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# Parenting by lying in Turkey: associations with negative psychosocial outcomes and psychopathy in adulthood

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Parenting by lying—a practice whereby parents lie to their children as a means of emotional or behavioral control—is common throughout the world. This study expands upon the existing, albeit limited, research on parenting by lying by exploring the prevalence and long-term associations of this parenting practice in Turkey. Turkish university students ( $N = 182$ ) retrospectively reported on their experiences of parenting by lying in childhood, their current frequency of lying towards parents, their present level of psychosocial adjustment problems, and their expression of psychopathic traits. The results found that recalling higher levels of parenting by lying in childhood was significantly and positively associated with both increased lying to parents as well as the expression of secondary psychopathic traits in adulthood. The novel findings uncovered in this paper highlight the potential long-term associations that parental lying to children may have on their psychosocial development in adulthood.

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## Introduction

Honesty is one of the most highly valued traits in our society, as it is central to the development of trust, moral behavior, and adaptive psychosocial development (Bureau and Mageau, 2014). Given its importance, it is not surprising that parents aim to promote the development of honesty in their children. Yet, ironically, very little emphasis is placed on parents being honest with their children. In fact, recent studies have found that, despite the strong disapproval of lying, 84% of United States (U.S.) parents, 98% of Chinese parents, and 100% of Singaporean parents admit lying to their children as a means of behavioural and emotional control: a practice referred to as “parenting by lying” (Heyman et al., 2009; Setoh et al., 2020a). Although parenting by lying appears to be a common parenting practice, its short-term and long-term associations on social, emotional, and moral development have only recently been studied (Hays and Carver, 2014; Meiting and Hua, 2020; Santos et al., 2017; Setoh et al., 2020a). This study aims to bridge this gap by examining the long-term associations of parenting by lying in childhood with lying, psychosocial problems, and the expression of psychopathic traits amongst a sample of Turkish adults.

There is a plethora of research dedicated to understanding children’s lies (see Lee, 2013, for a review). However, research on parents’ lies to their children is scarce. To date, researchers have investigated parenting by lying in the U.S., Canada, China, and Singapore (Brown, 2002; Heyman et al., 2009; 2013; Meiting and Hua, 2020; Santos et al., 2017; Setoh et al., 2020a; Setoh et al., 2020b). These studies have focused on the types of lies that parents most commonly tell their children (Heyman et al., 2009; 2013), as well as the associations that parenting by lying has with lying and psychosocial adjustment—in particular internalizing (e.g., anxiety, low mood) and externalizing (e.g., anger, aggression) problems (Hays and Carver, 2014; Santos et al., 2017; Meiting and Hua, 2020; Setoh et al., 2020b). The available research suggests that not only is parenting by lying a common practice but that the types of lies that parents tell their children remain relatively consistent across North American and some Asian cultures. Specifically, common types of lies that parents tell their children include lies related to misbehavior, money, eating, and falsely threatening to leave a child (Heyman et al., 2009). For example, a parent may falsely threaten to leave their child behind should they refuse to comply with a request to follow the parent. Although these common parental lies appear to differ based on the content of the lies (e.g., telling lies related to eating vs. telling lies related to leaving/staying), Heyman and colleagues (2009) did not explore the severity of these lies and the potential differential impact of these lies on various aspects of psychosocial functioning.

It is possible that parents may be inadvertently teaching their children that lying is an acceptable way to achieve wants and needs, protect feelings, or manipulate others. Evidence from research examining the consequences of adults lying to children supports this hypothesis (Hays and Carver, 2014; Meiting and Hua, 2020; Santos et al., 2017; Setoh et al., 2020b; Yi et al., 2014). Specifically, studies by both Hays and Carver (2014) and Yi and colleagues (2014) examined the short-term associations of lying to children and found that children who were lied to by an unfamiliar adult were more likely to lie to that same unfamiliar adult in return.

More recent research demonstrates that this association may continue into development. Specifically, Meiting and Hua (2020) found that adolescents in China who reported experiencing more parenting by lying in childhood were significantly more likely to report current symptoms of anxiety. These researchers also found that adolescent girls who reported experiencing more parenting

by lying in childhood also reported significantly lower attachment with the parent-child relationship, suggesting that frequent parenting by lying to children may hinder the establishment of a secure and trusting relationship (Meiting and Hua, 2020). This result is consistent with research by Cargill and Curtis (2017), who found that young adults who reported more parental lying by their parents in childhood also reported less secure and trusting relationships with their parents in adulthood.

In addition, research has shown that Canadian (Santos et al., 2017) and Singaporean (Setoh et al., 2020b) adults who report experiencing more frequent parenting by lying in childhood also lie to their parents more often in adulthood. These studies suggest that children may learn how and when to lie by observing and imitating adults around them (Hays and Carver, 2014; Santos et al., 2017; Yi et al., 2014; Setoh et al., 2020b). Although children may not consciously recognize that a parent has lied to them at the moment, it is possible that they may come to this recognition later on when they are more readily able to recognize lying in others. The recognition of parenting by lying, whether in present or historically, may inadvertently hinder the child’s perception of the trust and security within the parent-child relationship (Cargill and Curtis, 2017). Further, Santos and colleagues (2017) demonstrated that Canadian adults who experienced more parenting by lying in childhood engaged in more frequent lying to their parents and experience more antisocial personality problems in adulthood. The researchers also found that parenting by lying in childhood was indirectly associated with the expression of internalizing and externalizing problems in adulthood through lying to parents (Santos et al., 2017). Setoh and colleagues (2020b) found similar relations among Singaporean adults; specifically, increased parenting by lying in childhood was associated with more frequent lying to parents in adulthood, which was then indirectly related to the expression of internalizing and externalizing problems. The authors also found a direct association between parenting by lying in childhood and the expression of externalizing problems in adulthood (Setoh et al., 2020b).

Unlike parenting by lying, researchers have long recognized that lying to parents is a common behavior across the lifespan (Engels et al., 2006; Jensen et al., 2004). It is also well-documented that frequent lying, including lying to parents, is associated with negative outcomes, such as externalizing and internalizing problems, as well as the development of psychopathic traits (Book et al., 2006; Engels et al., 2006; Gervais et al., 2000; Santos et al., 2017; Setoh et al., 2020b; Stouthamer-Loeber and Loeber, 1986). Children and adolescents who engage in persistent and frequent lie-telling are also more prone to the development of serious behavior problems, including acts of delinquency (Engels et al., 2006). Pathological lie-telling is a hallmark trait of psychopathy—a personality disorder in which lying is consciously used as a mechanism to manipulate others for personal gain (Levenson et al., 1995). In addition, although less research has explored the relationship between lying and the development of internalizing problems, there is evidence to suggest that lying to others is associated with lower self-esteem, depressed mood, and reduced trust (Chiu et al., 2016; Smetana et al., 2009). These findings emphasize the need to further understand factors contributing to increased lying behaviors, including parenting by lying.

The exploration of psychopathic traits was of particular interest to this study as previous research by Santos and colleagues (2017) found a direct and positive association between lying to parents and the expression of antisocial personality problems—a presentation marked by a cluster of problematic behaviors such as persistent lying, impulsivity, failure to consider the consequences (5th edn.; DSM-5; American Psychiatric Association, 2013).

Previous research has also shown that frequent and persistent antisocial personality problems can lead to the development of more severe psychopathic attitudes and behaviors, including callous and unemotional traits, egocentricity (Hare and Neumann, 2008). Examining this association is of critical importance as parents who frequently lie to their children may be inadvertently teaching lying as an effective means of coping with uncomfortable situations and/or manipulating others for personal gain. Over time, and through positive reinforcement, children may learn to resort to pathological lying within their everyday behavior—an early risk factor and hallmark trait of psychopathy (Levenson et al., 1995). This hypothesis was confirmed in a recently published study by Setoh and colleagues (2020b) that found that exposure to parenting by lying in childhood was significantly and indirectly associated with the expression of psychopathic traits later in adulthood through more frequent lying to parents. That is, adults who reported experiencing more parenting by lying in childhood also reported lying more to their parents in adulthood, and that more frequent lying to parents in adulthood was associated with a higher expression of general psychopathic traits. Although Setoh and colleagues (2020b) were the first to highlight a potential association between parenting by lying and psychopathic traits, it is important to further explore the different factors of psychopathy, as recommended by the literature (Miller et al., 2008).

As a result, this study distinguished between primary and secondary characteristics of psychopathy, a novel addition to the existing research on parenting by lying. Primary psychopathy (e.g., traits of glibness, inclination to lie, callousness) has traditionally been acknowledged as archetypal psychopathy, whereby individuals express psychopathic traits that have affective and interpersonal components (Miller et al., 2008). In contrast, individuals in the secondary psychopathy domain (e.g., impulsivity, intolerance of frustration, short-term goal-oriented) express psychopathic traits related to social deviance (Miller et al., 2008). Although previous research has demonstrated a strong correlation between these two factors (Epstein et al., 2006), it is hypothesized that the distinction between psychopathy factors is necessary given that individuals who engage in similar behaviors (i.e., lying to others) may have differing etiologies (Miller et al., 2008).

### The current study

Our current understanding of the practice of parenting by lying and its potential negative outcomes is restricted to North American and Asian contexts (Santos et al., 2017; Setoh et al., 2020a; Setoh et al., 2020b). These studies have uncovered negative long-term associations between experiencing parenting by lying in childhood with the degree of lying, psychosocial problems (i.e., internalizing, externalizing, and antisocial personality problems), and psychopathic traits exhibited in adulthood. However, it is currently unknown how or whether these findings generalize to cultures outside of North America and Asia. This study seeks to significantly expand upon the limited research conducted on parenting by lying by examining the negative long-term associations of this parenting practice in Turkey—a predominantly Muslim country located in the Middle East.

The Middle East is a transcontinental region of nations uniquely situated at the intersections of Western Asia, North Africa, and Southeast Europe. In contrast to North America and Asia, where cultural norms are predominantly identified as either individualist or collectivist, Turkey displays a unique picture that includes both collectivist and individualist cultural elements. Propelled partly by globalization, Turkey has transformed from an agricultural society to an urban-industrial society (Norris and

Inglehart, 2009). This social transition has created higher education and employment opportunities in cities, which has led to vast internal migrations to urban centers. This urbanization has also facilitated a rise in the influence of Western culture and the endorsement of individualist values in many aspects of life, including parenting. However, despite this influence, the traditional interdependent aspirations have continued to prevail in the organization of family life (Sen et al., 2014). Studies investigating parenting practices in Turkish metropolises show that parents tend to exhibit parenting behaviors that are associated with their traditional collectivist backgrounds (e.g., emotional closeness, respect to authority figures), as well as those of modern parenting practices (e.g., promoting autonomous decision making) (Sen et al., 2014).

The literature is imbued with studies examining the parenting styles of Turkish parents (Altan-Aytun et al., 2013; Sen et al., 2014; Yagmurlu and Altan, 2010). However, no study has examined whether parenting by lying is a valid and common parenting practice in Turkey and, if so, whether it shows similar associations with the development of negative outcomes later in life. Given the uniqueness of Turkish culture in blending traditional and modern ideas in parenting, it is possible that Turkish parents practice parenting by lying differently, and that the associations between parenting by lying with lying to parents and psychosocial adjustment problems and the expression of psychopathic traits in adulthood may be different from those found in North America and Asia. However, it is also possible that parenting by lying is a universal phenomenon that plays a similar role in children's own lying behaviors and psychosocial development regardless of cultural differences.

This study examined the prevalence of parenting by lying in Turkey and its association with negative psychosocial outcomes in adulthood. Modeling the procedures used in previous research (Santos et al., 2017; Setoh et al., 2020b). Undergraduate adults reported on their retrospective childhood experiences of parenting by lying, the frequency at which they currently engage in lying to their parents, and their current level of psychosocial adjustment problems (i.e., internalizing and externalizing problems) and psychopathic traits (primary and secondary). The following three hypotheses were proposed:

1. Exposure to parenting by lying in childhood will be significantly and positively associated with lying to parents in adulthood.
2. Lying to parents will be significantly and positively associated with greater psychosocial adjustment problems and the expression of psychopathic traits in adulthood.
3. Exposure to parenting by lying will be significantly and positively associated with the expression of secondary psychopathic traits, and that this relationship may exist through direct and indirect pathways as evidenced through mediational analyses. No significant associations between parenting by lying and the other psychosocial variables of interest were expected to emerge.

### Methodology

**Participants.** Participants included 182 Turkish university students ( $M_{\text{age}} = 20.90$  years,  $SD = 2.16$  years; 62% female) residing in the largest city in Turkey. Eighty-nine percent of the sample spoke Turkish as their first language (1% spoke Kurdish; 17% chose not to respond). Interested students were invited into the lab and completed four measures via an online survey platform. Participants were compensated with course credit. An a priori power analysis was conducted using G\*Power3 (Faul et al., 2007) based on the effect sizes reported in Santos and colleagues (2017).

With  $\alpha = 0.05$  and power = 0.80, the projected sample size needed for a small effect size of  $f^2 = 0.05$  (conservative estimate; Cohen, 1988) is approximately  $N = 159$ . Thus, our obtained sample size of  $N = 182$  will be sufficient for the main objective of this study.

**Materials and procedure.** The materials and procedures used in this study are similar to the ones used in Santos and colleagues (2017) and Setoh and colleagues (2020b). Specifically, participants were recruited from an introductory psychology course and invited to contact the researchers should they wish to participate. Interested participants read an information letter detailing the purpose of the study and potential risks/benefits, signed a consent form, and completed a series of questionnaires (detailed below). All materials were translated into Turkish. The procedure and measures used in this study were approved by the university's independent ethics review board (Ethics review board code: 2016.073.IRB3.050).

**Parenting by lying questionnaire.** Comprised of 16-items, the parenting by lying questionnaire measures specific categories of lies that adults remember their parents telling them as a child (adapted from Heyman et al., 2013). The lies measured in this questionnaire form four categories of lies told by parents to children. These categories include lies relating to: eating (e.g., "finish all your food, or you will grow up to be short"), leaving/staying (e.g., "if you do not follow me, a kidnapper will kidnap you while I'm gone"), misbehavior (e.g., "if you lie to someone, your nose will grow long"), and money (e.g., "we will come back to buy that toy", when the parent has no intention of doing so)—with 4 lies/items per category. Participants reported whether they remember their parent saying that specific lie to them during their childhood by selecting, "yes", "no", or "I don't know".

First, a preliminary score for each of the four lie categories was created. If a participant remembered their parent telling at least one of the four lies within a category, a score of 1 was given for that category; otherwise, the participant received a score of 0 for that category. Next, the four lie category scores were summed to create a total score of parenting by lying. Total parenting by lying scores ranged from 0 (the participant recalled no lies within any category by their parent) to 4 (the participant recalled at least one lie being told by their parent within each of the four categories of lies), with higher scores signifying greater exposure to parenting by lying during childhood. The reliability for this measure was found to be acceptable with a high internal consistency ( $\alpha = 0.89$ ).

**Lying to parents questionnaire.** Adapted from Engels and colleagues (2006), the lying to parents questionnaire is designed to estimate the frequency of lying to parents by exploring three common types of lies adults tell their parents: antisocial lies (i.e., lying as a means of concealing a transgression; 8 items), prosocial lies (i.e., lying as a means to avoid hurting one's feelings; 2 items), and lies by exaggeration (2 items). Sample items include: "How often are you not completely honest with your parent(s)" (antisocial lying), "how often do you tell a lie so that you do not have to hurt your parent(s)' feelings" (prosocial lying), and "how often do you exaggerate to your parent(s) about the things you experience" (exaggerated lying). Participants read each statement and selected-response on a 5-point Likert scale that ranged from 0 (never) to 4 (very often). All 12 items were added together to derive a total lying score; higher scores signify a greater frequency of lying to parents in adulthood. The reliability of this measure was found to be acceptable with a high internal consistency ( $\alpha = 0.88$ ).

**Adult self-report (ASR) questionnaire.** The ASR (Achenbach, 2013) is a questionnaire designed to assess psychosocial adjustment in adults. It is comprised of 126-items and is based on the criteria provided in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (5th edn.; DSM-5; American Psychiatric Association, 2013). The ASR gender and age (18–59) normed  $t$ -scores were utilized to measure two indicators of psychosocial adjustment: internalizing problems ( $\alpha = 0.93$  within our study) and externalizing problems ( $\alpha = 0.87$  within our study). Higher scores signify the expression of more psychosocial adjustment difficulties.

**Levenson self-report psychopathy (LSRP) scale.** The LSRP is a 26-item self-report scale designed to assess psychopathic traits with non-institutionalized populations (Levenson et al., 1995). The LSRP scale produces a measure of primary (16-items; e.g., "for me, what's right is whatever I can get away with") and secondary (10-items; e.g., "I don't plan anything far in advance") characteristics of psychopathy. Participants were asked to read each item and indicate their response on a 4-point scale ranging from 0 (disagree strongly) to 3 (agree strongly). Following the scoring criteria suggested by Levenson et al. (1995), the items for primary and secondary psychopathy were summed; higher scores indicate a greater expression of psychopathic traits. Using Cronbach's alpha, the reliability for this measure was found to be slightly lower than acceptable ( $\alpha_s = 0.58$  and  $0.45$  for primary and secondary psychopathy, respectively).

## Results

First, descriptive analyses examined the prevalence of parenting by lying and potential gender differences. Next, a series of linear and hierarchical regressions explored the associations among exposure to parenting by lying in childhood with the frequency of lying to parents in adulthood, the severity of psychosocial adjustment problems, and the expression of psychopathic traits. For simplicity, the two psychosocial problem variables and two psychopathy variables will henceforth be referred to as the psychosocial outcome variables (or psychosocial outcomes).

### Descriptive analyses

**Profile of parenting by lying in Turkey.** Ninety-six percent of adults recalled experiencing parenting by lying at least once during their childhood. The most common lie category recalled by participants was *lies related to eating* (90%), followed by *lies related to spending* (71%), *misbehavior* (68%), and *leaving/staying* (63%). The most commonly recalled parental lie (recalled by 75% of adults) was, "you need to finish all of your food or you will get pimples all over your face" (lie relating to eating). The least commonly recalled parental lie (recalled by 4% of adults) was, "daddy is not out having fun—he is at an important business meeting", *when the father is actually out having fun* (lies related to leaving/staying).

**Gender differences.** An independent samples  $t$ -test revealed no gender differences in the recollection of parenting by lying in childhood, suggesting that males ( $M = 2.85$ ,  $SD = 1.19$ ) and females ( $M = 2.98$ ,  $SD = 1.02$ ) experience parenting by lying in childhood at similar rates,  $t(178) = -0.77$ ,  $p = .441$ , 95% CI  $[-0.46, 0.20]$ .

Then, the study conducted a multivariate analysis of variance (MANOVA) to explore gender differences (independent variable) across the five psychosocial outcome variables (dependent variables). The MANOVA produced a significant main effect of gender,  $F(5, 144) = 3.31$ ,  $p = 0.007$ , Wilk's  $\lambda = 0.89$ ,  $\eta^2 = 0.11$ . Post-hoc tests revealed significant gender differences only in the

**Table 1 Hierarchical regression for lying to parents as predicted by parenting by lying.**

Predictors	R <sup>2</sup>	ΔR <sup>2</sup>	ΔF	B	SE	β	t	p	95% CI	r <sub>part</sub>
Step 1	0.01	0.01	0.38	-	-	-	-	0.765	-	-
Age	-	-	-	-0.04	0.27	-0.01	-0.14	0.887	[-0.58, 0.50]	-0.01
Gender	-	-	-	-0.85	1.18	-0.06	-0.72	0.470	[-3.18, 1.48]	-0.06
SES	-	-	-	0.63	0.92	0.05	0.69	0.491	[-1.18, 2.45]	0.05
Step 2	0.03	0.02	4.33	-	-	-	-	0.039	-	-
Parenting by lying	-	-	-	1.08	0.52	0.16	2.08	0.039	[0.06, 2.09]	0.16

expression of externalizing problems, whereby females ( $M = 55.80$ ,  $SD = 9.83$ ) reported greater externalizing problems than males ( $M = 50.87$ ,  $SD = 9.79$ ),  $F(5, 149) = 9.10$ ,  $p = 0.003$ ,  $\eta^2 = 0.06$ . No other significant gender effects emerged, all  $ps > 0.05$ , and thus, gender was not examined further in subsequent analyses.

**Parenting by lying and lying to parents.** Next, a hierarchical regression model explored the association between parenting by lying with the frequency of lying to parents. Age, gender, and socioeconomic status (SES) were entered into the first step, followed by parenting by lying in the second step; lying to parents was inputted as the dependent variable. Age, gender, and SES did not significantly predict lying to parents. After controlling for the unique contributions of age, gender, and SES, parenting by lying significantly and positively explained 3% of the total variance in lying to parents. That is, as originally hypothesized, as self-reported parenting by lying in childhood increased, so did the frequency of lying to parents during adulthood (Table 1).

**Lying to parents and psychosocial outcomes.** Next, four separate hierarchical regressions examined whether lying towards parents in adulthood (predictor variable) was associated with each of the four psychosocial outcome variables. All four tests were significant and indicated a positive relationship. That is, as originally hypothesized, as the frequency of lying towards parents increased, so too did the severity of each psychosocial outcome variable, whereby lying to parents accounted for 4–14% of the variance in each outcome variable (Table 2, step 2).

**Parenting by lying and psychosocial outcomes.** Furthermore, this study investigated the associations between exposure to parenting by lying in childhood with the psychosocial outcome variables. Given the significance between lying to parents and each of the four psychosocial variables, four separate hierarchical linear regressions were created. Age, gender, and SES were entered in the first step, and frequency of lying to parents was entered in the second step (Table 2; steps 1 and 2, discussed above). Exposure to parenting by lying was entered in the third step. Each of the four psychosocial variables was entered separately as the dependent variable.

After controlling for the effects of age, gender, SES, and lying to parents, parenting by lying did not account for a unique portion of the variance in either internalizing, externalizing, or primary psychopathic traits (all  $ps > 0.05$ ) (Table 2, step 3). However, a significant and positive association was found between parenting by lying and secondary psychopathic traits, even after controlling for individual contributions of age, gender, SES, and frequency of lying to parents. Specifically, as exposure to parenting by lying in childhood increased, the expression of secondary psychopathic traits also increased, explaining 3% of the unique variance in secondary psychopathy. Thus, as originally hypothesized, exposure

to parenting by lying in childhood was only significantly associated with secondary psychopathic traits in adulthood.

**Mediation models.** Next, this study investigated the potential direct and indirect associations between exposure to parenting by lying, lying towards parents in adulthood, and the four psychosocial outcome variables. To do this, this study used the method of mediation analyses outlined by Preacher and Hayes (2004), with recommendations from Zhao et al. (2010). In contrast to the classic Baron and Kenny (1986) approach to mediation analyses, Zhao and colleagues posit that a significant direct effect is not required for a mediation to occur. With this approach in mind, this study explored mediation analyses for each of the four psychosocial outcome variables. Specifically, this study was interested in exploring whether the frequency of lying towards parents in adulthood (mediator:  $M$ ) mediates the relationship between exposure to parenting by lying (independent variable:  $X$ ) and self-reported internalizing problems, externalizing problems, and primary and secondary psychopathy problems (dependent variables:  $Y$ ) (Fig. 1).

Using the methods outlined by Preacher and Hayes (2004) and with interpretive recommendations by Zhao and colleagues (2010), the possibility of mediation was investigated by exploring whether a significant *indirect* relationship occurs between the independent and dependent variables by course of the mediator (the indirect effect;  $path a \times b$ ). Next, it was investigated as to whether a significant *direct* relationship exists between the independent and dependent variables, after controlling for the effect of the mediator (the direct effect;  $path c$ ) (Preacher and Hayes, 2004; Zhao et al., 2010). Once the indirect and direct pathways are known, it is then possible to categorize the mediation into one of four possibilities: *indirect-only mediation*: only the indirect pathway is significant; *direct-only mediation*: only the direct pathway is significant; *complementary mediation*: the indirect and direct pathways are both significant and the coefficients occur in the same direction; or *competitive mediation*: the indirect and direct pathways are both significant, however, the coefficients occur in the opposite direction (Zhao et al., 2010).

The results found significant associations between exposure to parenting by lying in childhood and lying to parents in adulthood ( $path a$ ; Table 1), as well as significant associations between lying to parents in adulthood and each of the four psychosocial variables ( $path b$ ; see Table 2, step 2). This study also found that parenting by lying was not significantly related to either internalizing, externalizing, or primary psychopathy ( $path c$ ; Table 2, step 3). Parenting by lying was, however, significantly and positively associated with the expression of secondary psychopathy problems ( $path c$ ; Table 2, step 3). That is, as the exposure to parenting by lying in childhood increased, the expression of self-reported secondary psychopathic traits in adulthood also increased, after controlling for the individual contributions of age, gender, SES, and lying to parents.

**Table 2 Hierarchical regression for psychosocial problems as predicted by lying to parents and parenting by lying.**

Outcome	Predictors	R <sup>2</sup>	ΔR <sup>2</sup>	ΔF	B	SE	β	t	p	95% CI	r <sub>part</sub>
Internalizing	Step 1	0.02	-	1.12	-	-	-	-	0.343	-	-
	Age	-	-	0.10	0.48	0.02	0.21	0.831	[-0.84, 1.04]	0.02	-
	Gender	-	-	2.31	1.91	0.10	1.21	0.228	[-1.46, 6.07]	0.10	-
	SES	-	-	-1.91	1.55	-0.10	-1.23	0.220	[-4.97, 1.16]	-0.10	-
	Step 2	0.11	0.09	14.08	-	-	-	<0.001	-	-	-
Externalizing	Lying to parents	-	-	0.44	0.12	0.30	3.75	<0.001	[0.21, 0.67]	0.29	-
	Step 3	0.11	<0.01	0.21	-	-	-	0.885	-	-	-
	Parenting by lying	-	-	-0.12	0.79	-0.01	-0.15	0.885	[-1.68, 1.45]	-0.01	-
	Step 1	0.06	-	3.02	-	-	-	-	0.032	-	-
	Age	-	-	-0.11	0.42	-0.02	-0.26	0.799	[-0.93, 0.72]	-0.02	-
Primary psychopathy	Gender	-	-	4.88	1.67	0.24	-2.93	0.004	[1.59, 8.18]	0.24	-
	SES	-	-	-0.03	1.34	<.00	-0.02	0.983	[-2.71, 2.65]	>0.00	-
	Step 2	0.20	0.14	26.15	-	-	-	<0.001	-	-	-
	Lying to parents	-	-	0.50	0.10	0.38	5.11	<0.001	[0.31, 0.70]	0.38	-
	Step 3	0.20	0.00	0.01	-	-	-	0.907	-	-	-
Secondary psychopathy	Parenting by lying	-	-	-0.08	0.67	-0.01	-0.12	0.907	[-1.40, 1.24]	-0.01	-
	Step 1	0.04	-	2.62	-	-	-	-	0.052	-	-
	Age	-	-	-0.15	0.16	-0.07	-0.94	0.348	[-0.46, 0.16]	-0.07	-
	Gender	-	-	-0.08	0.68	-0.01	-0.12	0.907	[-1.41, 1.26]	-0.01	-
	SES	-	-	1.30	0.52	0.19	2.48	0.014	[0.27, 2.33]	0.19	-
Primary psychopathy	Step 2	0.09	0.05	9.08	-	-	-	0.003	-	-	-
	Lying to parents	-	-	0.13	0.04	0.22	3.01	0.003	[0.04, 0.21]	0.22	-
	Step 3	0.09	0.00	0.00	-	-	-	0.954	-	-	-
	Parenting by lying	-	-	0.02	0.30	<.00	0.06	0.954	[-0.57, 0.60]	<0.00	-
	Step 1	0.03	-	1.77	-	-	-	-	0.155	-	-
Secondary psychopathy	Age	-	-	-0.01	0.12	-0.01	-0.07	0.946	[-0.24, 0.22]	-0.01	-
	Gender	-	-	-0.65	0.50	-0.10	-1.30	0.196	[-1.65, 0.34]	-0.10	-
	SES	-	-	-0.79	0.39	-0.16	2.02	0.045	[-1.55, -0.02]	-0.15	-
	Step 2	0.10	0.07	13.79	-	-	-	<0.001	-	-	-
	Lying to parents	-	-	0.12	0.03	0.27	3.71	<0.001	[0.05, 0.18]	0.27	-
Primary psychopathy	Step 3	0.13	0.03	5.75	-	-	-	0.018	-	-	-
	Parenting by lying	-	-	0.51	0.21	0.18	2.40	0.018	[0.09, 0.93]	0.17	-

After bootstrapping 5000 times, this study found no significant direct effects between exposure to parenting by lying in childhood with three of the four psychosocial outcome variables (i.e., internalizing, externalizing, and primary psychopathy problems). The results also found no significant indirect effects between parenting by lying and each of the three psychosocial variables through lying to parents, indicating the absence of mediational effects (see Fig. 2, Models I–IV). These results indicate that not only were there no direct associations between exposure to parenting by lying and the expression of internalizing, externalizing, and primary psychopathy problems in adulthood, but there was also no indirect association between exposure to parenting by lying with the expression of internalizing, externalizing, and primary psychopathy problems through lying to parents.

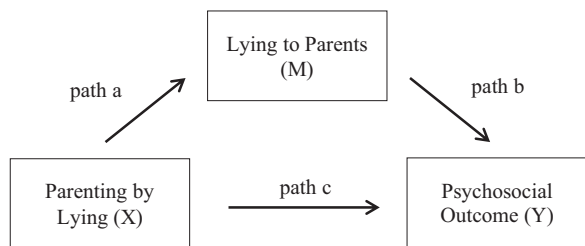
In addition, we found a significant direct effect between exposure to parenting by lying and secondary psychopathy problems. The results also revealed a significant indirect effect between exposure to parenting by lying and secondary psychopathy problems through lying to parents (Model IV). Given the presence of the significant direct and indirect pathways in this model where all of the coefficients are positive, this indicates a complementary mediation (Zhao et al., 2010). That is, the significant indirect effect indicates that greater exposure to parenting by lying in childhood is associated with greater lying to parents in adulthood, which in turn is related to increased secondary psychopathic traits in adulthood. The significant direct effect indicates that greater exposure to parenting by lying in childhood is also directly related to increased secondary psychopathic traits in adulthood, regardless of the frequency of lying towards parents.

**Discussion**

This paper investigates the long-term associations between parenting by lying in childhood with psychosocial adjustment problems in adulthood within a Turkish sample. Four major findings were obtained.

First, consistent with existing research conducted in Canada (Santos et al., 2017) and Singapore (Setoh et al., 2020b), the results found that a greater recall of parenting by lying in childhood was significantly and positively associated with more frequent lying to parents in adulthood. The consistent nature of this association may be the result of a core mechanism by which individuals learn when, how, and to whom lying is acceptable. It has been posited that children learn to lie through various developmental mechanisms that involve observational learning (Hays and Carver, 2014; Yi et al., 2014). One possible mechanism to explain this association is Bandura’s (1977) social learning theory, whereby people learn from observing, imitating, and modeling the actions of others. Results from studies by Hays and Carver (2014) and Yi and colleagues (2014) support a social learning theory hypothesis, as they found that children were more likely to lie to an adult who previously lied to them. These results suggest that observational learning may apply to the socialization of lying behaviors (Santos et al., 2017; Setoh et al., 2020b). That is, as young children experience their parents lying to them (i.e., parenting by lying), they may be inadvertently learning that lying is a successful and effective behavior for achieving goals.

The second major finding revealed that more frequent lying to parents was significantly and positively associated with increased psychosocial adjustment problems and psychopathic traits among

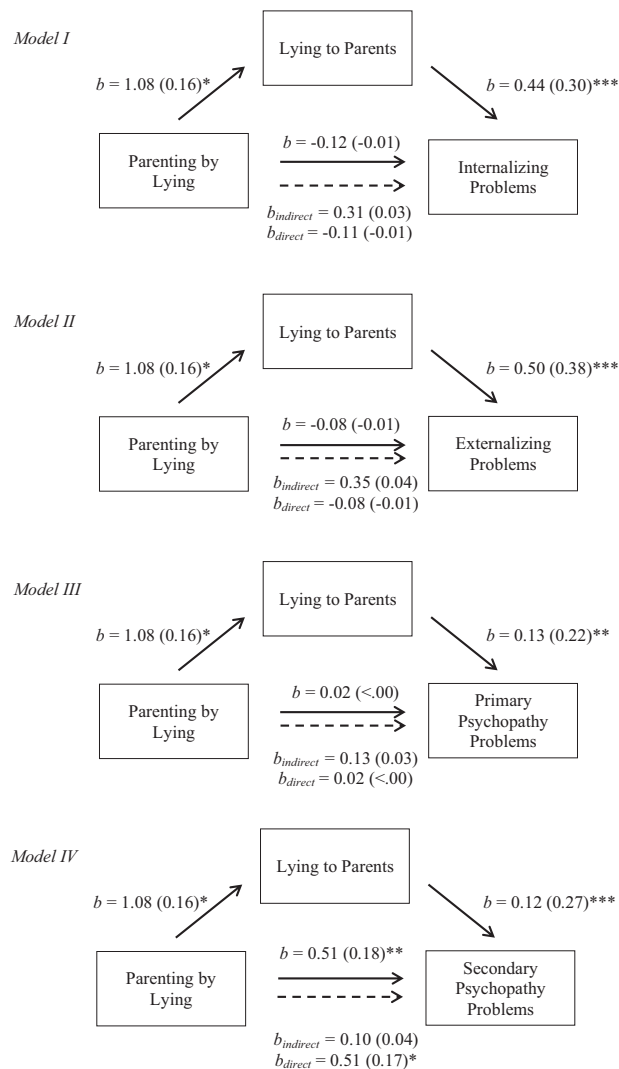


**Fig. 1 Conceptual mediation model.** Conceptual mediation model between exposure to parenting by lying (X), psychosocial outcomes (Y), and lying to parents (M).

Turkish adults. This result is consistent with existing research (Santos et al., 2017; Setoh et al., 2020b) suggesting that increased lying to parents in childhood is associated with greater internalizing and externalizing problems in adulthood. The second finding also expands upon the existing research by suggesting that lying to parents is associated not only with the development of psychologically-based adjustment problems but also with the development of more maladaptive personality characteristics, such as the expression of psychopathic traits. There is a host of research demonstrating the negative association that lying to others, including lying to parents, has the development of psychosocial adjustment (Engels et al., 2006; Gervais et al., 2000; Jensen et al., 2004; Stouthamer-Loeber and Loeber, 1986) and perceived attachment within relationships (Smetana et al., 2009). Specifically, results suggest that lying to parents is associated with externalizing problems, such as delinquency and overt disobedience, (Engels et al., 2006) and internalizing problems, such as self-esteem and depressive mood (Smetana et al., 2009). Furthermore, results from Jensen and colleagues (2004) found that adolescents who frequently lied to their parents were more likely to exhibit low self-restraint and a high tolerance for deviant behavior, suggesting that frequent lying may be related to maladaptive personality traits.

One potential explanation for the association between increased lying with greater psychosocial problems may be due to the underlying emotionality that comes from lying (Santos et al., 2017). That is, it is possible that frequent and persistent lying to parents may lead to the internalization of feelings such as guilt, shame, and regret and/or to the externalization of feelings such as anger. For example, individuals who frequently lie to their parents might exhibit aggressive and/or psychopathic behaviors as an externalized shame response to cope with dishonest behaviors (Book et al., 2006; Engels et al., 2006; Gervais et al., 2000; Nyström and Mikkelsen, 2013; Stouthamer-Loeber and Loeber, 1986). However, it is important to recognize the correlational nature of this study and the idea that the associations may be reciprocal; that being, although increased lying to parents may lead to more psychosocial adjustment problems, it is also possible that increased psychosocial adjustment problems may lead to increased lying to parents. Future research should aim to explore the mechanisms and directionality contributing to the association between lying to parents with the expression of psychosocial adjustment problems.

The third major finding revealed that parenting by lying in childhood was significantly and positively associated with secondary psychopathic traits in adulthood, even after controlling for the effects of age, gender, SES, and lying to parents. Parenting by lying was not associated with any of the other psychosocial outcome variables of interest. The emergence of this unique and novel relationship may be conceptualized through the aforementioned social observation theory. Given that secondary psychopathy is characterized by socially deviant behaviors, it may be



**Fig. 2 Mediation models between exposure to parenting by lying (X) and each psychosocial outcome variable (Y), with lying to parents (M) as the mediator.** Model IV reflects a significant complementary mediation model. The solid lines represent the simple linear regression results, whereas the dashed line represents the bootstrapped (in)direct effects of X on Y after controlling for M. The values in brackets indicate the standardized Beta coefficients. \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

possible that parenting by lying inadvertently teaches children that lying is an effective way to quickly achieve one’s goals and/or avoid frustrating and uncomfortable situations with others. For these children, observing their parents lying to them may be inadvertently teaching ineffective ways to problem solve and handle situations of conflict within interpersonal relationships (Grolnick and Farkas, 2002). Without learning the valuable skills of problem-solving and conflict resolution early in childhood and through observing the reinforcement of lying, children may be put at greater risk for experiencing attitudes, values, and practices that are socially deviant in nature (Engels et al., 2006). Further, as the effectiveness of lying behaviors becomes reinforced over time, children may be more likely to use lie-telling within social communications where want or need is desired, a characteristic of secondary psychopathy.

The fourth major finding revealed a complimentary mediation between parenting by lying and secondary psychopathy only; no other mediations between parenting by lying and the psychosocial variables were significant. That is, it was found that exposure to

parenting by lying in childhood was associated with the expression of secondary psychopathic traits both directly and indirectly through the frequency of lying to parents. The hypothesis surrounding the indirect relation suggests that adults who recall more experiences of parenting by lying may be indirectly prone to greater lying to their parents in adulthood by way of frequently observing lying behavior by parents and learning that lying is one way to effectively achieve wants and needs. The effectiveness of this lying behavior may then be reinforced through its ability to lower frustration in the individual who is lying, as well as facilitate the achievement of a short-term goal, ultimately leading to the self-perceived expression of secondary psychopathic traits (Engels et al., 2006).

**Limitations and future directions.** There are several limitations that should be addressed in future research. One important limitation is the reliance on retrospective reports of parenting by lying, where participants were required to reflect back to their childhood and recall specific instances in which their parents had lied to them. This design poses several limitations: First, children may not be aware of instances when their parent is lying to them, and thus, participant reports of parenting by lying in childhood may be under-represented; second, retrospective reporting of childhood memories by adults may be subject to memory errors (Tustin and Hayne, 2019); and third, participants were instructed to recall specific lies that their parents may have used. It is also possible that the lies included in the parenting by lying measure were not the most prominent lies told by parents, which would mean that the frequency and nature of parenting by lying in childhood were not accurately captured by our study. Together, the reliance on retrospective reporting of parenting by lying in childhood may have resulted in adults under-estimating or over-estimating the frequency of parenting by lying. However, while it is recommended that these results be interpreted with caution, there is research to suggest that when compared to children, adults may be able to recall equal or more information about early childhood memories (Tustin and Hayne, 2019). Moreover, research revealed moderate correlations between individuals' prospective and retrospective memories of their family environment and demonstrated that adults' retrospective reports of their family experiences could similarly predict adult outcomes as their prospective reports obtained in early ages (Bell and Bell, 2018). In addition, the consistency in the prevalence of parenting by lying and negative associations across studies in Canada and Singapore, provide confidence in the accuracy of reporting.

One way to improve upon this method is by asking parents to report on their own parenting by lying. In addition, it would be ideal to corroborate future studies that explore adults' retrospective reporting of parenting by lying in childhood with parents' own report of parenting by lying practices towards their children. However, although obtaining parent-report information would be extremely beneficial, the issue of retrospective reporting and accuracy would still exist. Thus, studying the effect of parenting by lying during childhood and across development using a longitudinal and experimental design would be ideal. Doing so would also address a second key limitation to this study, which is that, due to the correlational nature of the research design, causality is unable to be determined amongst any of the associations observed. Thus, the results of this paper should be interpreted through the lens of an associational study whereby causal conclusions are unable to be drawn from the data. Future research should aim to investigate contextual factors (e.g., social class, experiences of parents' parenting by lying as children, parenting style, family stressors, neighborhood, etc.) to further increase the current understanding of parenting by lying and its

relation to various aspects of development. In addition, although parental lies appear to differ based on the content of the lies (e.g., telling lies related to eating vs. telling lies related to leaving/staying), this study did not explore the severity of these lies and the potential differential impact of these lies on various aspects of psychosocial functioning. Future research on this issue should further help delineate the relations between parental lying and their developmental outcomes and how parenting by lying impacts social, emotional, and moral development.

A final limitation worth mentioning relates to the lower than acceptable internal consistency that was found for both the primary and secondary psychopathy scales of the Levenson Self-report Psychopathy Scale (LSRP). The low internal consistency in this study suggests that perhaps not all of the items accurately measure the concepts of primary and secondary psychopathy. However, in contrast to this study, the LSRP has been widely acknowledged as a valuable and reliable measure of psychopathy, thus increasing our confidence in the use of this measure (Levenson et al., 1995; Shou et al., 2017). It is also possible that reliance on a self-report measure of psychopathy may have posed difficulties in accurately assessing psychopathic traits as factors such as personal insight and social desirability have the potential to influence reporting. However, more recently, the scientific community has regarded self-report measures of psychopathy as an efficient and reliable means of assessing psychopathic traits, especially within community-based samples, such as the one used in our study (Gordts et al., 2017). Thus, the results should be interpreted with this limitation in mind, and future research should aim to further explore the dimensional aspects of the LSRP, including the cross-cultural reliability of the LSRP in Turkey.

In conclusion, this study examined the long-term associations of the practice of parenting by lying in childhood with psychosocial adjustment problems and psychopathy in Turkish adults. The novel findings discovered in this paper highlight the potential negative outcomes associated with lying to children by parents, which appear consistent across cultures. Additional research is needed to better understand the origins of these relationships, the development and interaction of these relationships over time, and potential points of intervention to promote optimal development across the lifespan.

#### Data availability

The datasets generated and analyzed during this study are available in the Harvard Dataverse repository, <https://doi.org/10.7910/DVN/N76PUE>.

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## Author contributions

This paper was produced through a combined effort on behalf of all authors. The first three authors contributed significantly and deserve equal recognition of the first authorship. Dr. KL proposed the original study idea before Ms. RJ expanded upon the concept, selected the measures, and designed the study. Dr. E-A and Dr. BS collected the data. All authors contributed to data analyses and forming interpretations. Ms. RJ drafted the initial manuscript before revisions were made by Ms. EA and Dr. SZ. Drs. KL and BS also contributed to editing the manuscript. All of the authors approve the final version of the paper for submission.

## Competing interests

The authors declare no competing interests.

## Additional information

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