# Preschoolers' talk about future situations

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**ABSTRACT**
We conducted 2 experiments that examined 3-year-olds' ability to talk about future situations involving the self. In both experiments, children participated in a *trip task*. In this task, children were asked to choose various items that might be required on a trip, and to explain their choices verbally. A coding scheme that captured both the dimensions of futurity and uncertainty was developed to categorize children's explanations. In addition, children were administered the Test of Early Language Development-2 (TELD-2) (Hresko, Reid & Hammill, 1991). Results from both experiments indicated that children's language was beginning to reflect an ability to anticipate various situations involving the self that might arise during the course of a trip. The correlation between children's scores on the trip task and their scores on the TELD-2 was positive, but not statistically significant. We discuss factors, other than general language ability, that may contribute to children's talk, and thought, about the future.

## INTRODUCTION

There exists little research that has examined young preschoolers' talk about the future and, even more specifically, talk about future situations that involve the self. As a result, we know very little about the structure (e.g., the terms that children use to talk about the future) and content (e.g., the situations that children may talk about) of this talk. This is despite the fact that analysing such talk can provide much-needed insight into the development of temporal reference in children's language, as well as children's developing concepts of the future. In addition, children's ability to talk about, and think about, the future has important implications for the development of what researchers have referred to as the 'temporally-extended self' (e.g., Moore & Lemmon, 2001).

Studying future talk in children is complicated by the fact that English does not have a proper future tense per se. Rather, we tend to convey 'futurity' through the use of various modal auxiliaries (Harner, 1982). These include such terms as *wanna*, *gonna*, *hafta*, *will*, *could*, *would*, *should*, etc. Children are using the majority of these terms by 3 years of age (Bliss, 1988; Gee & Savasir, 1985; Stephany, 1986). For instance, Stephany (1986) found that the modal verbs *wanna, gonna, hafta, can't, won't, can, will, shall, could, would, should,* and *must* had all emerged in a sample of eight English-speaking children by the age of 3;6. Similarly, Bliss (1988) found that although 2-year-olds used modals significantly less than 3-, 4- and 5-year-olds, these other age groups did not differ in their modal use. Thus, it appears that children have the *means* to talk about the future from a relatively young age, but we know very little about the structure and content of this talk, and how this talk may differ depending on the type of situation or event to which the child is referring.

In general, studies that have documented the use of modals in young children have not examined how children use these terms with respect to the future or to the future self, focusing instead on the use of modals to refer to concepts such as *ability, permission* and *obligation/necessity* (Bliss, 1988). What we know about the structure and content of children's future talk has, instead, emerged from naturalistic studies that have focused on the talk of one child, or a small number of children (e.g., Nelson, 1989, 1991; Sachs, 1983). For instance, in a discussion of the emergence of future talk in her daughter Naomi between 26 and 31 months of age, Sachs (1983) reported that Naomi uttered such statements as 'Gotta put a bandaid on a little later' and 'I gotta feel better in the morning, when we have dinner in the morning.' Similarly, in a detailed study of the bedtime monologues of a young child, Emily, Nelson (1989, 1991) reported that, early in the third year of life, talk about the future began to emerge. For example (Nelson, 1991):

> Maybe the doctor,
> Took my jamas I don't know
> Maybe, maybe we take my jamas off.
> But leave my diaper.
> Take my jamas off.
> And leave them off.

At the doc-,
my have get my check up,
So we take my jamas off.

Such examples suggest that, early in life, children are beginning to talk about the future in a manner that reflects a growing awareness of what will be happening to them. However, because such examples are limited to a small number of children, it is difficult to generalize these findings. Moreover, little is known about the context in which children uttered this talk. Although naturalistic studies are an important starting point, the next step is to adopt a more controlled and systematic empirical approach. For example, one could ask young children to talk about one specific future event that they are asked to envision themselves taking part in.

Such an analysis would inform us about the development of temporal reference in the child, as well as aid us in developing a characterization of how young children are conceptualizing the future – another domain that we know very little about. For instance, adults' predictions of many types of future events (e.g., going on a trip) necessarily involve recognizing the uncertainty and multiple possibilities that characterize the unfolding of this event. These notions of uncertainty and possibility are in turn reflected in the language that is used to describe these events (e.g., 'it might rain', 'I may get sick', etc.). Of interest, is whether young children's talk about such events is similar in this respect.

It is possible that young children conceptualize the future as being relatively fixed and certain, and so do not recognize the uncertainty that is inherent in a future event. We know that from a very young age children possess script-based knowledge, e.g., what happens when you go to a birthday party (for example, Hudson, Shapiro & Sosa, 1995), and so it is possible that their conception of the future is fully guided by this knowledge, such that the future is largely conceived as a recurrence of the past. If this were the case, then children's talk about the future should not include terms that denote uncertainty, but rather terms such as 'going to' and 'will' (e.g., 'it will rain'). A recent inspection of available transcripts in CHILDES by O'Neill & Atance (2000), demonstrated that children between the ages of 2 and 4 do sometimes use uncertainty terms when talking about the future. However, given that the contexts in which children uttered this talk, as well as the specific situations to which children were referring, could not always be determined, conclusions regarding children's conceptualization of the future were not possible.

For these reasons, in this study we chose to examine children's future talk in an experimental context in which we could control for the type of event that the children were talking about. Specifically, we asked children to talk about the event of going on a trip. A trip must necessarily occur in the future, and so we were interested in whether children's language would include terms such as 'going to' and 'will', which reflect this fact. However, in addition, a trip is an event for which we can anticipate many possible outcomes. For instance, in thinking about a trip, I am able to anticipate such situations as getting hungry, thirsty, cold, etc. Because the likelihood that these situations (as well as others) will occur is unknown, talk about a trip should entail more uncertainty, and less reliance on a script (hence more speculation), than a routine event such as 'bedtime' or 'bathtime' where fewer outcomes are possible. Thus, we were

also interested in whether children's language about the trip would contain terms such as 'might' and 'if' which would reflect such a conceptualization.

In the trip task which we designed, children were asked to pretend that they were going on a trip, and were presented with eight items from which they could choose three to bring with them. Providing children with items from which to choose was done to encourage talk about future situations that could arise. The eight items consisted of two items each from four pre-selected 'categories of situations' which could reflect a future need of the self. The items and categories were as follows: (1) juice and raisins, to address the possible future *physiological* situations of getting hungry or thirsty; (2) sunglasses and Band-Aids, to address the possible *physical* situations of getting sun in one's eyes or getting hurt; (3) book and teddy bear, to address the possible *emotional* situations of needing something to do, or getting scared; and (4) telephone and money to address the possible *emergency* situations of needing to telephone someone or needing to buy something.

Each time, after children chose an item (up to a maximum of three), an Elmo puppet asked them 'How come you're bringing X on your trip?' So, for example, a child who chose Band-Aids, was asked 'How come you're bringing Band-Aids on your trip?' Children's explanations in response to this question (e.g., 'I might get hurt') constituted the dependent measure of interest in this study.

Children's explanations were coded with respect to two factors. First, we were interested in children's propensity to talk about the future. We hypothesized that some children may adopt a 'future focus' that would be reflected in their ability to explain their item choice as a function of a future situation in which it might be needed, whereas others may simply focus on a need or desire for the item in the present. Second, we were interested in children's use of uncertainty-related terms to explain their item choices. Here, we hypothesized that if children rely exclusively on a well-formed script for going on a trip, then their accounts should be less speculative in nature, as evidenced in the following example of a child providing a script for the routine event of going grocery-shopping: 'You drive and then you go in and get a cart. You go and buy food. And then you leave.' (Hudson *et al.*, 1995). In this example, the child is talking about the unfolding of this event as being fixed, rather than uncertain. In contrast, if children recognize the uncertainty involved in the event of 'going on a trip', then their language should reflect this, and so we would expect uncertainty markers such as 'might' and 'if'.

Finally, we were interested in whether there was a relation between children's ability to explain their item choices as a function of a future situation and their general language ability. One possibility is that children's ability to talk about a future situation may be strongly related to their general language ability. However, another more intriguing possibility is that talking about a future situation may also entail a certain degree of cognitive sophistication related to the ability to displace oneself in time – this aspect being separable from language ability per se. In this latter case, we would not expect the correlation between children's performance on the trip task and their general language ability to be significant. To shed some light on this issue, children were administered the Test of Early Language Development-2 (TELD-2) (Hresko, Reid & Hammill, 1991) after they had completed the trip task in order to assess the relative contribution of language to children's performance on the trip task.

# EXPERIMENT 1

## Method

*Participants*

Participants were 34 3-year-old children (18 boys, 16 girls; mean age = 43.5 months, range = 39–48 months). Five additional children were tested but failed to complete the experimental session due to fussiness. In addition, one child's data were excluded from the analyses because she provided the 'formulaic' response 'because I am' for each of the three items that she chose. Children were mostly white, from middle-class families of Western and Eastern European descent, and were recruited through advertisements in local malls, daycare centres and other public centres.

*Materials*

Materials for the trip task included the following eight items: juice, raisins, sunglasses, Band-Aids, book, teddy bear, telephone and money, as well as a backpack in which to put the items. An Elmo puppet was used to question children about their item choices.

*Procedure*

Children were first asked to label each of the 8 items that were used in the task. Next, children were told to pretend that they were going on a trip with their parent(s), and that they would have to help their parent(s) prepare for this trip by choosing some items to bring along. Children were then introduced to Elmo, the puppet, who was going to watch them so that he could learn about going on a trip. Children were provided with a backpack and were told that they could choose 3 of the 8 items to bring with them. Immediately after children had chosen an item, they were told that Elmo had a question for them. To obtain children's verbal explanations for choosing the item, Elmo asked, 'Hey, how come you're bringing (name of item) on your trip?' If children did not respond, or responded with 'I don't know', they were asked the question a second time. The task ended after children had given their explanation for the third item chosen. Children received three additional tasks (not discussed here) during the testing session, but these always came after the trip task. At the end of the testing session, children were administered the TELD-2.

*Coding*

We were interested in whether children's explanations referenced the future situations about which the items were designed to elicit talk, and whether, in addition, these explanations included uncertainty markers. Because there exist no coding schemes that have categorized children's talk along the dimensions of futurity and uncertainty, we developed a coding scheme to do so. As described earlier, future reference is achieved through the use of various modal terms. However, our view is that the extent to which each of these modal terms can be labelled as future referents per se is debatable. For instance, we would argue that the terms *need to* or *want to* are often used to denote a need or desire in the present, whereas terms such as *will* and *gonna* tend to reflect more of a future orientation.[1] Thus, one of the main goals of our coding

scheme was to categorize children's item explanations while capturing the distinction between terms that can be conceived as being more future-oriented in their reference, versus ones that are more present-oriented. This resulted in the following coding scheme:

1.  *Future orientation.* Explanations that included the following terms: *will, going to/gonna, can, could, would, should, when (I)* (e.g., 'when I get hungry').

2. *Future + Uncertainty orientation.*[2] Explanations that included the following terms: *might, if, in case, maybe,* and *probably.*

3. *Present orientation.* Explanations that included the following terms: *want to, need to, have to,* and *like* (e.g., 'I like it'). We considered these terms to reflect more of a focus on a *present* state of wanting or needing an item, rather than a future situation in which the item might be needed.

4. *Generalized present orientation.* Explanations that reflected a 'general' or 'ongoing' state of the world or convention (e.g., 'it's sunny', or 'because you bring phones on a trip'). We did not consider this type of explanation to extend beyond the present state of the world.

5. *No response.* Instances in which children either provided no explanation at all, or simply responded with 'I don't know' or 'because'.

*Reliability*

Each explanation was transcribed by the first author as well as by an undergraduate psychology student. Agreement was considered to have been reached if both coders agreed on all content words that were crucial for the coding (e.g., *will, gonna,* etc.). Percentage agreement was 92. Explanations for which there was disagreement were transcribed by a third person. If the third person's transcription matched the transcription of one of the other two transcribers, then that particular explanation was deemed 'codable' and underwent the coding procedure described above. If the third person's transcription did not match either of the transcribers', then that particular explanation was deemed 'uncodable'. Of the 102 explanations obtained from the children (each of the 34 children provided 3 explanations), only 1 was deemed uncodable.

Kappas for the coding of children's explanations ranged from 0.89 to 0.93. All disagreements were resolved through discussion.

# Results

*Preliminary analyses*

Across all trials, the percentages with which children chose each item were as follows: juice 18, raisins 9%, sunglasses 12%, Band-Aids 9%, book 6%, teddy bear 10%, phone 17%, money 19%. Thus, although children displayed a preference for choosing some items over others, it was not the case that any of the eight items was never chosen.

**Table 1**  Samples of children's explanations for bringing item

| Item | Explanation | Coded orientation |
| --- | --- | --- |
| juice | Because when I'm thirsty I *will* drink it | Future |
| raisins | Because I'm *gonna* be hungry | Future |
| Band-Aids | *In* case somebody has an owie | Future + Uncertainty |
| telephone | Because *if* I need to call someone | Future + Uncertainty |
| money | Because I like money | Present |
| book | Because I've got to read some of the book | Present |
| sunglasses | Because it's sunny | Generalized present |
| teddy bear | To cuddle | Generalized present |

*Did children talk about future situations?*

Collapsing across all items, children's explanations were found to be Future 17% of the time; Future + Uncertainty 20%; Present need 35%; Generalized present 11%; No response 17% (for examples of children's explanations, see Table 1). Thus, overall, 37% of children's item explanations clearly referenced future situations that could arise during the course of a trip. Over half of these also denoted the uncertainty inherent in these future situations (i.e., included the uncertainty marker *might, if, in case, maybe* or *probably*). As expected, explanations that were coded as Future or Future + Uncertainty made reference to the situations about which each item was designed to elicit talk (see Introduction), with one exception: in the case of the teddy bear, children often referred to the future situation of 'getting sleepy/tired', rather than 'getting scared'.

*What situations tended to draw out the most Future and Future + Uncertainty talk?*

Children's explanations were most often coded into the categories of Future and Future + Uncertainty for the following: the physiological situations of getting thirsty and getting hungry (juice and raisins), the physical situation of getting hurt (Band-Aids), and the 'emergency' situation of needing to contact someone (telephone) (see Table 2). Children were much less apt to talk about the future physical situation of getting sun in their eyes (sunglasses); the future 'emotional' situations of getting sleepy (teddy bear) and getting bored/needing something to do (book); and the future emergency situation of needing to buy something (money). With respect to Future + Uncertainty specifically, the physical situation of getting hurt drew out the most of this type of talk. In 60% of cases, children's explanations for choosing Band-Aids included the uncertainty marker *might, if*, *in case, maybe* or *probably*. Children also included one of these uncertainty markers approximately one-quarter of the time when making reference to the physiological situations of getting thirsty and hungry, as well as the emergency situation of needing to telephone someone.

**Table 2**  Percentage of item explanations coded into each of the categories in
Experiment 1

| Item (no. times chosen) | Future | Future + Uncertainty | Present | Generalized present | No response |
|---|---|---|---|---|---|
| juice (19) | 28 | 22 | 33 | 0 | 17 |
| raisins (9) | 11 | 33 | 44 | 11 | 0 |
| sunglasses (13) | 8 | 0 | 31 | 46 | 15 |
| Band-Aids (10) | 10 | 60 | 10 | 10 | 10 |
| book (6) | 0 | 0 | 50 | 0 | 50 |
| teddy bear (11) | 18 | 9 | 46 | 9 | 18 |
| telephone (16) | 31 | 25 | 32 | 6 | 6 |
| money (18) | 11 | 11 | 44 | 6 | 28 |

*Was 'future talk' related to general language ability?*

Children's mean score on the TELD-2 was 47, with a range of 32 to 55 and a standard deviation of 6.07. To determine whether children's ability to talk about future situations was related to their general language ability, we recoded the data as follows: if a child's explanation made reference to the future (i.e., was coded as either Future or Future + Uncertainty) then it was given a score of 1. Otherwise, explanations were given a score of 0. Scores across each of the 3 items were then added to create an aggregate score ranging from 0 to 3 which we labelled Future Total. These aggregate scores were then correlated with children's scores on the TELD–2. Controlling for age in months, a Pearson's correlation revealed that children's Future Total scores were not significantly related to their scores on the TELD-2, $r = 0.28, p = 0.126$.

## Discussion

We examined children's ability to talk about future situations by asking them to explain why an item might be needed during the future event of going on a trip. In this context, we found that approximately one-third of their explanations referenced future situations that could arise during the course of this event. And in over one-half of these instances, children's explanations also denoted the uncertainty that is often inherent in a future situation (e.g., 'I *might* get hungry'). This occurred most often when children talked about the future physical situation of getting hurt, which, indeed, is something that we can only recognize as a future possibility, rather than as a future certainty. It is notable that children as young as 3 years of age marked this fact linguistically.

It was not the case that children's ability to talk about future situations in the trip task was merely a function of their general language ability as measured by the TELD-2.

Although the relation between children's scores on the trip task and their scores on the TELD-2 was positive, it was not statistically significant. This finding suggests that talk about the future is not simply a function of general language ability. We will return to this issue in more detail in the general discussion.

The results of Experiment 1 indicated that children's propensity to talk about the future differed depending on the situation about which each item was designed to elicit talk. For instance, as a group, children made reference to the future 70% of the time when talking about the physical situation of getting hurt, but only 8% of the time when talking about the physical situation of getting sun in their eyes. Thus, in Experiment 2, we used the results of Experiment 1 to standardize the items across the children with the goal of drawing out as much future talk as possible. To do this, we chose the one item from each of the four situation categories (i.e., physiological; physical; emotional; 'emergency') which elicited the greatest amount of future talk in Experiment 1: juice, Band-Aids, teddy bear and telephone.

# EXPERIMENT 2

## Method

*Participants*

Participants were 28 3-year-old children (15 girls, 13 boys; mean age = 43 months, range = 39–48 months). Four additional children were tested but failed to complete the experimental session due to fussiness. Two children were also excluded for providing formulaic explanations in the trip task – one child responded 'because I am', whereas the other responded 'because you told me to' – for each of the three item explanations. Children were mostly white, from middle-class families of Western and Eastern European descent, and were recruited through advertisements in local malls, daycare centres and other public centres.

*Materials*

The items used in Experiment 2 were: juice, teddy bear, Band-Aids and telephone. As in Experiment 1, children were provided with a backpack in which to put the items, as well as an Elmo puppet who questioned them about their item choices.

*Procedure*

The four items were laid out on the table at which children were seated. Children were then asked to start packing their backpack (i.e., 'Can you start packing for your trip?'). Once again, children were introduced to an Elmo puppet who was going to watch them so that he could learn about going on a trip. After children had placed an item into their backpack, Elmo asked them to explain their choice (i.e., 'Hey how come you're bringing X on your trip?'). As in Experiment 1, children were administered the TELD-2 at the end of the testing session.

*Coding*

Children's explanations were coded in the same manner as described in Experiment 1.

**Table 3**   Percentage of item explanations coded into each of the categories in
Experiment 2

| Item | Future | Future +
Uncertainty | Present | Generalized
present | No response |
|---|---|---|---|---|---|
| juice | 21 | 24 | 34 | 14 | 7 |
| Band-Aids | 14 | 48 | 17 | 7 | 14 |
| teddy bear | 13 | 23 | 40 | 10 | 14 |
| telephone | 23 | 30 | 30 | 0 | 7 |

Percentage agreement for the transcription of children's explanations was 91%. Two
explanations were deemed uncodable. Kappas for the coding ranged from 0.88 to
1.00. All disagreements were resolved through discussion.

## Results

*Did children talk about future situations?*

Collapsing across all items, children's explanations were coded as Future 18% of the
time; Future + Uncertainty 32%; Present 30%; Generalized present 10%; No response
10%. These percentages are comparable to those obtained in Experiment 1. There
was, however, an increase in the percentage of utterances that were coded as Future
and Future + Uncertainty. This time, half of children's explanations made reference to a
future situation about which the items were designed to elicit thought, compared with
37% in Experiment 1.

*What situations tended to draw out the most Future and Future + Uncertainty talk?*

As in Experiment 1, the extent to which children's explanations were coded into the
various categories differed depending on the situation about which the items were
designed to elicit talk (see Table 3). The physical situation of getting hurt again drew
out the most future talk on behalf of the children (62%), with over two-thirds of these
explanations also denoting the uncertainty inherent in this situation (i.e., coded as
Future + Uncertainty). The physiological situation of getting thirsty, the emotional
situation of getting sleepy/getting scared, and the emergency situation of needing to
telephone someone drew out future talk 45%, 36% and 53% of the time, respectively,
with at least half of each of these totals coded as Future + Uncertainty.

*Was 'future talk' related to general language ability?*

Children's mean score on the TELD-2 was 45, with a range of 34 to 52 and a standard
deviation of 4.69. As in Experiment 1, we explored the relation between children's
scores on the TELD-2 and their ability to talk about future situations. Again, we
recoded the data as follows: if a child's explanation made reference to the future (i.e.,

was coded as either Future or Future + Uncertainty) then it was assigned a score of 1. Otherwise, explanations were assigned a score of 0. Scores across each of the 4 items were then added to create an aggregate score ranging from 0 to 4 that we labelled Future Total. These aggregate scores were then correlated with children's scores on the TELD–2. Controlling for age in months, children's Future Total scores were not significantly related to their scores on the TELD-2, $r = 0.33$, $p = 0.101$.

## GENERAL DISCUSSION

This research provides a unique and novel methodology to assess young children's ability to talk about future situations that involve the self – an aspect of both linguistic and cognitive development that has remained virtually unexplored. Providing children with items that could be used to address specific situations (e.g., hunger, hurt, etc.), coupled with a context that was removed from the here-and-now, provided an alternative to a more naturalistic method of assessing young children's talk about the future.

In Experiment 1, 37% of children's explanations were coded as either Future or Future + Uncertainty, and in Experiment 2 this figure rose to 50%. Thus, the results of these two studies reveal that by 3 years of age children's language is already reflecting an ability to anticipate future situations that involve the self. In addition, the manner in which children talked about such situations reflected a developing appreciation that their occurrence was potentially uncertain. That is, children's use of terms such as *might* and *if*, indicated a recognition that 'getting hurt' or 'getting thirsty' were situations that may, or may not, occur in the future.

With respect to the incorporation of uncertainty specifically, the form of young preschoolers' talk in these experiments contrasts with their talk in previous studies in which they have been asked to recount a script (i.e., when children are asked to provide an account of how a routine event – for example, going to a birthday party, or going grocery-shopping – unfolds). Children's recounting of scripts appears to involve little uncertainty and instead be more fixed in structure (for examples of 3-year-olds' scripts, see Hudson *et al.*, 1995). This suggests that, at least in some cases, children in our two experiments were doing more than simply stating what *typically* happens, but were instead thinking about what *might* happen, which was in turn reflected in their linguistic accounts. An intriguing possibility is that the trip task may have led children to truly project into the future to anticipate these various situations, rather than simply drawing on past knowledge of how an event typically unfolds.

The results of both experiments revealed that children's propensity to talk about the future differed depending on the situations about which the presented items were designed to elicit thought. Thus, children were more apt to talk about the future physiological situations of getting hungry or thirsty, the future physical situation of getting hurt and the future 'emergency' situation of needing to contact someone. These findings may have been a function of the frequency and salience with which the corresponding situations occur in the real world. For instance, children are very familiar with such states as hunger and thirst, because these happen with such frequency. In contrast, a situation such as getting sun in one's eyes occurs with less

frequency. And, although one could argue that the physical situation of getting hurt is not an extremely frequent one, a key difference may be that it is a very salient one. Its greater infrequency may in fact be the reason why the most Future + Uncertainty talk in both Experiments 1 and 2 was seen for this situation.

How might we describe the children who did not talk about future situations in the trip task? One possibility is that these children did not have the terms that we coded as Future and Future + Uncertainty in their vocabulary. Yet, there are several reasons to doubt that language was the limiting factor in this case. First, children do use modal terms such as *gonna* and *will* very early in development. In fact, the term *gonna* typically appears in the child's lexicon prior to the third birthday (e.g., Fletcher, 1979; Stephany, 1986). Although terms such as *might* and *if* that denote uncertainty appear later, children's explanations in our experiments did not need to include these specific terms to be coded as referring to the future. Moreover, the children tested in these two studies performed extremely well on the TELD-2. In Study 1, 82% of the children scored in the 85th percentile or higher, whereas in Study 2, 77% did so. Finally, the correlations between children's scores on the trip task and their scores on the TELD-2 were not as high as would be expected if the trip task was only assessing general language ability.

A second possibility is that children's inability to talk about future situations in the context of the trip task may have revealed a genuine limitation in future thinking. For instance, these children may have lacked the ability to consider explicitly how a future situation could be causally linked to their current self (cf. Povinelli, 2001). Thus, a child who explains bringing Band-Aids on a trip because 'I might get hurt' has linked 'bringing Band-Aids' with the possibility of 'getting hurt.' In contrast, a child who explains bringing Band-Aids because 'I like them' may be limited in construing this important causal link. However, we would not argue that the latter child lacks all awareness of the future. In fact, in a naturalistic setting he or she may talk about events that will occur at some point in the future. One hypothesis is that such a child may talk more about future *routine* events that are more 'script-like' or semantic, as opposed to future events that are more inherently uncertain, and may thus require more of a projection of the self into the event in question, a form of thinking we have recently termed *episodic future thinking* (see Atance & O'Neill, 2001).

An important next step would be to chart when individual children begin to acquire linguistic terms that denote uncertainty and explore how the acquisition of such terms may affect performance on the trip task. It may be the case that performance on our task improves once children have both terms that refer to the future (e.g., will, gonna), as well as terms that additionally denote uncertainty (e.g., might, if). In this sense, the possibility remains that the acquisition of uncertainty terms, specifically, allows for a new cognitive perspective on time. This possibility highlights the importance of distinguishing talk that refers to routine or script-based events from that which refers to possibilities that the child has not yet experienced, or experienced with much less frequency. Experimental paradigms, such as the trip task which rely on children's language may in fact provide us with the means to begin to make this distinction. In addition, naturalistic work that examines the use of these different types of terms to refer to the future (i.e., 'certain' vs. 'uncertain'), as well as the context in which children use them would be helpful. Both of these approaches in combination would allow us

to gain much valuable insight into how both language and cognition contribute to children's developing concept of the future.

## ACKNOWLEDGEMENTS

## NOTES

1. Of course an exception to this general rule would be if the child uttered either of the following: 'I *need* to bring food for tomorrow', thus indicating a future orientation despite the use of *need*. Similarly, if the child uttered 'I *will* eat it right now', this would be considered a present orientation. However, none of the children's explanations were of this form.
2. We consider both Future as well as Future + Uncertainty to qualify as 'future talk'. The only distinction is the uncertainty that is denoted by each. Whereas Future does not incorporate a notion of uncertainty, Future + Uncertainty does. This uncertainty is either denoted by the terms *might, if, in case, maybe* and *probably* (which we would argue also incorporate the notion of future), or by coupling one of these terms with a future term (e.g., '*If* I get hungry, I *will* eat them').

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