
Asked child to keep secret	0.21	0.06	0.17	3.29	0.001
Lied to child	0.19	0.07	0.14	2.66	0.008
Sometimes okay to lie	0.08	0.03	0.14	2.55	0.011

with age (Evans et al. 2011). According to the activation-decision-construction model of lie-telling, working memory, inhibitory control, and planning are necessary executive functioning skills for lie-telling. Children's executive functioning abilities improve with age, which results in children's lie-telling becoming more sophisticated. Thus, as children and adolescents become more skilled at telling lies, their lies become more difficult to detect. Further, parents have demonstrated a truth bias in lie detection research, where they are more likely to believe their child is telling the truth (Evans et al. 2016). Parents may fail to consistently identify their own children's dishonesty; however, this may serve to protect the trust foundation in parent-child relationships. When parents are unaware of their children's dishonesty, their lies cannot impact their relationship.

While parents' and children's reports of prosocial and antisocial lying were not consistent, parents' reports of antisocial lie-telling did predict children's reports of lying to their parents more generally. This may be because when parents remember children lying to hide something they have done wrong, this would most likely refer to lies their children have told parents to avoid punishment for a rule they have broken. Parents may be more accurate in detecting lies told directly to them, and less accurate in assessing general lie-telling. Our measure of parent-reported antisocial lie-telling did not specifically ask about lies told to parents, therefore future studies should ask parents and children about lie-telling using the same questionnaires to ensure that both are reporting on the same lies.

Contrary to predictions, parents' behaviors and attitudes were not related to children's lie-telling regardless of lie type. Parenting strategies focused on (dis)honesty may have more of an immediate rather than a lasting effect on lie-telling. Effective experimental honesty promotion techniques are employed after a transgression has occurred but before the lie is told (e.g., Lee et al. 2014); however, parenting about lie-telling may only be occurring after parents suspect that their child has lied to them. Thus, instead of approaching conversations first by highlighting the importance of honesty, they may react to dishonesty by discussing

the importance of being honest or the consequences of being dishonest. Future studies should ask parents about how they engage in parenting strategies surrounding honesty, and specifically assess whether they typically talk about honesty in response to suspected/detected dishonesty or if they are proactive when engaging in these discussions. Additionally, it would be interesting for future research to ask children about the ways in which their parents discuss (dis)honesty. Perhaps children's perceptions of parenting strategies or the extent to which children believe their parents value honesty would be more important for or have a stronger relationship with their lie-telling than parental reports of their own parenting strategies.

Although it was predicted that children would report greater lie-telling if their parents modeled greater dishonesty, this prediction was not supported. Parents were asked about three specific aspects of dishonesty. First, parents reported whether they asked their child to keep a secret, which may model dishonesty but may also demonstrate the importance of secret keeping for building trusting relationships. For example, perhaps confiding secrets to the child builds trust; children at this age often report that secret-keeping is a vital quality of close relationships (Villalobos Solis et al. 2015). Thus, secret-keeping between parents and children may improve parent–child trust and teach the importance of keeping secrets for building trust with others, rather than encouraging lie-telling more generally. Second, parents reported whether they lied to their children. The lack of relation between children and parents' lie-telling may be due to children's lack of awareness of their parents' lies, much like parents are not able to detect their own children's lies. To examine this possibility, future studies could ask for children's perceptions of their parents' lying to assess whether children are identifying their parents' lies, and whether this knowledge is influential on children's behaviors. Finally, parents reported whether they sometimes consider lying to be acceptable. While parents' opinions on lie-telling may not have been related to children's lie-telling, research has often found that children's own evaluations of lie-telling are unrelated to their actual lie-telling behaviors (e.g., Talwar et al. 2002). Thus, had children reported on their own opinions of whether lie-telling was sometimes acceptable, parents and children's *evaluations* may have been similar but not related to their behaviors. To address this possibility, future research should ask parents and children not only about their lie-telling, but also about their evaluations of the acceptability of lie-telling. Additionally, asking adolescents to report on their own and their parents' lie-telling may provide greater insight into how parents' behaviors influence adolescent lie-telling. Adolescents' *perceptions* of their parents prosocial and antisocial lies are likely more influential than parents actual lie-telling.

Neither parenting strategies nor parents' own dishonesty appear to influence children and adolescents' lie-telling. If parents' behaviors do not influence children and adolescent lie-telling, what other variables may be influential on dishonesty? Previous research on this topic has found that adolescents often report using dishonesty as a method of obtaining autonomy from parents (Smetana et al. 2009). When greater autonomy has been established in early adulthood, lie-telling is less frequent (Jensen et al. 2004). There may be other explanations for this increase as well. For example, trust and communication decrease while conflict and inconsistency increase in the parent–child relationship with age (Nickerson and Nagle 2005). Adolescents may lie more often to their parents because they are less trusting of their parents, and to avoid the increased conflict that can occur during this developmental period. Future research could ask adolescents to report on their motivation for lying to their parents to understand why lie-telling increases in this relationship.

Finally, consistent with predictions, parents' behaviors predicted their reports of their children's lie-telling. This suggests that parents' reports are biased by their own behaviors. For example, parents who reported talking about the consequences of lying were significantly more likely to report higher rates of their children's antisocial lie-telling. Similarly, parents' reported rates of modeling dishonesty positively predicted their reports of children's prosocial lies. These findings may be due to the ways in which parents teach children about antisocial and prosocial lie-telling. Parents likely explicitly teach their children that antisocial lie-telling is wrong, thus their perceptions are influenced by their engagement in more direct parenting strategies. In contrast, parents may teach about prosocial lies more implicitly, such as through modeling behaviors that indicate prosocial lying is acceptable. Generally, reports are often biased by one's own behaviors; people assume others exhibit the same behaviors they tend to engage in (Mullen et al. 1985; Ross et al. 1977). As such, both parenting and modeling appear to bias parents' responses of their children's lie-telling. Not only do parents hold a truth bias, where they think their children lie less than they actually do, their reports of lie-telling reflect their own reported values and behaviors rather than their children's. Thus, parents' trust in their children may be more affected by their own behaviors rather than by their children's actual dishonesty. If parents lie more themselves, this may result in them being less likely to trust their children. Previous research has found that parents who perceive greater levels of concealment in their children are less accepting, less involved, and less knowledgeable, regardless of children's actual concealment (Finkenauer et al. 2005). Parents should be cautious in assuming that their perceptions of their children's

dishonesty are accurate. Parents would also benefit from a greater understanding of how their own behaviors might bias their perceptions, and thus avoid negatively impacting their relationship with their child. Given that the majority of the parent sample was mothers, future research would benefit from asking both parents to provide reports on lie-telling and parenting to assess the home environment more broadly.

There are a number of limitations of the current study that should be noted. First, the questions were adjusted to be age-appropriate to ensure children's understanding. Asking parents and children different questions regarding the same type of lie may have led to some discrepancies. Coding the open-ended responses revealed that children and adolescents were mainly reporting on lies told to get out of trouble; however, future research should aim to replicate these findings while asking parents and children the same questions that are more similar and appropriate for all age groups. Additionally, questions in future studies could ensure that all questions ask about lies to the same recipient and avoid overlapping in the types of lies being reported to avoid potential overlap in responses. Finally, participants were asked to recall lies told over the previous year. As a result, participants' reported lie-telling likely reflect more serious or important lies that are more impactful for the lie-teller and thus more likely to be remembered over the one-year period. Future studies could ask about lie-telling within a shorter time frame to assess whether similar patterns are found with more minor lies and whether the same biases hold within a shorter time frame.

The current study has several implications for the parent–child context. Parents' inability to detect their children's lies may serve a protective function. Lying damages trust in relationships, therefore parents' inaccuracy may be beneficial for preserving the quality of the parent–child relationship (Rotenberg 1994). Future studies could continue to understand this by asking parents and adolescents to report on their own and each other's lie-telling as well as relationship quality to understand this relationship further. Parents' biases may also be harmful towards their relationship; their own dishonesty may lead to greater perceptions of dishonesty in their children, thus decreasing trust in their relationship (Sagarin et al. 1998). Another extension of this work applies to educating parents on effective methods of parenting about honesty. This research may provide parents with insights into particular strategies that are effective, or ineffective, in promoting honesty. For example, encouraging parents to praise honesty rather than responding punitively when adolescents disclose undesirable behaviors may encourage honest and open communication in the parent–child relationship.

There are several ways in which future research could aid in our understanding of parenting and adolescent dishonesty. For example, asking adolescents to report on their parents' lie-telling behavior would further the current understanding of parents' influence on dishonesty. Adolescents may be more aware of their parents' prosocial lie-telling than antisocial (or vice versa), and this awareness may lead to different influences on adolescents' lying. Further, adolescents may have different evaluations of lies parents tell them. Adolescents may view all lies told by parents as harmful or unacceptable, rather than understanding that parents use lies as a strategy to control behavior or avoid negative emotional experiences (such as the death of a pet), or that parents also tell lies in specific social contexts. Future research could ask adolescents to report on and evaluate their parents lies to understand how parents' lie-telling might be influencing adolescents' behavior. Longitudinal research would be valuable in assessing the direction of effects found in the present study. For example, does engaging more frequently in an honesty-targeted parenting strategies lead to perceptions of more frequent lie-telling, or do their perceptions lead to greater use of certain parenting strategies? Examining these variables across time would allow us to understand how these different behaviors are influencing one another and to make recommendations to parents as to which behaviors or strategies may be most effective. Additionally, given that lie-telling has been shown to increase generally rather than only to parents, it would be interesting for future research to ask adolescents about lies told to other recipients as well, such as peers.

Conclusion

The marked increase in lie-telling during adolescence makes this developmental stage an important period for understanding (dis)honesty. Parents play a key role in socializing children and adolescents around the norms of honesty; however, limited research to date has examined parents' awareness of and influence on children's lie-telling behaviors. The current study examined parents' knowledge of, influence on, and biases regarding adolescent lie-telling. Parents' reports were inconsistent with adolescents' reports of lie-telling; however, parents' lack of awareness of adolescent lie-telling may serve to protect trust in the parent–child relationship. While parenting about and modeling of dishonesty did not influence lying, parents' behaviors did predict parents' reports of adolescent lie-telling. Increasing parents' awareness of their biases towards adolescent dishonesty may be crucial in preventing parents' behaviors from causing conflict or damaging trust in the parent–child relationship during adolescence.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee Brock University Research Ethics Board (reference number: 16-080) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individuals prior to participating.

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References

- Austin, J. L. (1962). *How to do things with words*. Cambridge, MA: Harvard University Press.
- Bussey, K. (1999). Children's categorization and evaluation of different types of lies and truths. *Child Development, 70*, 1338–1347. <https://doi.org/10.1111/1467-8624.00098>.
- Chan, H., Brown, B., & Von Bank, H. (2015). Adolescent disclosure of information about peers: the mediating role of perceptions of parents' right to know. *Journal of Youth and Adolescence, 44*, 1048–1065. <https://doi.org/10.1007/s10964-015-0261-9>.
- Conley, T. D., Moors, A. C., Ziegler, A., & Feltner, M. R. (2011). Trust and satisfaction in adult child–mother (and other) relationships. *Basic and Applied Social Psychology, 33*, 239–254. <https://doi.org/10.1080/01973533.2011.589311>.
- Cumsille, P., Darling, N., & Martinez, M. L. (2010). Shading the truth: the patterning of adolescents' decisions to avoid issues, disclose, or lie to parents. *Journal of Adolescence, 33*, 285–296. <https://doi.org/10.1016/j.adolescence.2009.10.008>.
- Debey, E., De Schryver, M., Logan, G. D., Suchotzki, K., & Verschuere, B. (2015). From junior to senior Pinocchio: a cross-sectional lifespan investigation of deception. *Acta Psychologica, 160*, 58–68. <https://doi.org/10.1016/j.actpsy.2015.06.007>.
- Evans, A. D., Bender, J., & Lee, K. (2016). Can parents detect 8- to 16-year-olds' lies? Parental biases, confidence, and accuracy. *Journal of Experimental Child Psychology, 147*, 152–158. <https://doi.org/10.1016/j.jecp.2016.02.011>.
- Evans, A. D., & Lee, K. (2013). Emergence of lying in very young children. *Developmental Psychology, 49*, 1958–1963. <https://doi.org/10.1037/a0031409>.
- Evans, A. D., & Lee, K. (2014). The relation between 8- to 17-year-olds' judgments of other's honesty and their own past honest behaviors. *International Journal of Behavioral Development, 38*, 277–281. <https://doi.org/10.1177/0165025413517580>.
- Evans, A. D., Xu, F., & Lee, K. (2011). When all signs point to you: lies told in the face of evidence. *Developmental Psychology, 47*, 39–49. <https://doi.org/10.1037/a0020787>.
- Finkenauer, C., Frijns, T., Engels, R. C. M. E., & Kerkhof, P. (2005). Perceiving concealment in relationships between parents and adolescents: links with parental behavior. *Personal Relationships, 12*, 387–406. <https://doi.org/10.1111/j.1475-6811.2005.00122.x>.
- Genyue, F., Heyman, G. D., & Lee, K. (2011). Reasoning about modesty among adolescents and adults in China and the U.S. *Journal of Adolescence, 34*, 599–608. <https://doi.org/10.1016/j.adolescence.2010.10.003>.
- Gervais, J., Tremblay, R. E., Desmarais-Gervais, L., & Vitaro, F. (2000). Children's persistent lying, gender differences, and disruptive behaviors: a longitudinal perspective. *International Journal of Behavioral Development, 24*, 213–221. <https://doi.org/10.1080/0165025003833340>.
- Gingo, M., Roded, A. D., & Turiel, E. (2017). Authority, autonomy, and deception: evaluating the legitimacy of parental authority and adolescent deceit. *Journal of Research on Adolescence, 27*, 862–877. <https://doi.org/10.1111/jora.12319>.
- Grice, H. P. (1980). *Studies in the way of words*. Cambridge, MA: Harvard University Press.
- Heyman, G. D., Luu, D. H., & Lee, K. (2009). Parenting by lying. *Journal of Moral Education, 38*, 353–369. <https://doi.org/10.1080/03057240903101630>.
- Jensen, L. A., Arnett, J. J., Feldman, S. S., & Cauffman, E. (2004). The right to do wrong: lying among adolescents and emerging adults. *Journal of Youth and Adolescence, 33*, 101–112. <https://doi.org/10.1023/B:JOYO.0000013422.48100.5a>.
- Kerr, M., Stattin, H., & Trost, K. (1999). To know you is to trust you: parents' trust is rooted in child disclosure of information. *Journal of Adolescence, 22*, 737–752. <https://doi.org/10.1006/jado.1999.0266>.
- Lakoff, R. (1973). "The logic of politeness: Or minding your P's and Q's" In *Papers from the 9th Regional Meeting of the Chicago Linguistic Society* (pp. 292–305). Chicago: Chicago Linguistic Society.
- Lee, K., & Ross, H. J. (1997). The concept of lying in adolescents and young adults: testing Sweetser's folkloristic model. *Merill-Palmer Quarterly, 43*, 255–270.
- Lee, K., Talwar, V., McCarthy, A., Ross, I., Evans, A. D., & Arruda, C. (2014). Can classic moral stories promote honesty in children? *Psychological Science, 25*, 1630–1636. <https://doi.org/10.1177/0956797614536401>.
- Levine, T. R., Serota, K. B., Carey, F., & Messer, D. (2013). Teenagers lie a lot: a further investigation into the prevalence of lying. *Communication Research Reports, 30*, 211–220. <https://doi.org/10.1080/08824096.2013.806254>.
- Maccoby, E. E. (1992). The role of parents in the socialization of children: an historical overview. *Developmental Psychology, 28*, 1006–1017. <https://doi.org/10.1037/0012-1649.28.6.1006>.
- Mullen, B., Atkins, J. L., Champion, D. S., Edwards, C., Hardy, D., Story, J. E., & Vanderklok, M. (1985). The false consensus effect: a meta-analysis of 115 hypothesis tests. *Journal of*

- Experimental Social Psychology*, 21, 262–283. [https://doi.org/10.1016/0022-1031\(85\)90020-4](https://doi.org/10.1016/0022-1031(85)90020-4).
- Nickerson, A. B., & Nagle, R. J. (2005). Parent and peer attachment in late childhood and early adolescence. *The Journal of Early Adolescence*, 25, 223–249. <https://doi.org/10.1177/0272431604274174>.
- Padilla-Walker, L. M., & Thompson, R. A. (2005). Combating conflicting messages of values: a closer look at parental strategies. *Social Development*, 14, 305–323. <https://doi.org/10.1111/j.1467-9507.2005.00303.x>.
- Ross, L., Greene, D., & House, P. (1977). The “false consensus effect”: an egocentric bias in social perception and attribution processes. *Journal of Experimental Social Psychology*, 13, 279–301. [https://doi.org/10.1016/0022-1031\(77\)90049-X](https://doi.org/10.1016/0022-1031(77)90049-X).
- Rotenberg, K. J. (1994). Loneliness and interpersonal trust. *Journal of Social and Clinical Psychology*, 13, 152–173. <https://doi.org/10.1521/jscp.1994.13.2.152>.
- Sagarin, B. J., Rhoads, K. V. L., & Cialdini, R. B. (1998). Deceiver’s distrust: denigration as a consequence of undiscovered deception. *Personality and Social Psychology Bulletin*, 24, 1167–1176. <https://doi.org/10.1177/01461672982411004>.
- Searle, J. (1969). *Speech acts*. Cambridge, U.K.: Cambridge University Press.
- Smetana, J. G., Villalobos, M., Tasopoulos-Chan, M., Gettman, D. C., & Campione-Barr, N. (2009). Early and middle adolescents’ disclosure to parents about activities in different domains. *Journal of Adolescence*, 32, 693–713. <https://doi.org/10.1016/j.adolescence.2008.06.010>.
- Sweeter, E. E., & Holland, D. (1987). The definition of lie: an examination of the folk models underlying a semantic prototype. *Cultural models in language and thought* (pp. 43–66). New York, NY: Cambridge University Press.
- Talwar, V., & Lee, K. (2002). Development of lying to conceal a transgression: children’s control of expressive behavior during verbal deception. *Child Development*, 79, 866–881. <https://doi.org/10.1111/j.1467-8624.2008.01164.x>.
- Talwar, V., & Lee, K. (2008). Social and cognitive correlates of children’s lying behavior. *Child Development*, 79, 866–881. <https://doi.org/10.1111/j.1467-8624.2008.01164.x>.
- Talwar, V., Lee, K., Bala, N., & Lindsay, R. C. L. (2002). Children’s conceptual knowledge of lying and its relation to their actual behaviors: implications for court competence examinations. *Law and Human Behavior*, 26, 395–415. <https://doi.org/10.1023/A:1016379104959>.
- Talwar, V., & Lee, K. (2011). A punitive environment fosters children’s dishonesty: A natural experiment. *Child Development*, 82, 1751–1758. <https://doi.org/10.1111/j.1467-8624.2011.01663.x>.
- Talwar, V., Renaud, S. J., & Conway, L. (2015). Detecting children’s lies: are parents accurate judges of their own children’s lies? *Journal of Moral Education*, 44, 81–96. <https://doi.org/10.1080/03057240.2014.1002459>.
- Villalobos Solis, M., Smetana, J. G., & Comer, J. (2015). Associations among solicitation, relationship quality, and adolescents’ disclosure and secrecy with mothers and best friends. *Journal of Adolescence*, 43, 193–205. <https://doi.org/10.1016/j.adolescence.2015.05.016>.
- Williams, S., Leduc, K., Crossman, A., & Talwar, V. (2017). Young deceivers: executive functioning and antisocial lie-telling in preschool aged children. *Infant and Child Development*, 26, 1–17. <https://doi.org/10.1002/icd.1956>.
- Williams, S., Moore, K., Crossman, A. M., & Talwar, V. (2016). The role of executive functions and theory of mind in children’s prosocial lie-telling. *Journal of Experimental Child Psychology*, 141, 256–266. <https://doi.org/10.1016/j.jecp.2015.08.001>.

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