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The Concept of Lying in Adolescents and Young Adults: Testing Sweetser's Folkloristic Model

Kang Lee & Hollie J. Ross
Queen's University, Canada

Predictions based on Sweetser's folkloristic model of lying, which emphasizes the critical contribution of social factors to definitions of lie, were tested. Eight vignettes were presented to 12-, 16-, and 19-year-olds. Half were situations of prototypic lie-telling, and half were prototypic truth-telling. Each vignette, depicting a speaker making a statement in either an informational setting or a politeness setting under conditions intending to help or harm, was rated for degree of agreement or disagreement that the statement was a lie. The effects of age, help-harm condition, and setting were significant in prototypic lie- and truth-telling situations. Sweetser's model was supported and the concept of lying appears to be a developmental, cognitive-social construct.

Developmental psychologists have recently shown a renewed interest in the development of lying (Bussey, 1992; Coleman & Kay, 1981; Peterson, 1995; Peterson, Peterson, & Seeto, 1983; Piaget, 1932/1965; Strichartz & Burton, 1990). To date, researchers have focused mostly on children's and adults' definitions of *lie* with two different theoretical approaches to definition, a propositional approach and a prototypical approach. The propositional approach defines *lie* in an all-or-none fashion. It involves a "checklist" strategy for definition (Fillmore, 1975) by which a set of necessary and sufficient conditions must be satisfied in order for a statement to be called a lie. The propositional approach asserts that a lie occurs when: (a) the speaker seriously makes a state-

Kang Lee and Hollie Ross, Department of Psychology.

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Correspondence may be sent to Dr. Kang Lee, Department of Psychology, Queen's University, Kingston, Ontario, Canada K7L 3N6. Electronic mail may be sent via Internet to kang@pavlov.psyc.queensu.ca.

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ment to the hearer; (b) the speaker does not believe the statement to be true; and (c) the speaker intends that the hearer believe the statement to be true (Chisholm & Feehan, 1977). According to this approach, a statement is dichotomously classified as either "a lie" (if all of the conditions are met) or "not a lie" (if any of the conditions are not met).

In contrast, the prototypical approach stipulates that whether a statement is a lie is not a matter of the all-or-none categorical membership prescribed by the propositional approach, but rather a matter of degree of membership (Coleman & Kay, 1981). According to this approach, there is a *lie* continuum with "prototypical lie-telling" on one end, and "prototypical truth-telling" on the other. A prototypical lie is composed of three semantic elements: (a) the statement is factually false; (b) the speaker believes that the statement is false; and (c) the speaker intends to deceive the hearer (Coleman & Kay, 1981). By contrast, the three elements do not exist in a prototypical truth-telling situation. That is, (a) the speaker makes a statement that is factually true, (b) the speaker believes the statement to be true, and (c) the speaker asserts the statement to inform the hearer.

The extent to which a statement can be considered to be a lie depends on the extent to which it matches the prototype of lying. The more prototypical elements of lying that are present, the closer the statement falls to the "prototypical lie-telling" end of the lying continuum, and hence there is an increase of certainty by people in calling the statement a lie (Coleman & Kay, 1981). Similarly, if fewer prototypical elements of lying are present, then the farther away a statement falls from the "prototypical lie-telling" end of the lying continuum. People are more likely to believe the statement not to be a lie. In addition, according to the prototypical approach, some elements carry more weight in the definition of *lie* than others.

Most studies concerning the development of the concept of lie are based on the propositional approach (Bussey, 1992; Peterson, 1995; Peterson et al., 1983; Piaget 1932/1965). Piaget (1932/1965) was a pioneer in using the propositional approach to examine children's definitions of lying. He found that young children's concept of lying was overextended. For example, 5-year-olds called swear words lies, and children under 10 years of age labeled factually untrue statements such as exaggerations, mistakes, and jokes as lies. Piaget concluded that factuality, not intentionality, was important to the definition of lie for children under the age of 10 years. After this age, the definition of *lie* was based on intentionality, which Piaget believed was the basis of a mature definition of lie. In the last two decades, a few propositional studies have been conducted to replicate Piaget's findings. Simpler and more "child-friendly" procedures were used (Bussey, 1992; Peterson, 1995; Peterson

et al., 1983). In general, these recent studies are consistent with Piaget's main conclusions. Factual falsity was the main determinant in children's definitions of *lie* until the ages of 10 to 11 years. Only after this age did the other two critical elements of lying, belief and intention, become integrated into the concept of lie in adolescents and adults.

However, it also was found that a significant proportion of adults did not have the "mature" (in Piaget's term) definition of *lie*. For example, Peterson et al. (1983) found that about half of the adults in their study called an exaggeration, and 30% called a false direction guess, a lie. These results suggested that even some adults based their definitions of *lie* on factual falsity as well. Thus, for some adults, the element of intent to deceive need not be present for a statement to be called a lie.

This finding runs contrary to the claim made by propositional theorists that, at least for adults, the definition of *lie* is an all-or-none phenomenon. Several researchers, hence, examined children's and adults' definition of *lie* from the prototypical perspective (Coleman & Kay, 1981; Strichartz & Burton, 1990). Coleman and Kay (1981) assessed not only whether adults would call a statement a lie, but also how certain they felt in calling a statement a lie based on the presence or absence of the critical semantic elements of prototypical lying. When more semantic elements were present, adult participants felt more certain about calling a statement a lie, supporting Coleman and Kay's prototypical model. The three elements carried different weights in adults' definitions of lie: The speaker's belief was the most important element, followed by intent to deceive, and then factual falsity.

Strichartz and Burton (1990) also used the prototypical approach to assess children's definitions of *lie*. They found that preschoolers and first graders labeled a statement as a lie based solely on factuality. Fifth graders began to take belief into consideration, but were unwilling to let belief take precedence over factuality unless intent to deceive also was present. Many adults in Strichartz and Burton's study (1990), like those in Coleman and Kay's study (1981), did not outweigh intent to deceive over the belief element in their definitions.

Recently, Sweetser (1987) argued that both the propositional and prototypical approaches are inadequate to address social and cultural factors that play a crucial role in people's definitions of lying. To address these concerns, she proposed a folkloristic model. Although agreeing that lying is a prototypical phenomenon, Sweetser (1987) suggested that whether a statement is considered to be a lie is not only determined by the presence or absence of the semantic elements of prototypical lying, but also by the context in which the verbal statement is made. A deliberately false statement will be either more or less of a lie depending on

whether the lie is motivated to help or to harm the hearer, and on the type of setting in which the lie occurs.

Sweetser (1987) argued that verbal communication, including lying, is governed by culturally defined rules for social interaction (Grice, 1975; Lakoff, 1973; Searle, 1969). These rules operate hierarchically, with the so-called "general cooperative rule" at the top of the hierarchy. The general cooperative rule is a *metamaxim* and governs all communicative actions in all settings. This rule states that the goal of social communication is to "try to help, not to harm" (Sweetser, 1987, p. 47). The general cooperative rule condemns harmfully motivated communicative behaviors and condones helpfully motivated behaviors. Hence, an altruistically motivated lie conforms to the general cooperative rule and is thus considered to be less of a lie than a reprehensibly motivated lie that violates the general cooperative rule. In other words, if the speaker's motive when making an intentionally false statement is to help, people will be less likely to judge the statement to be a lie, because the speaker still obeys the general cooperative rule. If the speaker's motive when making such a statement is to harm, people will be more likely to judge the statement to be a lie, given that the general cooperative rule has been violated.

Although the general cooperative rule is paramount in determining the extent to which a statement is considered to be a lie, the setting in which a lie occurs also contributes to people's judgment (Sweetser, 1987). The main dimension of setting is whether a lie is told in an informational or a politeness setting. According to Sweetser (1987), the prototypical setting for lying is informational. In an informational setting, the primary purpose of discourse is to relay accurate information and to obey Grice's (1975) informational rule (i.e., inform, do not misinform others). When a lie is told in an informational setting, an intentionally false statement is more likely to be called a lie than a statement made outside of an informational setting (Sweetser, 1987). In a politeness setting, which is a typical noninformational setting, the primary purpose of discourse is to establish and maintain positive social relations. In this setting, complying with Lakoff's (1973) politeness rules rather than the Gricean informational rule is prominently required. Lakoff's rules of politeness are: (a) don't impose, (b) give options (e.g., do not demand, but ask), and (c) make others feel good; be amicable. According to Sweetser (1987), the politeness rules supersede the informational rule in a politeness setting. Hence, people will be more reluctant to label an intentionally false statement made in this setting as a lie.

To date, Sweetser's model has not been empirically tested, although evidence in the related literature indirectly support her model in general.

For example, Piaget (1932/1965) found that 5-year-old children held an over-extended definition of lying that included swearing and other words that were not sanctioned by adult authority figures. These same children also rated lies punished by adults as being naughtier than unpunished ones. Thus, from an early age, children attach social implications to the concept of *lie*. This tendency to define *lie* according to social contexts seems to continue into adulthood. For example, Peterson et al. (1983) found that 20% of adults in their study did not label an altruistic lie as a lie, suggesting that their responses were influenced by the general cooperative rule. Coleman and Kay (1981) also reported that adult participants in their study considered the reprehensibility of the speaker's motive when making their definitional judgments.

The purpose of the present study was to directly test Sweetser's folkloristic model with a focus on adolescents and young adults between the ages of 12 and 19 years. The choice of this age range was based on the findings that, after 11 years of age, children begin to take all three semantic elements of lying into consideration when deciding whether a statement is a lie. In other words, children's concept of lying approximates that of adults (Bussey, 1992; Coleman & Kay, 1981; Peterson, 1995; Peterson et al., 1983; Piaget, 1932/1965; Strichartz & Burton, 1990). Hence, if Sweetser's model holds true for adults' concept of lying, the posited effect of social conventions and communicative rules should at least manifest itself during this age period when the understanding of the semantic elements of lying has already been achieved.

Participants were asked to give definitional judgments of both prototypical lie-telling and prototypical truth-telling situations. In the prototypical lie-telling situation, the speaker makes a factually false statement to a hearer, the speaker believes the statement to be false, and the speaker intends to deceive the hearer. A speaker engages in prototypical truth-telling when the speaker makes a factually true statement that he or she believes to be true, with an intent to inform the hearer. Vignettes were constructed to depict either prototypical lie- or truth-telling situations. Half of the vignettes involved verbal communication situations that conformed to the general cooperative rule (the help condition), and half involved situations that violated the rule (the harm condition). For each condition, half of the vignettes occurred in an informational setting in which relaying information accurately was prominently required (the informational setting). The other half took place in a politeness setting that called for positive social relations and amicable interpersonal interaction (the politeness setting).

Based on Sweetser's model regarding prototypical lie-telling, two predictions were made. First, participants more readily label a prototypical

lie told to harm a hearer as a lie than a prototypical lie told to help. Second, they are less reluctant to label a prototypical lie told in an informational setting as a lie than a lie told in a politeness setting. Because the general cooperative rule applies to all social-communicative interactions, it was also predicted that participants are more reluctant to label a truthful statement told to help in a prototypical truth-telling situation as a nonlie than a truthful statement told to harm. In the prototypical truth-telling situation, the role of the setting factor was not specified in Sweetser's model. Nevertheless, the effect of setting on participants' ratings in this situation was also explored.

METHOD

Participants

Forty-six 12-year-old junior high students (24 males and 22 females, mean age = 12.70 years) and 49 16-year-old high school students (17 males and 32 females, mean age = 16.71 years) participated. Seventy-one young adults (26 males and 45 females, mean age = 19.55 years) also volunteered to participate. Most of these adults were Introductory Psychology students who received credit for their participation.

Materials

Eight vignettes were constructed, with four involving the prototypical lie-telling situation and four involving the prototypical truth-telling situation. In the prototypical lie-telling situations, a speaker makes a factually false statement, believes it is false, and intends to deceive. In a prototypical truth-telling situation, a speaker makes a factually true statement, believes it is true, and does not intend to deceive. Each of the four vignettes was further placed under two conditions: the help and harm conditions, in combination with two settings (the informational and politeness settings), yielding four situations: (a) the speaker makes a statement to harm the hearer in an informational setting; (b) the speaker makes a statement to harm the hearer in a politeness setting; (c) the speaker makes a statement to help the hearer in an informational setting; (d) the speaker makes a statement to help the hearer in a politeness setting.

The eight vignettes depicted stories that were typical occurrences. In order to avoid potential confusion, only one speaker and one hearer were involved in the stories, and the use of personal pronouns was kept to a minimum. Each story was relatively short (about five sentences). In

each story, the statement to be judged was highlighted in quotation marks. The order of the presentation of the eight vignettes was predetermined according to a random number table. The vignettes are as follows:

1. *Prototypical lie-telling*

(a) Help/politeness: Jennifer has a bad new haircut. Her friend Krista is surprised at how bad this new style looks on Jennifer. Krista doesn't want Jennifer to know how she feels since this would hurt Jennifer's feelings, so Krista says, "I like your new haircut."

(b) Harm/politeness: Janet is in really good shape since she's been working out. Lisa, who dislikes Janet, is envious of her appearance. When Lisa sees Janet at the gym, she wants to upset Janet, so Lisa says, "You look really out of shape."

(c) Help/informational: The medication Dr. Smith is prescribing to Paul may or may not have the side effect of hair loss. When Paul asks if there are any side effects, Dr. Smith decides not to tell Paul of the hair loss as this may result in Paul not taking his medication, which he needs. Dr. Smith says, "There are no side effects."

(d) Harm/informational: A French textbook costs \$40. Paula knows it costs \$40 because she bought one yesterday. Kristen asks Paula how much money she should take to buy the French text. Paula is mad at Kristen, and wants her to end up at the store without enough money, so she tells Kristen, "It is \$30."

2. *Prototypical truth-telling:*

(a) Help/politeness: Julie is wearing a very nice outfit. Sarah really likes Julie's outfit and thinks that Julie looks really nice. Knowing that Julie will appreciate the compliment, Sarah tells her, "You look very nice today. I really like your outfit."

(b) Harm/politeness: Claire's locker smells. Louise knows that it smells because she has a locker beside Claire's. Because Louise doesn't like Claire, she says, "Your locker smells" to Claire in front of their friends in order to embarrass her.

(c) Help/informational: Fred, a shoe salesman, knows that there will be a sale on all shoes in the store in a week. Larry has tried on a very expensive pair of shoes and is prepared to buy them despite the high price. Wanting to save Larry some money, Fred says, "There will be a sale on these shoes in a week."

(d) Harm/informational: Bill doesn't know yet that he didn't make the volleyball team. Eric knows that Bill didn't make it and is quite happy about this because he doesn't like Bill. Bill mentions that he's

going to go and find out if he made the team. Eric, seeing this as a good opportunity to upset Bill, says, "You didn't make the team, Bill."

Note that the vignettes can be labeled according to either the prototypical model's terminology or that of the propositional perspective. From the propositional perspective, these vignettes can be called "typical lie-telling" or "typical truth-telling" situations (e.g., Chisholm & Feehan, 1977). By contrast, the prototypical model labels the vignettes as either "prototypical lie-telling" or "prototypical truth-telling." For simplicity, however, only the prototypical model's terms are used in the present study.

Procedure

Participants were given a questionnaire with the eight vignettes. Following each vignette, participants were presented with: "Someone says that X's [speaker's name] statement is a lie. Do you agree?" Participants were asked to indicate on a 7-point scale how much they agreed or disagreed: 1 = *strongly disagree*; 2 = *disagree*; 3 = *slightly disagree*; 4 = *can't say*; 5 = *slightly agree*; 6 = *agree*; 7 = *strongly agree*). The participants completed the questionnaire at school in groups.

In order for the data to be more easily interpreted, a linear transformation was performed on the raw data, such that 1 = 3, 2 = 2, 3 = 1, 4 = 0, 5 = -1, 6 = -2, and 7 = -3. Negative numbers indicate that the statement was judged to be a lie. The range of negative numbers from -1 to -3 reflects the degree of reluctance that participants felt in judging the statement as a lie. A rating of -3 indicates that the participant was least reluctant in this judgment. Positive numbers indicate that the statement was judged not to be a lie. The range of positive numbers from 1 to 3 reflects the degree of reluctance that participants felt in judging the statement not to be a lie. A rating of 3 indicates that the participant was least reluctant in this judgment. A rating of 0, which corresponds to the point *can't say* on the scale, indicates that the participant could not judge the statement to be either a lie or not a lie. It should be noted that the positive ratings do not directly reflect the participant's definition of "truth" or "truth-telling."

RESULTS

Preliminary analyses indicated no significant gender effect. Therefore the data for both genders were combined for the subsequent analyses.

Table 1. Means (and Standard Deviations) of Rating Scores for the Prototypical Lie- and Truth-Telling Stories in the Help/Politeness, Help/Informational, Harm/Politeness, and Harm/Informational Situations

	<i>Informational setting</i>		<i>Politeness setting</i>	
	<i>Harm</i>	<i>Help</i>	<i>Harm</i>	<i>Help</i>
<i>Prototypical lie-telling vignettes</i>				
12 years	-2.37 (0.65)	-1.80 (1.38)	-1.24 (1.85)	-1.09 (1.47)
16 years	-2.53 (0.62)	-2.39 (0.93)	-1.94 (1.45)	-1.57 (1.44)
19 years	-2.66 (0.81)	-2.16 (1.28)	-2.30 (1.14)	-1.45 (1.24)
<i>Prototypical truth-telling vignettes</i>				
12 years	0.85 (1.76)	1.48 (1.68)	0.98 (1.67)	2.44 (1.11)
16 years	1.39 (2.03)	1.94 (1.44)	1.37 (2.00)	2.65 (0.93)
19 years	1.58 (1.72)	2.54 (0.88)	1.97 (1.08)	2.87 (0.63)

Prototypical Lie-Telling Condition

Table 1 shows the means and standard deviations of participants' ratings of the prototypical lie-telling vignettes in the four conditions. Two-tailed one-sample *t* tests were conducted to compare each mean rating score with zero, a score indicating that participants were uncertain about whether a statement was a lie or a nonlie. The 12-year-olds rated the prototypical lie-telling stories significantly below zero (all $ps < .05$) under the help/politeness, $t(45) = -5.01$; help/information, $t(45) = -8.89$; harm/politeness, $t(45) = -4.54$; and harm/information, $t(45) = -24.95$. Similarly, the 16-year-olds also rated the prototypical lie-telling vignettes significantly below zero (all $ps < .05$) under the same four conditions, $t(48) = -7.63$; $t(48) = -17.96$; $t(48) = -9.37$; and, $t(48) = -28.76$, respectively. Young adults rated the four vignettes significantly below zero ($ps < .05$) under the same four conditions as well, $t(70) = -9.88$; $t(70) = -14.15$; $t(70) = -16.98$; and, $t(70) = -27.70$, respectively. These results indicate that all participants agreed that the four vignettes involved lying.

A 3 (Age) \times 2 (Setting: informational vs. politeness) \times 2 (Condition: harm vs. help) ANOVA with the last two variables as repeated measures was performed on the prototypical lie-telling data. This analysis was conducted to test the specific predictions that concerned only the prototypical lie-telling situations. The predictions regarding truth-telling were tested separately (see below). The age main effect was significant, $F(2, 163) = 10.08$, $p < .001$. Post hoc analyses (LSD, $\alpha = .05$) showed that the mean scores for the adults were the most negative, followed by the

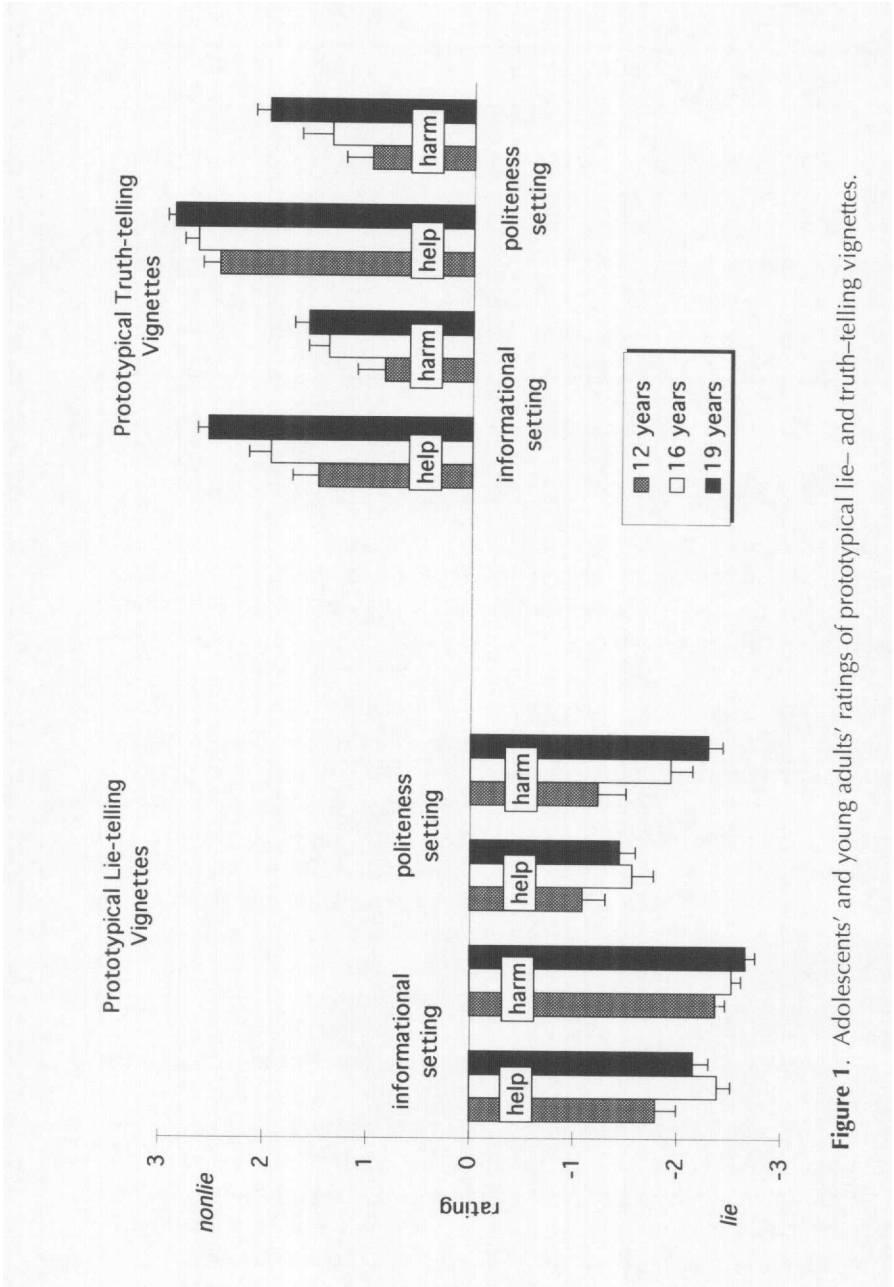


Figure 1. Adolescents' and young adults' ratings of prototypical lie- and truth-telling vignettes.

mean scores for 16-year-olds, and finally 12-year-olds (see Table 1 and Figure 1). The condition main effect was significant, $F(1, 163) = 18.88$, $p < .001$. Post hoc analyses showed that the mean scores in the help condition were higher than the mean scores in the harm condition (see Table 1 and Figure 1). The setting main effect was also significant, $F(1, 163) = 64.87$, $p < .001$. Post hoc analyses indicated that the mean scores for the politeness setting were higher than the mean scores for the informational setting (see Table 1 and Figure 1). The interactions of age with condition and setting were not significant, $F(2, 163) = 1.86$, $F(2, 163) = 1.65$, and $F(2, 163) = 1.44$, respectively.

Prototypical Truth-Telling Condition

Table 1 also shows the means and standard deviations of participants' ratings in each age group for the prototypical truth-telling vignettes in the four conditions. Two-tailed one-sample t tests revealed that 12-year-olds rated the prototypical truth-telling vignettes significantly above zero (all $ps < .05$) in both politeness and informational settings in the help condition, $t(45) = 14.48$ and $t(45) = 5.96$, and in the harm condition, $t(45) = 3.98$ and $t(45) = 3.26$. Sixteen-year-olds also rated the vignettes significantly above zero ($ps < .05$) in the help/politeness, $t(48) = 20.10$; help/Information, $t(48) = 9.46$; harm/politeness, $t(48) = 4.80$; and harm/information conditions, $t(48) = 4.79$. Adults' ratings were significantly above zero ($ps < .05$) in the conditions of help/politeness, help/information, harm/politeness, and harm/information, $t(70) = 38.36$; $t(70) = 24.38$; $t(70) = 15.36$; and, $t(70) = 15.66$, respectively. These results indicate that both adolescents and young adults correctly treated the four vignettes as truth-telling scenarios.

A 3 (Age) \times 2 (Setting: informational vs. politeness) \times 2 (Condition: harm versus help) ANOVA with the last two variables as repeated measures was performed on the prototypical truth-telling data. The age main effect was significant, $F(2, 163) = 19.52$, $p < .001$. Post hoc analyses showed that young adults had the most positive mean scores, followed by 16-year-olds, and lastly 12-year-olds (see Table 1 and Figure 1). Both the condition and setting main effects were also significant, $F(1, 163) = 59.14$, $p < .001$ and $F(1, 163) = 15.90$, $p < .01$, respectively. In addition, the condition by setting interaction was significant, $F(1, 144) = 14.43$, $p < .001$. Post hoc analyses indicated that, overall, ratings in the harm condition were lower than ratings in the help condition. In the harm condition, the mean rating scores for the politeness setting were approximately the same as the mean scores for the informational setting

in all the age groups. Under the help condition, the mean scores for the politeness setting were higher than the mean scores for the informational setting (see Table 1 and Figure 1). The interactions between age and the other two factors were not significant, $F(2, 163) = 1.34$; $F(2, 163) = 2.11$; $F(2, 163) = 0.24$, respectively.

DISCUSSION

This study of the concept of *lie* in adolescents and young adults was a specific test of the effect of the general cooperative rule and the setting factor on participants' definitional judgments of prototypical lie- and truth-telling. Sweetser's prediction regarding the general cooperative rule was supported for the prototypical lie-telling situations. In general, participants of all ages identified the prototypical lie-telling vignettes as lies. However, intentionally false statements were judged as more of a lie when the motive in lie-telling was to harm the hearer than when the motive was to help. This finding supports Sweetser's claim that, when a speaker makes an intentionally false statement, the speaker's conformity to the general cooperative rule leads people to be more reluctant to judge the statement to be a lie, whereas the speaker's violation of the general cooperative rule leads people to more readily judge the statement as a lie.

Sweetser's prediction regarding the effect of the setting factor on the judgment of prototypical lie-telling vignettes was also confirmed. Participants considered an intentionally false statement told in the politeness setting to be less of a lie than a similar statement made in the informational setting. As indicated by Sweetser (1987), the primary goal of interpersonal communication in an informational setting is to relay full and correct information. When the speaker tells a lie and hence fails to fulfill this goal, the speaker's intentionally false statement falls close to the "prototypical lie-telling" end of the lying continuum, and renders the situation more likely to be judged as a lie. By contrast, the main purpose of social interaction in a politeness setting is to achieve positive and amicable social relations rather than relaying information. In this setting, whether both the general cooperative rule and the politeness rule are violated is more crucial than whether information is accurately relayed. Hence, as predicted, participants were less willing to judge an intentionally false statement as a lie when it was made in a politeness setting.

Sweetser's prediction regarding the general cooperative rule also was supported for the prototypical truth-telling vignettes. In general, participants judged these vignettes as nonlies. Participants were more

inclined to consider a statement made under the prototypical truth-telling condition not to be a lie when the speaker's motive was to help than when the speaker's motive was to harm. Therefore, the influence of the speaker's conformity to the general cooperative rule also applies to the prototypical truth-telling situation.

Although Sweetser (1987) made no specific predictions about the effect of the setting factor on the definitional judgments of the prototypical truth-telling situations, this specific effect was explored in the present study. The pattern of results for the setting effect on the prototypical truth-telling vignettes was different from that for the prototypical lie-telling vignettes. In the harm condition, participants' judgments of prototypical truth-telling were equally positive for the informational and politeness settings. That is, when the speaker's motive was to harm when telling the truth, the statement was judged to be a nonlie to a similar extent in both settings. However, in the help condition, ratings were higher for the politeness setting than for the informational setting. It seems that in a truth-telling situation in which true information is already relayed, the information factor becomes irrelevant, and the social significance of a statement asserts a greater influence. Hence, in the help condition, participants rated truth-telling in the politeness setting more positively than that in the informational setting.

In all the conditions, significant age differences were found. Overall, as age increased, participants' ratings became more extreme (i.e., either more positive or negative). However, there were no interactions of age with the condition and setting factors. This finding suggests that, despite the age differences in ratings, the same pattern of results existed for each of the three age groups. In other words, Sweetser's model seems to be applicable to both adolescents and young adults, at least between the ages of 12 and 19 years. As to the possible reasons for the age main effect, one is that younger participants might be less inclined to give extreme ratings to the research question. Alternatively, they might have not yet consolidated their concept of lie as much as adults, and hence hesitated to give a *strongly agree* or *strongly disagree* response. If the second explanation is the case, the age difference found in the present study might reflect a genuine developmental difference between adolescents and adults in their understanding of lie- and truth-telling.

It should be noted that, in the present study, the factors of setting and help-harm motivation did not lead to cross-category judgments. The prototypical lie-telling situations were always judged as lie-telling, whereas the prototypical truth-telling situations were always judged as a nonlie, irrespective of settings and the speaker's motivation. This finding, however, should not be construed as evidence to support the proposi-

tional notion of lying. This is because lying, by propositional definition, is an all-or-none concept (Fillmore, 1975). A verbal statement is either a lie or not a lie depending on whether the three elements are all present (Chisholm & Feehan, 1977). There are no different degrees of membership to the concept (Coleman & Kay, 1981). Therefore, if an individual holds a propositional notion of lying, motivational and situational factors should not affect the individual's judgment of whether a statement is a lie. The present findings clearly showed that both adolescents and young adults did not view lying in such all-or-none fashion. Rather, they took situational factors and the speaker's motivation into consideration when determining whether the speaker's verbal statement is a lie.

However, it is premature to conclude that adolescents and young adults do not hold the propositional notion of lying. Additional evidence is needed. Specifically, the conclusive rejection of the propositional notion requires clear evidence of cross-category judgment. This evidence may be obtained when lie-telling situations that lead to very significant consequences are used (e.g., a person "lies" to a murderer about the whereabouts of the murderer's intended victim; see Bok, 1978). In this case, people may make cross-category judgments and consider the person's statement not to be a lie. In addition, the validity of the present findings should be replicated with different methods (e.g., asking the participants to give explicit categorization of "lie/falsehood" versus "nonlie/truthfulness" and then rate their confidence). Finally, although the lie-telling and truth-telling situations used in the present study are typical ones, there are also some less typical lie- and truth-telling situations. For example, the speaker may intend to deceive the hearer in order to harm, but unknowingly tells the truth, and as a consequence, the speaker fails to harm the hearer (the failed lie situation). In another situation, the speaker may intend to inform the hearer but gives incorrect information that results in harmful consequence (the honest mistake situation). If Sweetser's model holds true, future studies should show both a help-harm effect and cross-category judgments in these situations.

In summary, the present findings confirmed predictions based on Sweetser's model. Our evidence, in conjunction with indirect evidence from other studies of lying (e.g., Coleman & Kay, 1981; Peterson, 1995; Peterson et al., 1983; Piaget, 1932/1965; Strichartz & Burton, 1990), suggests that the concept of *lie* is not only a cognitive construct requiring individuals to understand the semantic elements of the concept and the relations between them, but it is also a social construct. In addition to the semantic elements, social conventions regarding verbal communication and context play an important part in adults' and adolescents' con-

cept of *lie*. This social-cognitive notion about the concept of *lie* represents a significant theoretical departure from the traditional views. In the past, although theorists and researchers were aware of the influence of social and contextual factors, these factors were generally considered to be extraneous and the concept of *lie* itself was independent of the factors. Hence, as children's cognitive understanding of the critical semantic elements of the concept develops, social and contextual factors were thought to assert less and less impact. In contrast, Sweetser's folkloristic model with the support of the results of the present study indicates that the concept of lying, like a unique class of concepts such as *murderer* and *bachelor* (Coleman & Kay, 1981; Sweetser, 1987) may intrinsically have a social component.

Methodologically, the new evidence presented here suggests that, in order to better understand the development of lying in children, future research should be approached from a cognitive-social perspective. Social factors should not be treated as extraneous variables that need to be controlled for. Rather, both social and cognitive aspects of lying need to be manipulated in testing situations, and children's developing knowledge of both aspects should be assessed also.

Although much research is still needed, the findings of the present study and those of the previous studies provide a preliminary picture of the development of the concept of *lie*. Based on the evidence to date, it may be speculated that children's acquisition of the concept of *lie* is a result of an interplay between their knowledge of social conventions/communicative rules and their understanding of the semantic elements of lying. A rudimentary form of the concept of *lie* seems to emerge during preschool years, which is largely influenced by social factors (Peterson et al., 1983; Piaget, 1932/1965). The early impact of social factors also leads to an overextension of the concept (e.g., mistaking swear words as lies). As children begin to understand different forms of verbal communication (e.g., honest mistake, irony, joke, and metaphor), they realize the critical roles of factuality, belief, and intention in determining a verbal statement to be a lie. Although social factors remain influential, the three semantic components are gradually integrated into school children's concept of *lie* and become more prominent deciding factors. During the elementary school years, factuality plays the most important role (Bussey, 1992; Peterson, 1995; Peterson et al., 1983; Piaget, 1932/1965; Strichartz & Burton, 1990), which again results in an overextension of the concept (e.g., considering honest mistakes as lies). An improved understanding of others' intentional systems (belief and intention) leads older children to place more weight on the belief and intention elements than factuality (Peterson, 1995; Peterson et al., 1983;

Piaget, 1932/1965; Strichartz & Burton, 1990). Their concept of *lie* becomes similar to that of adults. Additional development involves integration of social conventions and communicative rules into the concept of *lie* such that the concept becomes further refined and restricted. Now, the concept of *lie* refers to an intentionally false statement motivated to achieve specific interpersonal impact in a specific social setting.

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