Original Article:

PARENTING BY LYING, CHILDHOOD FANTASY CHARACTERS AND YOUNG ADULT'S PERSONALITY

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Abstract

Research on Parenting by Lying (PBL) in childhood is relatively new in the field, with studies that have found significant associations between parenting by lying and other constructs including lying to parents, psychosocial behaviors, antisocial personality problems, and externalizing behaviors among the youth (e.g., Santos et al., 2017). This study sought to investigate the associations between Parenting by lying, belief in childhood fantasy characters (e.g., Santa Claus), and the personality of youth. Young adults ($N = 207$) responded to questions regarding the parenting strategies they experienced, and fantasy characters they believed in during childhood. Two unique factors emerged from the exploratory factor analyses (EFA) ran on the fantasy character scale (age of discovery versus reactions to truth). Results indicated that Parenting by lying was significantly and positively associated with neuroticism, while age of discovery was significantly and negatively associated with extraversion. These findings suggest that both parenting by lying, and belief in childhood fantasy characters may be uniquely associated with personality outcomes in young adulthood. Secondly, findings from the exploratory factor analyses provide a foundation for future research in this new area.

Keywords: Parenting by lying, fantasy characters, personality, neuroticism, big-five personalities

INTRODUCTION

Parenting By Lying

Many cultures value parenting and use different strategies in their culture to raise children, guided by family, societal and cultural norms. For example, in the process of teaching children traditions, morals and preparing them to socialize with others, parents often teach their children that it is inappropriate to lie (Kohlberg, 1963). Additionally, most ethnic groups in the United States teach the importance of truth telling to their children relatively equally, however, collectivistic cultures, such as Asian Americans, are more likely to punish their child more severely in response to lying as compared to other behaviors (Heyman et al., 2009). Truth telling is also promoted to improve communication and trust between parents and children (Engles et al., 2006), as parents are often the primary source of information for children, and parents may want their children to see them as an honest source of information (Heyman et al., 2009).

Despite the emphasis on the importance of telling the truth, parents may lie to their children to influence their behavior, a process that recent studies have referred to as Parenting by Lying (PBL; Heyman et al., 2009). Parents engage in parenting by lying for several reasons, including to protect children's feelings, change perceptions, change/redirect behavior, and avoid unpleasant conversations. It is estimated that about 84% of US parents engage in parenting by lying by telling their child at least one lie, and that about 45.6% of parents do so to prevent their child from misbehaving (Heyman et al., 2013). For example, one of the most common lies that parents tell their children is that they will leave their child alone in a public place if the child does not follow them (Heyman et al., 2013).

Interestingly, the limited studies available in this field suggest that parents who most often stress the importance of honesty are also more likely to lie to their children (Heyman et al., 2009). While this may be counterintuitive, the rationale for parenting by lying is individually determined. Some parents may encourage truth telling yet lie to children because they do not see any potential harm on young minds, or believe it serves an immediate positive function, or believe that the false statements are acceptable as they are made without a malicious intent (Grice, 1989). However, one major question yet to have clear answers is if there are any relationships between early childhood parenting by lying and adolescent/adult personality development.

Previous studies have examined parenting by lying, including studies designed to measure the associations of parenting by lying with childhood honesty. For example, children instructed to not peek at a toy when an adult leaves the room are more likely to peek and lie about their misbehavior when the adult also tells them a lie (Hays & Carter, 2014). Only recently have studies examined the long-term associations between parenting by lying and child development, such as the cross-cultural retrospective studies conducted by Heyman et al. (2009; 2013) and Santos et al. (2017). The study by Santos and colleagues

(2017) was one of the first to examine associations between parenting by lying in a participant's childhood and their level of dishonesty towards parents in young adulthood, as well as maladaptive functioning in young adulthood. The study examined 50 female college undergraduates, and adapted the questionnaire created by Heyman et al. (2013) to ask participants about both the frequency in which their parents told them certain lies in their childhood, and the frequency that participants lied to their parents as adults. The authors found that higher frequencies of parenting by lying in childhood was significantly associated with higher occurrences of lying to parents in young adulthood, a phenomenon in which children lie to their parents. The authors also examined psychosocial behaviors such as internalizing, externalizing, and antisocial personality behaviors, and found that higher instances of parenting by lying was directly associated with higher levels of antisocial personality problems in young adulthood, when lying to parents was controlled for. In addition, they also found a significant indirect relationship between parenting by lying and the three psychosocial behavior variables, with lying to parents mediating the relationship (Santos et al., 2017). In more recent studies, parenting by lying has been found to be significantly associated with higher levels of lying to parents, stress, anxiety, depressive symptoms, and psychopathic attitudes, (Dodd & Malm, 2021; Setoh et al., 2020), supporting the results of Santos et al. (2017).

The current study has two goals. First, we seek to examine the relationship between parenting by lying and an understudied area in this new field that influences daily functioning - personality characteristics. The role personality plays in explaining human experiences has been well researched across social, health and human development disciplines (e.g., Langvik et al., 2021; Nezlek et al., 2011). One popular scale used in examining the key domains of personality characteristics is the Big Five Personality Traits Taxonomy, developed by John and Srivastava (1999). The five domains are openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. The Big Five identify broad stable traits associated with daily human tendencies which influence and often determine stable patterns of behavior expressed in typical and atypical situations. For example, creativity has been found to be significantly and positively associated with openness to experience, extraversion, and conscientiousness, and negatively associated with agreeableness and neuroticism (Furnham & Nederstorm, 2010; Karwowski et al., 2013). Extraversion, low conscientiousness, and agreeableness have also been found to be associated with high-risk behaviors such as tobacco consumption (Hong & Paunonen, 2009). In other studies, antisocial personality problems and psychopathic attitudes were found to be associated with higher levels of neuroticism and lower levels of openness, conscientiousness, and agreeableness (Giammarco et al., 2013; Miller et al., 2011). Additionally, general depressive and anxiety symptoms, and more recently health anxiety towards COVID-19 symptoms show significant and negative associations with openness to experience, conscientiousness, extraversion, and agreeableness, while positively associated with neuroticism (Nikčević et al., 2021).

Since studies so far indicate that parenting by lying in childhood tends to be significantly associated with higher levels of stress, anxiety, and depressive symptoms, antisocial personality problems, and psychopathic attitudes in young adulthood (Dodd & Malm, 2021; Santos et al., 2017; Setoh et al., 2020), it is anticipated that parenting by lying would be associated with Big Five personality factors that involve similar characteristic features. For example, neuroticism, a personality factor that recent studies have relabeled as negative emotionality (Neiss et al., 2009) includes three characteristics: anxiety, depression, and emotional volatility. Thus, it is expected that parenting by lying would be positively associated with neuroticism in a similar fashion to anxiety and depression.

While this pattern seems relatively straightforward, we are not clear of the patterns, if any, between parenting by lying and the other four personality factors. However, based on personality research, openness to experience, extraversion, conscientiousness and agreeableness tends to be highly correlated in the same direction (and opposite to neuroticism), and higher levels of these four personality factors, although in variable proportions, are associated with more positive, growth or adaptive behavioral outcomes in general (Brouwer et al., 2015; Witt, 2012; Zopiatis & Constanti, 2012). For example, higher levels of extraversion, openness, and conscientiousness have been found to be associated with a more effective leadership style (Zopiatis & Constanti, 2012), while higher levels of extraversion, lower levels of agreeableness and conscientiousness were found to be associated with high-risk behaviors (Hong & Paunonen, 2009). We therefore propose that parenting by lying in childhood may be negatively associated with openness, conscientiousness, extraversion and agreeableness.

Belief in Childhood Fantasy Characters

The second focus is related to beliefs in fantasy characters in childhood. In addition to being exposed to parental lies in childhood, children are also exposed to stories about fantasy characters such as Santa Claus and the Tooth Fairy (Anderson & Prentice, 1994; Heyman et al., 2013). Belief in childhood fantasy characters is culturally determined, and children may learn about these fantasy characters from various sources such as friends, educators, and parents, with adults including primary caregivers generally being the reinforcers (Anderson & Prentice, 1994; Boerger et al., 2009; Heyman et al., 2013). Teaching children about the existence of fantasy characters is considered by many Americans to be a harmless cultural tradition experienced in childhood, and adults may feel social pressure to conform to this tradition so that they are not viewed negatively by society (Heyman et al., 2013). Also, they conform or promote this tradition to prevent children from being left out of community and school related activities (Anderson & Prentice, 1994). Adults also teach children about the existence of fantasy characters as a tool to teach children life lessons and to prevent misbehavior. For example, individuals may teach children about Santa Claus to promote the importance of giving, and the concept

of generosity (Anderson & Prentice, 1994). They tend to tell children that Santa will not bring them any presents if they misbehave (Heyman et al., 2013).

Although much research has been conducted to examine the mechanisms behind beliefs in fantasy characters (e.g., Blair et al., 1980; Piaget, 1964), few researchers have examined its long-term associations. Previous studies on fantasy characters have found that the average age of discovering that these characters are fictional is approximately the age of eight (Blair et al., 1980). Traditional Piagetian research would attribute the age of discovery of truth about fantasy characters to a shift from the preoperational stage to the concrete operations stage of cognitive development (Piaget, 1964). Piaget believed that children were naturally predisposed to believe in fantasy characters during the preoperational stage as they are less capable of engaging in logical reasoning to distinguish between fantasy and reality. As children grow older and enter the concrete operational stage, they would eventually develop logical processes that would allow them to determine that the existence of fantasy characters was illogical. Therefore, children would eventually become skeptical of fantasy characters and stop believing in them (Piaget, 1964). However, more recent research suggests that belief in fantasy characters cannot be solely attributed to simple developmental processes.

Other mechanisms are also at play in an interactive and reciprocal fashion (e.g., Belsky & Jaffee, 2006; Grusec, 2011). Children gain information about observable phenomenon through firsthand experience, and information about unobservable phenomenon, such as fantasy characters and scientific entities, through the testimony of trusted sources (Boerger et al., 2009; Harris et al., 2006), and as such, it is no wonder that fantasy characters are believed when adults reinforce it. For example, in an experiment by Boerger et al. (2009), researchers introduced children to a novel fantasy character, the Candy Witch, right before Halloween. Children in the visit condition received a visit from the Candy Witch on Halloween night, in which their parents replaced their Halloween candy with a small toy, while children in the no-visit condition did not receive a visit. At various points, the children were asked to rate their belief in the Candy Witch. Boerger and colleagues (2009) found that belief was determined by a number of factors including age of participants, number of other fantasy characters believed in, and reinforcement of beliefs. The authors suggested that children could generally distinguish between fantasy and reality through observational cues from parents. However, children tend to believe in fantasy characters because the information comes from trustworthy sources, their beliefs are often reinforced through engagement activities or visits with the fantasy characters, and the information is consistent with other beliefs (Boerger et al., 2009).

Due to the fact that children generally receive information from trusted sources (Boerger et al., 2009), it is possible that some children may react negatively to discovering that a long-held belief developed from a trusted authority figure has suddenly been disconfirmed. It could also be that children with a heightened emotional intensity may already be predisposed to experiencing emotional distress, thereby having a stronger or

memorable negative experience in discovering the truth. There are however mixed results on emotionality experienced in childhood. For example, in the study done by Anderson and Prentice (1994), the authors examined the reactions of children, aged 9 -12 years, who believed in the reality of Santa Claus, and that of their parents. Among the various questions examined, results showed that children had mixed reactions to discovery of the truth. While they reported negative responses (e.g., angry, confused, upset), many also reported being "surprised" which in this study was coded as a highly reported positive reaction. Thus, the study summarized that child reported predominantly positive reactions to the discovery of truth about Santa Claus. However, in the same study, when these children were asked "*How do you think most children will feel when they learn that Santa Claus is not real?*" over half of the responses (56%) reported that children would have negative emotional distress, while 42% said there would be mixed feelings, and only 2% said other children would have positive reactions (Anderson & Prentice, 1994, pg. 79). Typically, the emotion "surprise" can visually be detected as positive while any related negative reaction could have been invisible to the observer in that moment, as such study participants' responses to reactions of other children are more likely to give a clearer picture of their own emotions in childhood. To extend our understanding of this pattern, we seek to examine young adults' recollection and perspective of their discovery of truth about fantasy characters, noting that they may have a much better ability to accurately express their emotional reaction to that experience in childhood. Secondly, given that personality traits are shaped from childhood (Caspi & Silva, 1995), we seek to examine the personality characteristics of young adults who discovered the truth about fantasy characters at a later age in childhood, and who responded negatively to the truth.

Current Study

This present study therefore sought to examine the associations between parenting by lying, beliefs in fantasy characters in childhood (age of discovery of truth about fantasy characters, and unpleasant reactions to discovering the truth) and personality characteristics of young adults. We hypothesized that:

1. Higher frequency of parenting by lying (PBL) would be positively associated with a later age of discovery of the truth about fantasy characters.
2. Higher frequency of parenting by lying in childhood would be associated with reports of higher unpleasant reactions to discovering the truth about fantasy characters.
3. (1) Parenting by lying in childhood, (2) age of discovery, (3) and unpleasantness of the truth would each be negatively associated with scores on four of the Big Five personality factors (Openness, Conscientiousness, Extraversion, Agreeableness), and positively associated with scores on Neuroticism.

METHOD

Participants and Procedures

Using G*Power v3.1 (Faul, et al., 2009), the minimum sample size required to detect a small effect with .95 power was 146. Data was however collected from 207 students enrolled in psychology courses in the Southern part of the USA who participated voluntarily. This sample consisted of 76.8% females, with their ages ranging from 18 to 25 ($M = 18.76$ years, $SD = 1.17$). The sample was majority White (82.6%) with 4.8% African American, 3.9% Hispanic, 3.4% Asian, and 4.8% Biracial. This composition is representative of the region where this data was collected from based on the 2010 US Census (US Census, 2012). The 2020 Census data was not available before this publication was submitted. The study was approved by the Institutional Review Board of the authors before any data was collected. Participants had many options on survey studies they could participate in, including non-survey options. There was no monetary incentive for participation and participants were informed that they could withdraw from the study at any time without penalty. Upon choosing to participate in the study, participants were provided a link to the survey where they first received an informed consent form. Participant data was de-identified; thus responses cannot be traced back to participants. The University's Institutional Review Board approved all study procedures (#19-006). The data collection procedure and plans, in addition to all other materials (e.g., output, IRB paperwork) can be found on https://osf.io/kp6ye/files/

Measures

Parenting by Lying Scale (PBL) Parenting by lying was measured using a 9-item adaptation of the lying scenarios examined by Heyman et al. (2009). Participants were asked to rate a series of nine lies by indicating the extent to which their parents had ever told them a similar lie, using a Likert scale that ranged from *1(absolutely no)* to *7(absolutely yes)*. The nine questions included at least one question of three of the four categories of lies detailed by Heyman et al. (2013): Eating, (e.g., *"If you do not eat all the food, children in Africa will die")*, misbehavior, (e.g., *"If you go outside alone, a bogeyman (monster) will get you")*, and money spending, (e.g., *"We are too poor to get what you want")*, and non-category lies, (e.g., "*A favorite uncle has just died and the child is told that he has become a star to watch over the child*"). There were no items from the "leaving a child behind" category. Responses to the 9 items were averaged, with higher scores indicating higher levels of parenting by lying. Cronbach alphas for the parenting by lying scale in this study was 0.81.

Fantasy Characters Scales: A 10-item questionnaire was created for this study to measure experiences with the fantasy characters Santa Claus, the Tooth Fairy, and the Easter Bunny. The first three items checked if participants had interactions with fantasy

characters in their childhood. Specifically, participants were given "*Yes*" or "*No*" questions asking if they had believed in each of the three characters at any point during childhood. Participants who said "*No*" to any of the three questions were not given the follow-up questions (6-items) related to that fantasy character. For all who said "*Yes*" to any or all three fantasy characters, three questions were provided that examined the approximate age at which the participants discovered that each of the three characters were not real. The next set of three questions were designed to measure participants' reactions to discovering the truth about fantasy characters. Participants were asked to indicate their initial reaction on a 3-point Likert scale ranging from 1(*pleasant*) to 3(*unpleasant*). The last (10th) item rated participants' confidence in their answer choices to the fantasy character questions on a scale from *1*(*Not Very*) to *5*(*Very*). Using their first three questions to identify participants who believed in fantasy characters, factor analysis was run on the six items to examine the factor structure (See Results section).

Personality Factors: Personality was measured using the 44-item Big Five Personality Inventory created by John and Srivastava (1999). Participants were asked to rate the extent to which they agreed that they display various personality factors using a Likert scale that ranged from *1(Disagree Strongly)* to *5 (Agree Strongly)*. The Big Five Personality Inventory included questions that measure openness to new experiences (e.g., *"Is original, comes up with new ideas"*), conscientiousness (e.g., "*Does a thorough job*"), extraversion (e.g., "*Is outgoing, sociable*"), agreeableness (e.g., "*Is helpful and unselfish with others*"), and neuroticism (e.g., "*Worries a lot*"). Previous research (John & Srivastava, 1999; Langvik et al., 2021; Nezlek et al., 2011) show high reliability scores greater than 0.80 across all five dimensions (average across all dimensions is $\alpha = 0.84$). For this study, Cronbach alphas for the subscales were 0.83 for openness, 0.71 for conscientiousness, 0.87 for extraversion, 0.75 for agreeableness, and 0.82 for neuroticism.

Analysis Plan

A three-step approach was used to examine the hypotheses. First, an exploratory factor analysis (EFA) was conducted to examine the factor structure of the fantasy characters scale created. Then, a linear regression was conducted to examine the relationship between the fantasy character factors and parenting by lying. Lastly, hierarchical linear regressions were conducted to examine the associations between parenting by lying, the fantasy character factors, and personality factors . Since studies have suggested that individuals who are white and more religious are more likely to believe in fantasy characters as a child (Goldstein & Woolley, 2016; Heyman et al., 2013), we controlled for ethnicity and religiosity in the regression. This was done by conducting a hierarchical regression with multiple steps. Ethnicity and religiosity were entered into step 1 of the regression so that the association between the covariates and the personality variables could be examined in the absence of the predictor variables. Parenting by lying,

and the fantasy character factors was inserted into step 2 of the regression so that the relationship between the independent variables and the personality variables could be examined after filtering out any variance explained by the covariates.

RESULTS

Factor Analyses (EFA) of Experiences with Fantasy Characters

We examined the factor structure of the 6-item experiences with fantasy character scale, on the sample of 207 participants who completed the study. Exploratory factor analyses (EFA) were run on the indicators using SPSS (v25), with maximum likelihood estimator and Promax rotation. From the scree plot and meaningfulness of the items loading on each factor, a two-factor solution was the best option, $X^2 = 8.394$, $df = 4$, $p = 0.039$. Factor 1- Age of Discovery (FC_Beliefs) consisted of the three age of discovery questions about the truth of fantasy characters (i.e., how long did they believe in fantasy characters as real?) while factor 2 - Reactions to the truth (FC_Reactions) consisted of the three items related to reactions to discovery of the truth related to reality of fantasy characters. The two factors were not strongly correlated ($r = 0.240$) suggesting two distinct factors. Table 1 depicts factor loadings and correlations of the fantasy characters factors.

Descriptive Statistics

Table 2 depicts correlations between the examined variables. Correlations between the personality variables ranged from weak to moderate associations ($r = 0.01 - 0.26$). There was a significant positive correlation between parenting by lying (PBL) and the fantasy character reaction factor (FC_Reactions; $r = 0.18$, $p = 0.01$). Also, higher levels of parenting by lying were significantly associated with higher levels of neuroticism ($r = 0.26$, $p < 0.001$), while the two fantasy character factors were not significantly associated with any personality variable. Among individuals who reported believing in fantasy characters as a child, the average age of discovery of truth, which was calculated by averaging the ages in which participants discovered that each of the three fantasy characters were not real, was 9.08 years ($SD = 1.76$, Range = $4.67 - 13.00$, $N = 194$), and the average reaction to the truth score was 2.15 ($SD = 0.45$, Range = $1.00 - 3.00$, $N = 195$).

Table 1**. **Factor Correlations and standardized factor loadings of the experiences with fantasy characters measure used in the study (N = 207).

	Factor 1	Factor 2
	FC_Beliefs	FC_Reactions
Around what age did you discover that Santa Claus is not real?	**0.799***	-0.082
What was your initial reaction to discovering that Santa Claus is not real?	0.289	**0.802***
Around what age did you discover that the Tooth Fairy is not real?	**0.884***	-0.137
What was your initial reaction to discovering that the Tooth Fairy is not real?	0.225	**0.558***
Around what age did you discover that the Easter Bunny is not real?	**0.930***	-0.136
What was your initial reaction to discovering that the Easter Bunny is not real?	0.337	**0.760***
Factor correlations FC_Reactions		
FC_Beliefs	**0.240**	

Note. Maximum likelihood estimation; rotation = Promax; FC_Beliefs = Beliefs in fantasy characters; FC_Reactions = fantasy character reaction to truth. *$p < 0.05$.

Table 2**. **Correlations between study variables.

	PBL	FC_B	FC_R	Openness	Consc	Extra	Agree	Neuro
PBL	--							
FC_B	0.09	--						
FC_R	0.18**	0.07	--					
Openness	0.06	-0.09	-0.08	--				
Consc	0.05	-0.05	-0.04	-0.01	--			
Extra	0.04	-0.12	0.05	0.19**	0.17**	--		
Agree	-0.04	-0.05	-0.07	0.05	0.25**	0.25**	--	
Neuro	0.26**	0.03	0.07	-0.06	-0.19**	-0.22**	-0.20**	--

Note: PBL = parenting by lying; FC_B = beliefs in fantasy characters; FC_R = fantasy character reaction to truth; Consc = conscientiousness; Extra = extraversion; Agree = agreeableness; Neuro = neuroticism. *$p < 0.05$, **$p < 0.01$.

Results of the Linear Regressions

Linear regressions were conducted to examine the three broad hypotheses. For hypotheses 1 and 2, it was proposed that higher frequency of parenting by lying would be associated with higher unpleasant reactions to discovering the truth about fantasy characters, and a later age of discovery. The results found moderate support for the hypothesis, with parenting by lying explaining 3.3% of the variance in reactions to the truth, $\beta = 0.181$, $SE = 0.026$, $p = 0.006$. However, parenting by lying did not explain a significant amount of the variance in age of discovery of the truth, $\beta = 0.093$, $SE = 0.104$, $p = 0.101$.

For the third hypothesis, regression analyses were conducted predicting the Big Five personality variables from parenting by lying, and the two fantasy character factors (age of discovery, and initial reactions to the truth), after controlling for ethnicity and religiosity. The results indicated that across all the five personality constructs, two were significant: (1) parenting by lying was significantly and positively associated with higher levels of neuroticism among young adults, $\beta = 0.260$, $SE = 0.301$ $p < 0.001$. Parenting by lying accounted for 7.8% of the variance in neuroticism. (2) There was a significant and negative association between age of discovering the truth about fantasy characters (FC_Beliefs) and extraversion among young adults, $\beta = -0.123$, $SE = 0.259$, $p = 0.046$. Age of discovery accounted for 2.2% of the variance in extraversion. Standardized estimates of all regression analyses are reported in Table 3.

It is important to note that although controlled for ethnicity and religiosity in these analyses based on existing literature that suggests that individuals who are white and more religious are more likely to believe in fantasy characters as a child (Goldstein & Woolley, 2016; Heyman et al., 2013), the results remained consistent when the covariates were excluded.

Table 3. *Standardized estimates of all analyses related to parenting by lying, age of discovery, reactions to the truth and personality variables.*

	Beta	B	*SE*	*P-value*
When DV = Age of Discovery of truth				
Parenting By Lying	0.093	0.133	0.104	0.101
When DV = Reactions to Truth				
Parenting By Lying	0.181	0.067	0.026	**0.006****
When DV = Openness				
Parenting By Lying	0.109	0.456	0.310	0.072
Age of Discovery of truth	-0.086	-0.254	0.215	0.119
Reactions to Truth	-0.093	-1.059	0.838	0.104
Ethnicity	-0.025	-0.371	1.066	0.364
Religiosity	-0.037	-0.108	0.212	0.307
When DV = Conscientiousness				
Parenting By Lying	0.055	0.195	0.263	0.230
Age of Discovery of truth	-0.034	-0.086	0.182	0.319
Reactions to Truth	-0.040	-0.389	0.711	0.293
Ethnicity	0.108	1.353	0.904	0.068
Religiosity	0.075	0.186	0.180	0.153
When DV = Extraversion				
Parenting By Lying	0.021	0.108	0.381	0.389
Age of Discovery of truth	-0.126	-0.456	0.263	**0.043***
Reactions to Truth	0.059	0.833	1.028	0.210
Ethnicity	0.017	0.312	1.307	0.406
Religiosity	0.073	0.260	0.261	0.160
When DV= Agreeableness				
Parenting By Lying	-0.037	-0.149	0.302	0.311
Age of Discovery of truth	-0.041	-0.117	0.209	0.287
Reactions to Truth	-0.064	-0.715	0.815	0.191
Ethnicity	-0.020	-0.281	1.031	0.393
Religiosity	0.133	0.374	0.207	**0.036***
When DV = Neuroticism				
Parenting By Lying	0.210	0.921	0.320	**0.002****
Age of Discovery of truth	0.001	0.002	0.221	0.496
Reactions to Truth	0.047	0.559	0.865	0.260
Ethnicity	-0.078	-1.214	1.100	0.136
Religiosity	-0.004	-0.014	0.219	0.476

*Note: *p < 0.05, **p < 0.01.*

DISCUSSION

This study was interested in examining the associations between parenting by lying (a new area of study), belief in childhood fantasy characters, and personality characteristics among the young adults. To examine experiences with fantasy characters we created a 10-item scale (3-items to screen beliefs, 6-items related to factors, 1-item to check participant confidence in responses) to examine if participants had ever believed in fantasy characters (Santa Claus, the Tooth Fairy, and the Easter Bunny), the age at which they discovered the truth, and their initial reaction to discovering that the characters did not exist. We then conducted a factor analysis in which two distinct factors emerged, the first of which included the three age of the discovery questions (FC_Beliefs), and the second of which included the three initial reaction questions (FC_Reactions). Hierarchical linear regressions were conducted first between parenting by lying (PBL) and the two factors, then using these two factors and parenting by lying (PBL) to examine their relationships with adult personality traits, after controlling for ethnicity and religiosity.

First, the average age of discovery about the truth about fantasy characters was 9.08 years in this study, which is close to the age (i.e., eight) that children typically discover the truth about fantasy characters (Blair et al.,1980), and in some cases around age seven (Anderson & Prentice, 1994). According to Piaget (1964), children experience developmental stages in the same order, but the chronological age at which children reach the stages differ by parental upbringing and change in era. This age range is also the transition period from preoperational to concrete operational levels of thinking and the expected end of animism, in which children attribute humanlike qualities to inanimate objects (Piaget, 1932).

Regarding the first hypothesis, it was predicted that higher levels of parenting by lying in childhood would be associated with a later age of discovering the truth about fantasy characters. One potential reason for the nonsignificant findings of this association may be linked to there being limited variability in the age of discovery of truth. Future studies will be helpful in determining if there is an association.

The second hypothesis predicted a positive association between parenting by lying and unpleasant reactions to the truth which was supported by the results. These results are in line with retrospective studies of children's reports of their own unpleasant reactions (and the use of descriptions such as "surprised"), as well as how unpleasant other children would feel about discovering the truth about Santa Claus (Anderson & Prentice, 1994). This may be because upon awareness of the truth, children realize that their trusted source(s) were not as truthful as they once believed. Interestingly, related studies on parenting by lying and parental trust show that individuals who experienced higher levels of parenting by lying in childhood were significantly less likely to trust their parents as young adults, and lower trust (in conjunction with lying to parents) mediated the relationship between parenting by lying and internalizing behaviors (Dodd & Malm, 2021).

This finding may indicate how unpleasant reactions to the truth about an issue such as beliefs in fantasy characters in childhood may overtime become associated with parental trust issues.

Our third hypothesis tested the relationship between parenting by lying, and beliefs in childhood fantasy characters (the two factors) with the Big Five personality characteristics. There were two interesting findings related to neuroticism and extraversion. Given that the characteristics of neuroticism include anxiety, depression, and emotional volatility (Neiss et al., 2009), it was predicted that parenting by lying, and the other two factors would be associated with neuroticism as well. The hypothesis was partially supported where this study found a positive relationship between only parenting by lying and neuroticism, suggesting that parenting by lying in childhood may be associated with higher emotional intensity in young adulthood. This study does not suggest causation, but findings may shed some light into childhood experiences and potential associations with one's personality (relatively stable traits). For example, it is possible that individuals who experience higher levels of parenting by lying in childhood may be more likely to respond negatively to emotionally related events in adulthood. However, it is also possible that individuals who already display neurotic tendencies may be more likely to respond negatively to parenting by lying to childhood, and emotional events in adulthood. Another assumption may be that due to neurotic tendencies or emotional volatilities of children, parents used more PBL strategies to keep them calm or happy. Therefore, future studies are recommended.

Regarding extraversion, the results of this study found that only the factor related to age of discovery (FC_Beliefs) was significantly and negatively associated with extraversion. Several mechanisms could explain the reported relationship between age of discovery and extraversion as this is a correlation study and the direction of causality is unknown. Since extraverted individuals have a high interest in social activity and engaging with the external environment (Langvik et al., 2021; Nezlek et al., 2011; Watson & Clark, 1997), it is possible that children who are naturally predisposed to extraversion may have more opportunities to discover that fantasy characters are fictional through social interactions, thereby reducing the age at which they discover the truth on their own.

Limitations and Future Directions

While this study pioneers the associations between parenting by lying, fantasy characters, and adult functioning, there were some limitations and areas for further research. Participants in this sample were of a limited age range and ethnicity. Future research should examine the variables with more diverse samples and with larger sample sizes. Secondly, this study is limited in that we asked participants to respond to events that happened in the past, which could have introduced bias due to errors in memory. However, being a new area of study, retrospective studies in parenting by lying (e.g., Santos et al., 2017) provide a foundation to examine both childhood and adulthood relationships at the

same time in longitudinal designs. Therefore future research is therefore needed to more accurately measure the parenting strategies used during a participant's childhood via longitudinal studies and use of multiple informants.

In addition, the beliefs in fantasy characters scale should be strengthened and clearly worded. One limitation of the study was the assumption that participants learned about the existence of fantasy characters from their primary caregivers in childhood (parents) since children receive most information from this source (Boerger et al., 2009). Also, because questions on fantasy characters were asked after the parenting by lying questions, it was assumed participants related the questions to their parents. However, it is possible that children learned about fantasy characters from other sources including school, media, community, religious and cultural events. Therefore, future studies should clarify instructions, the wordings linking fantasy characters and parenting by lying, and specifically asking participants to indicate the source(s) from which they learned about fantasy characters, just in case it was not from their parents. Lastly, ethnic/cultural studies should be considered to examine parenting by lying, lying to parents, and belief in fantasy characters in cultures that value fantasy characters and those that do not. The sample of the current study were participants who grew up in rural, suburban and city areas, and majority Caucasian, while the sample of the study conducted by Santos (2017) consisted mostly of Asian females. Therefore, most of the studies conducted on parenting by lying so far have not been representative of broad/diverse populations. Since culture plays a significant role in parenting, findings would be informative overtime in our understanding of young adult behaviors related to beliefs in childhood fantasy characters.

Overall, research on this topic is important across many fields including early childhood education, counseling, sociology, psychology and related disciplines. All of these disciplines work with children, primary caregivers and adults towards healthy functioning and adjustment on the individual, family and societal levels. Further studies into parenting by lying in childhood and its correlates across the lifespan especially in young adulthood, is therefore important to help us further understand how childhood parental strategies as seemingly benign strategies as parenting by lying may lay unintentional foundations towards emotional, cognitive and behavioral patterns (be it positive or negative). Since the few studies in this field have found significant associations between parenting by lying and constructs associated with wellbeing, it is relevant to examine the long-term results of parental strategies and behaviors, in order to equip parents and professionals with empirically supported strategies in raising their children. Finally, this study expanded on the seminal research conducted by Santos et al. (2017), which was the first study to discover positive linkages between parenting by lying, lying to parents, psychosocial behaviors, antisocial personality problems, and externalizing behaviors. Our study expanded further into new areas related to parenting by lying, experiences with fantasy characters, and personality variables. Also, with limited scales in this field,

exploratory factor analyses of constructs specific to fantasy characters provides opportunities for scale improvement in this and related areas.

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