



Children's Attitudes toward Reading: A National Survey
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Children's attitudes toward reading: A national survey

Understanding the role of attitude in developing readers is important for two principal reasons. First, attitude may affect the level of ability ultimately attained by a given student through its influence on such factors as engagement and practice. Second, even for the fluent reader, poor attitude may occasion a choice not to read when other options exist, a condition now generally known as *aliteracy*.

Although the necessity of understanding attitude is unquestioned for these reasons, progress toward such understanding has been slow. Research into methodologies and correlates is frequently contradictory, a situation that is the likely result of (a) psychological theories that fail to define and account for what Athey (1985, p. 527) has termed "shadowy variables" associated with attitude; (b) psychometrically inadequate instruments that have been relied upon in the past to examine attitudinal questions; and (c) overgeneralization based on small and idiosyncratic samples. This study was undertaken to address these problems and to explore anew some of the central issues associated with attitude toward reading. It is important to acknowledge, however, that the approach to attitude assessment employed here has inherent limitations and that further investigation using other paradigms is needed to adequately understand the complex processes through which children acquire attitudes toward reading.

Background

Theoretical perspectives

Fishbein and Ajzen (1975) defined *attitude* generally as "a learned predisposition to respond in a consistent-

ly favorable or unfavorable manner with respect to a given object" (p. 6, original emphasis). Alexander and Filler's (1976) reading-specific definition is consonant with the perspective that attitude can be conceptualized along a continuum with positive and negative extremes. Reading attitude, they suggested, is "a system of feelings related to reading which causes the learner to approach or avoid a reading situation" (p. 1). Within the rubric of such general definitions, specific dimensions or types of reading attitude are often discussed, and empirical support for their discrete existence is persuasive. McKenna and Kear (1990) conducted a factor analysis indicating the psychological reality of two dimensions: attitude toward recreational reading and attitude toward school-related, academic reading. When the number of dimensions is increased, there is a natural tendency for them to overlap, as research into the eight-dimension Survey of Reading Attitudes (Engin, Wallbrown, & Brown, 1976) has indicated (Blaha & Chomin, 1981; Wallbrown, Brown, & Engin, 1978).

A somewhat extreme approach to the task of providing multiple definitions of *attitude* is to delineate reading attitude into subtypes according to interests. Thus, one may have an attitude toward reading science fiction that differs considerably from one's attitude toward reading romantic fiction. It is still consistent to assume, however, that individuals also possess a global attitude toward reading in general. In this respect, it is common to speak of attitudinal hierarchies, in which the objects of attitudes range from general to specific (Rajecki, 1990). One may, for example, have a positive global attitude toward reading as well as a positive atti-

Children's attitudes toward reading: A national survey

THIS STUDY investigated the reading attitudes of a stratified national sample of 18,185 U.S. children in Grades 1 through 6. Students responded to a group pictorial rating scale, comprising two subscales devoted to attitude toward reading for recreational and for academic purposes. Scores were analyzed on the basis of gender, grade level, ethnicity, reading ability, and the use of basal readers. Results supported a model of reading attitude in which social factors and expectations gradually shape attitudes over time. Findings included the following. First, recreational and academic reading attitudes, on average, were observed to become more negative gradually, but steadily, throughout the elementary school years, beginning at a relatively positive point and ending in relative indifference. Second, the trend toward more negative recreational attitudes was clearly related to ability and was steepest for least able readers. The attitudinal

gap among ability levels widened with age, though for academic reading attitude the negative trend was similar regardless of ability. Third, girls as a group possessed more favorable attitudes than boys at all grade levels, toward both recreational and academic reading. In the case of recreational attitude, this gap widened with age, while in the case of academic attitude, it remained relatively constant. These gender differences appeared to be unrelated to ability. Fourth, ethnicity was observed to play little role in the negative trends in either recreational or academic reading attitude. Fifth, the extent of a teacher's reliance on basal readers did not appear to be meaningfully related to recreational or academic reading attitude. In general, these findings are supportive of the McKenna model of reading attitude acquisition.

Las actitudes de los niños hacia la lectura: Un estudio nacional

ESTE ESTUDIO investigó las actitudes hacia la lectura de una muestra nacional estratificada de 18.185 niños estadounidenses de 1º a 6º grado. Los estudiantes respondieron a una escala pictórica de rangos que comprendía dos sub-escalas referidas a actitud hacia la lectura con fines recreativos y con propósitos académicos. Los puntajes se analizaron sobre la base del género, grado, grupo étnico de pertenencia, habilidad lectora y el uso de textos básicos de lectura (basal readers). Los resultados dan sustento a un modelo de actitud lectora en el que los factores sociales y las expectativas van modelando gradualmente las actitudes a través del tiempo. Los resultados incluyen los siguientes hallazgos. En primer lugar, las actitudes recreativas y académicas hacia la lectura, en promedio, se volvieron más negativas en forma gradual, pero estable, a lo largo de la escuela primaria, comenzando en un punto relativamente positivo y finalizando en una indiferencia relativa. En segundo lugar, la tendencia hacia actitudes recreativas más negativas estuvo claramente relacionada con la habilidad y fue más pronunciada en los lectores con

más problemas. La brecha actitudinal entre niveles de habilidad aumentó con los años; sin embargo en cuanto a la actitud académica la tendencia negativa fue similar, independientemente de la habilidad. En tercer lugar, las niñas como grupo tuvieron actitudes más favorables que los niños en todos los grados, tanto hacia la lectura recreativa como académica. En el caso de la actitud recreativa, esta brecha aumentó con la edad, mientras que en el caso de la actitud académica, permaneció relativamente constante. Estas diferencias de género no parecieron estar relacionadas con la habilidad. En cuarto lugar, el grupo étnico de pertenencia no desempeñó un rol importante en las tendencias negativas hacia las actitudes de lectura recreativa o académica. En quinto lugar, la dependencia del docente de los textos básicos no pareció estar relacionada significativamente con la actitud de lectura recreativa ni académica. En general, estos hallazgos dan apoyo al Modelo McKenna de adquisición de actitudes hacia la lectura.

Kindermeinungen zum Lesen: Eine landesweite Studie

DIESE STUDIE befaßte sich in einer landesweiten Stichprobe von 18,185 amerikanischen Schulkindern der Klassen 1 bis 6 mit den Einstellungen zum Lesen. Sie antworteten mit einer bildlichen Skalierung, die zwei Unterskalierungen enthielt bezüglich der Einstellungen zum Lesen zu Zwecken der Erholung und der Weiterbildung. Die Ergebnisse wurden nach Geschlecht, Klassenstufe, ethnischer Zugehörigkeit und Lesefähigkeit analysiert. Es ergab sich ein Erklärungsmodell, nach dem soziale Faktoren und Erwartungen die Einstellung zum Lesen in Stufen formt. Die Befunde zeigten folgendes: Erstens wurde die Einstellung in der Grundstufe zu Freizeit- und Bildungslektüre im Durchschnitt allmählich, aber konstant negativer, setzte dabei an einem relativ positiven Punkt ein und endete in Unentschlossenheit. Zweitens hing das Ausklammern der Lektüre aus den Freizeitbeschäftigungen deutlich mit den Lesefähigkeiten zusammen und war für die wenig befähigten Leser

klar zu zeigen. Diese Einschätzungsdifferenz verstärkte sich mit dem Alter, wobei sich für die Bildungslektüre der negative Trend unabhängig von den Fähigkeiten zeigte. Drittens zeigte die Gruppe der Mädchen auf allen Altersstufen positivere Einstellungen als die der Jungen, und zwar zu Freizeit- und Bildungslektüre. In der Freizeiteinschätzung verstärkte sich die Differenz, während sie in der Bildungshaltung relativ konstant blieb. Diese Geschlechtsunterschiede scheinen nicht mit der Lesefähigkeit zusammenzuhängen. Viertens spielte die ethnische Zugehörigkeit nur eine geringe Rolle in der negativen Beurteilung sowohl von Bildungs- als auch Freizeitlektüre. Fünftens schien der Lehrerbezug auf die Leser der Grundstufe ohne Einfluß auf die Einschätzung beider Lesehaltungen zu sein. Insgesamt stützen die Befunde das Modell des Erwerbs der Leseeinschätzung von McKenna.

子供たちの読みの姿勢：国レベルの調査

この研究では、国レベルで階級別に抽出したアメリカ合衆国の小学1年から6年までの17,042人の児童の読みに対する姿勢を調査した。生徒たちは絵で表された測定尺度に答え、そこに含まれた2つの副尺度によって楽しむ読みや学ぶ読みに対する姿勢が測られた。スコアは性別、学年、人種、読む力、そして初歩レベルの児童書の活用の点から分析された。結果は社会的要因や期待度が時間をかけるに伴い次第に読む姿勢を形成するという読みの姿勢のモデルを支持するものであった。発見としては次のようなものであった。まず最初に楽しむ読みや学ぶ読みへの姿勢は平均的に徐々にではあるが着実に否定的になっていくことが観察された。比較的好意的な姿勢で始まったものが小学校時代を通して結局相対的には無関心なものになってしまうのである。2番目としては楽しむ読みへの姿勢がより否定的なものへと移行していくのは明らかに読む力と関係があり、特に能力の低い生徒たちにとってはそれが

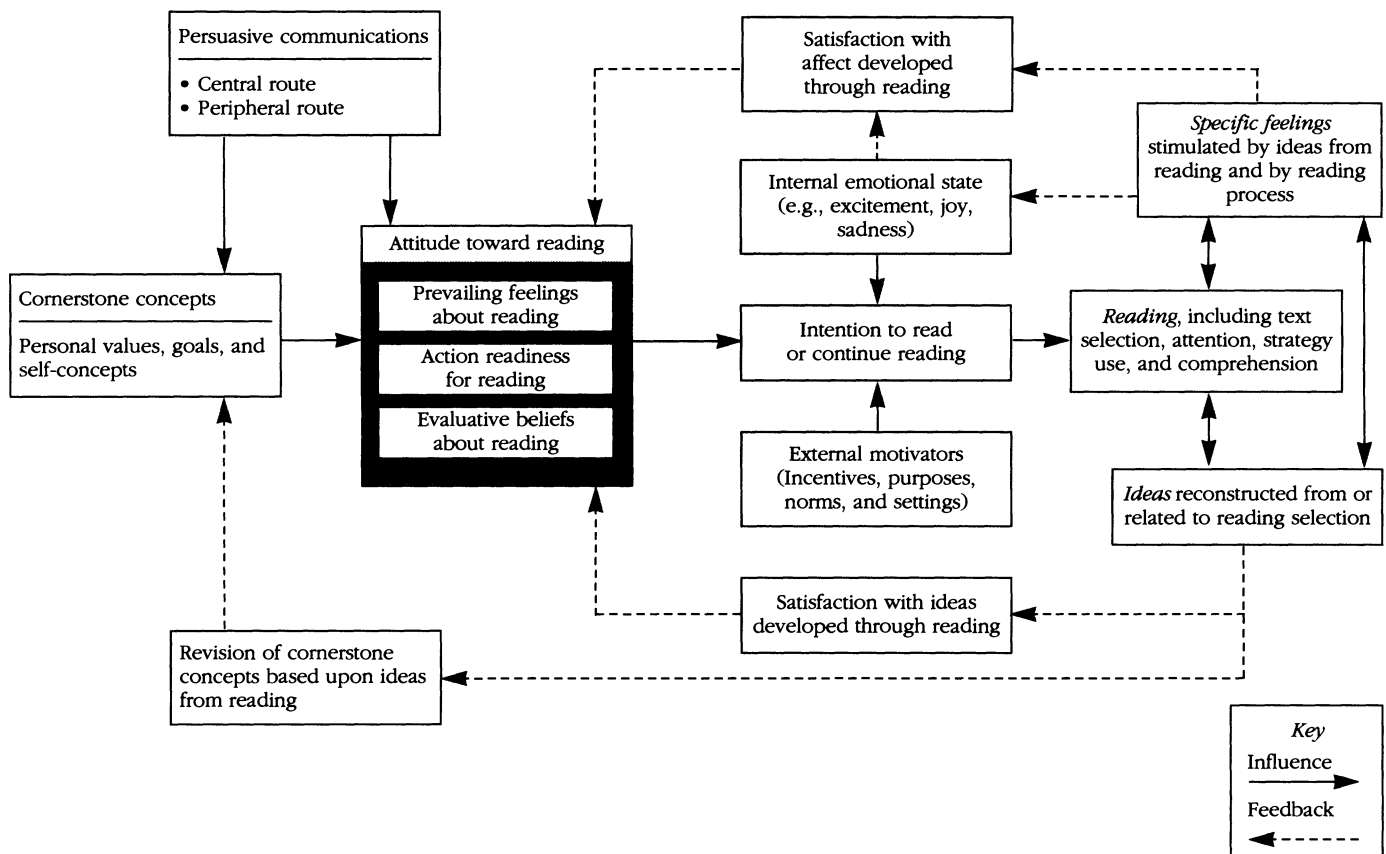
顕著であった。このような能力による読みへの姿勢の違いは年齢に伴ってその差が大きくなるが、学ぶ読みへの姿勢に関しては能力に関係なく、一様に否定的な方向へと移行していった。3番目として女子のグループは全ての学年において男子より楽しむ読みと学ぶ読みの両方に対して好意的な姿勢を保持していた。楽しむ読みに対する姿勢は年齢に伴って男女間の違いに広がりを見せたが、学ぶ読みへの姿勢については比較的一定していた。こうした男女間の違いは能力とは無関係のようであった。4番目として楽しむ読みと学ぶ読みの両方への姿勢が否定的な方へ移行していくことに対して人種の違いはほとんどその役割を果たしていないことが観察された。5番目として教師の初歩レベルの児童書に頼る程度についても、それが楽しむ読みや学ぶ読みへの姿勢と有意なほど関係しているようには思われなかった。概してこの研究の発見はMckennaの読みの姿勢の習得モデルを支持するものであった。

Les attitudes des enfants envers la lecture : enquête nationale

CETTE ETUDE a porté sur les attitudes envers la lecture d'un échantillon national par quotas de 18 185 enfants allant de la 1^o à la 6^e année aux Etats-Unis. Les élèves ont répondu à un groupe d'échelles d'évaluation illustrées, qui comprenait deux sous-échelles consacrées aux attitudes envers la lecture à des fins récréatives ou éducatives. Les résultats obtenus ont été analysés sur la base du sexe, de la classe fréquentée, de l'ethnicité, du savoir lire, et de l'utilisation de manuels. Les résultats sont en faveur d'un modèle d'attitude envers la lecture dans lequel les facteurs sociaux et les attentes façonnent progressivement les attitudes au cours du temps. Indiquons quelques résultats. En premier lieu, on a observé que les attitudes envers la lecture récréative ou éducative deviennent en moyenne plus négatives, progressivement mais régulièrement, tout au long des années de scolarité élémentaire, avec un point de départ relativement positif et un point d'arrivée d'indifférence relative. En second lieu, la tendance à des attitudes plus négatives envers la lecture récréative est clairement liée au niveau de maîtrise et est marquée au maximum

pour les plus mauvais lecteurs. L'écart d'attitude suivant les niveaux de maîtrise croît avec l'âge, quoique dans le cas de l'attitude envers la lecture éducative la tendance négative soit la même quel que soit le niveau de maîtrise. En troisième lieu, les filles en tant que groupe présentent des attitudes plus favorables que les garçons à tous les niveaux d'âge, qu'il s'agisse de lecture récréative ou éducative. Dans le cas de l'attitude envers la lecture récréative, cet écart s'accroît avec l'âge, tandis que dans le cas de la lecture éducative, elle reste relativement constante. Ces différences de sexe semblent indépendantes du niveau de maîtrise. En quatrième lieu, l'ethnicité semble avoir un rôle limité dans les tendances négatives, qu'il s'agisse d'attitude envers la lecture récréative ou éducative. En cinquième lieu, le degré de dépendance du maître à l'égard des manuels ne semble pas significativement lié à l'attitude envers la lecture récréative ou éducative. De manière générale, ces résultats vont dans le sens du Modèle d'acquisition de l'attitude envers la lecture de McKenna.

Figure 1 Mathewson model of attitude influence upon reading and learning to read



From Mathewson (1994). Reprinted by permission.

tude toward reading science fiction. Of course, a positive global attitude by no means implies a positive attitude toward all types of reading. It is likely, however, that the range of an individual's reading interests is closely related to global attitude, for studies documenting a trend toward more negative global attitude over time can be compared with another line of inquiry revealing a parallel decline in the number of reading interests (McKenna, 1986; Schulte, 1969).

Three concepts are integral to modern understandings of attitude: the beliefs an individual harbors in relation to the object, the behavioral intentions that concern the object, and the feelings the individual experiences because of the object. Some theorists (such as Mathewson, 1994 and Rajecki, 1990) adopt a tripartite approach in which these three concepts are viewed as components of attitude. Others associate attitude primarily with the affective concept and build behavioral intentions and belief

systems into their models as contributing factors (see, for example, Ajzen, 1989; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975; Liska, 1984; McKenna, 1994). The presence of all three concepts is now typical and appears to mark an important consensus, whether they appear as components or as contributing factors.

The Mathewson model. Mathewson (1994) proposed a model in which attitude is one of a set of factors influencing an individual's intention to read and in which the results of a given reading encounter are fed back to influence attitude (see Figure 1). Mathewson's principal concern was with the role of attitude as a factor during the act of reading and during the period when one learns to read. His model has implications for attitude acquisition in its identification of four factors, two major and two minor. The major factors, represented by solid arrows, are "cornerstone concepts," including personal values, goals, and self-concepts, and "persuasive

communications," which can affect the reader through a central route (as when a teacher touts reading) or peripherally (as when a book has an attractive cover). The minor factors include cognitive and affective feedback from reading encounters.

In Mathewson's tripartite view, attitude comprises feelings, action readiness, and beliefs. Two other factors are seen as contributors to the decision to read (or to continue reading): external motivators and the individual's emotional state.

Although this model represents a significant advance in reading attitude theory, it is limited, for several reasons, in its suitability for predicting the course of attitude development over time. First, its focus on the role of attitude during specific acts of reading leaves long-term effects on attitude largely to implication. Second, its tripartite view of attitude, which couches an individual's beliefs *within* the concept of attitude itself, does not postulate a causal relationship between beliefs and feelings. Third, one's beliefs about the views and expectations of significant others are seen as affecting the intention to read in a specific situation. Although this supposition is well supported, the model is silent as to the possibility that social norms may have a direct effect on attitude.

The McKenna model. In an effort to construct a model more conducive to considering the long-term development of reading attitudes, McKenna (1994) synthesized the work of Mathewson and others. Cothorn and Collins (1992) discussed the reading-specific implications of the general model of attitude development proposed by Fishbein and Ajzen (1975; Ajzen, 1989; Ajzen & Fishbein, 1980) and subsequently modified by Liska (1984). McKenna then adapted the Liska modification to reading, borrowing at the same time from the models of Mathewson (1985, 1994) and Ruddell and Spieker (1985). Although indebted to Mathewson, the resultant model rejected the tripartite view of attitude, adopting instead the view that attitude is largely affective in nature and that beliefs are causally related to it. Specifically, the McKenna model (see Figure 2) identified three principal factors influencing attitudinal change: (a) beliefs about the outcomes of reading in light of the judged desirability of those outcomes, (b) beliefs about the expectations of others in light of one's motivation to conform to those expectations, and (c) the outcomes of specific incidents of reading.

The important causal role accorded an individual's belief system was postulated by Fishbein and Ajzen (1975; Ajzen, 1989; Ajzen & Fishbein, 1980). In their straightforward conceptualization, causation was seen to proceed in general from beliefs to attitudes to intentions and then to behaviors. Two types of beliefs were pro-

posed, those concerning the object itself (such as reading) and those of a normative nature (such as how one's friends view reading). In addition, beliefs were categorized according to origin. Descriptive beliefs are those that derive from personal observation and experience (for example, "This book is interesting."). Inferential beliefs entail logical conclusions reached on the basis of existing beliefs ("Because this book is interesting, others may be."). Informational beliefs come from outside sources regarded by the individual as significant ("My friends say books can be interesting."). Given the causal relationship between beliefs and attitudes, Fishbein and Ajzen accordingly viewed the process of introducing new beliefs and challenging old ones as an important avenue for shaping attitudes.

Liska's (1984) contribution lay in challenging the lockstep causal chain from beliefs to attitudes to intentions to behaviors. He summarized research suggesting a more complex model. First, he argued that intentions alone are not enough to cause certain behaviors to occur, especially when skills are deficient or social interaction is necessary. Both attitude and normative beliefs were consequently given causal roles regarding behavior, and contingencies, such as adequate proficiency, were added. Moreover, Liska argued that beliefs have little to do with behavioral intentions but instead influence behavior indirectly, through their effect on attitude. Finally, he argued for a direct effect of behavior on attitude, an idea not incorporated in the Fishbein-Ajzen model (but subsequently an important part of the Mathewson model).

McKenna adapted the Liska revision to reading and at the same time incorporated components of the Mathewson models (both 1985 and 1994). The Liska model was largely preserved, though reading-related contingencies were added along with a behavioral context that involves reading. The Liska model differentiates beliefs from attitude (unlike Mathewson's tripartite view) so that causation from beliefs to attitude is proposed. The McKenna model restored Mathewson's earlier (1985) notion of a decision to read, which is the joint effect of intention, attitude, and subjective norms, all three of which are subject to contingencies. Because reading is an ongoing process rather than a discrete act, the initial decision to read becomes a decision to continue reading once the process begins. Feedback from the *metacognitive state* (a term borrowed from Ruddell and Spieker, 1985, but present conceptually in the 1994 Mathewson model as well), together with subjective norms, intent, and attitude, combine to determine whether the process will continue.

Metacognitive control is also seen as central to text representation and to a judgment about whether the

reader's purpose is being satisfied. Increasing evidence of automatic, modularized decoding in fluent reading (for example, see Rayner & Pollatsek, 1989; Stanovich, 1991) precluded a role for the metacognitive oversight of decoding in the McKenna model. Direct feedback from the metacognitive state to attitude, however, reflects Liska's contention of the immediate influence of behaviors on attitude.

The McKenna model postulates that an individual's attitude toward reading will develop over time principally as the result of three factors: normative beliefs, beliefs about the outcomes of reading, and specific reading experiences. These factors are complex, they are subject to change, and they influence one another as well as influencing attitude.

Beliefs about the outcomes of reading—whether those outcomes are likely to be pleasurable, useful, frustrating, or boring—are formed, in part, in relation to children's beliefs about the outcomes of competing activities. As they grow older and more leisure options are open to them, the prospect of reading will be weighed against available alternatives, each of which is associated with an attitude. Consequently, students who become capable readers may not have strong positive attitudes toward reading if they expect more satisfying results from other pastimes. Nonetheless, beliefs about the outcomes of reading must relate in part to the ability to read. The necessity of this relationship is to a certain extent self-evident, but growth in ability is linked in turn, normatively, to one's perception of the value of reading within a particular social context. If its perceived value is low, the development of reading ability will be constrained and beliefs about the outcomes of reading (namely, that the result is frustration) will tend to confirm a normative belief that reading has little value to begin with. This mutually confirming process of normative and predictive beliefs suggests the true complexity of the situation.

In school settings, McDermott (1974) used Long's (1963) "ecology of games" to describe the dynamics at work when minority students sense that teachers judge them unfairly and prejudicially by imposing on them mainstream standards that ignore their cultural identity. Cooperating in the business of reading instruction may be viewed by some minority students as virtual complicity in a form of oppression:

To read is to accept these games and all the statuses and identities that accompany them. Not to read is to accept peer group games and their accompanying statuses and identities. In other words, given a particular social organization, reading failure is a social achievement. (p. 571)

Members of the same minority group may reinforce such

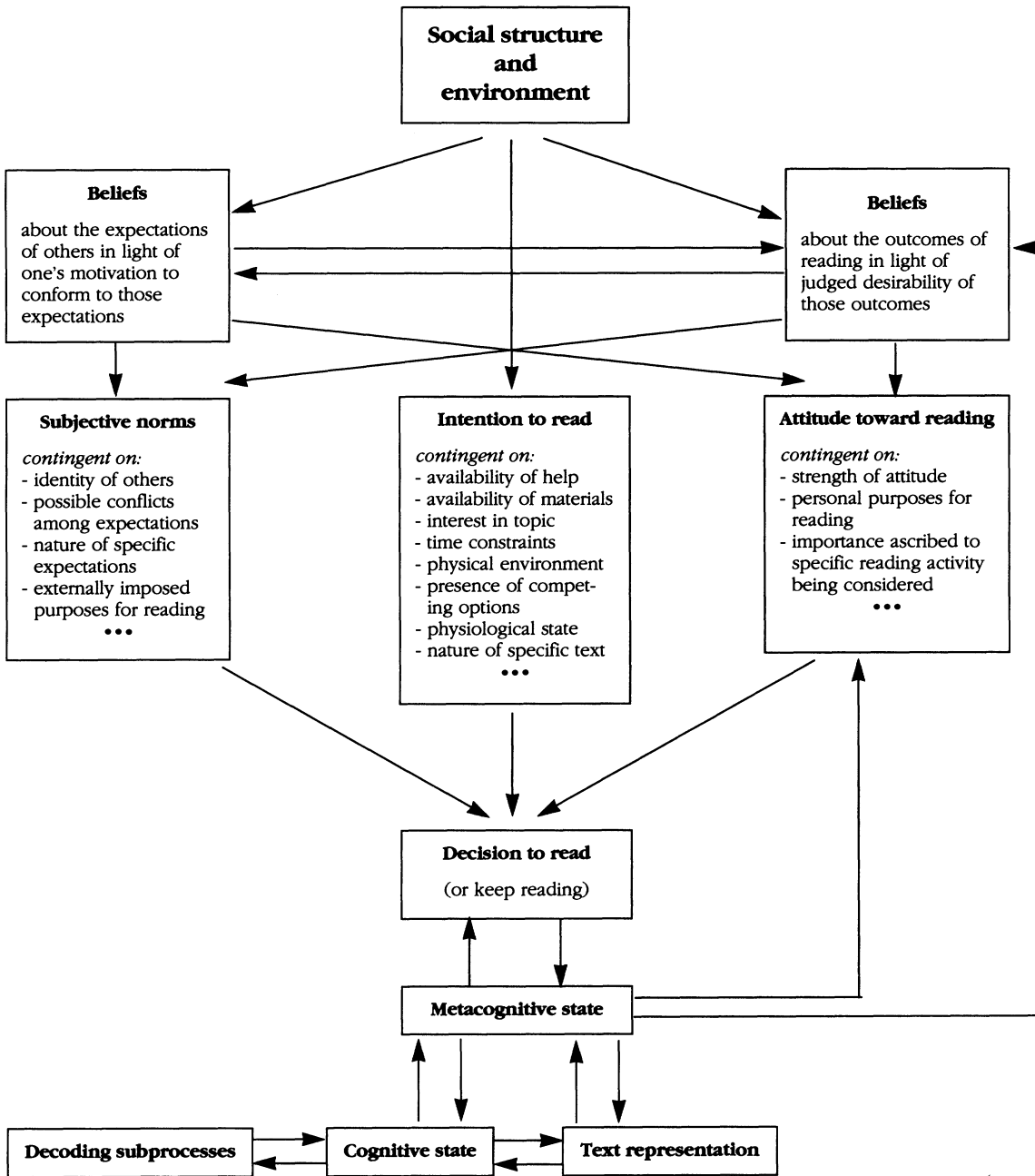
beliefs in one another through a process that Festinger (1950, 1954) called "social comparison." He described the need to validate one's beliefs about conditions that are social (and therefore abstract and invisible) as opposed to physical (and therefore concrete and visible). Validation consists of expressing beliefs to other group members so that the beliefs become mutually confirming:

[Where] the dependence on physical reality is low, the dependence upon social reality is correspondingly high. An opinion, a belief, an attitude is "correct," "valid," and "proper" to the extent that it is anchored in a group of people with similar beliefs, opinions, and attitudes. (1950, p. 272)

The important question is how strongly one identifies with the group, especially when concurrent membership in more than one group (classroom, family, ethnic group, and gender, for example) complicates the issue of identity. Research consistently confirms a tendency of groups to reject those who deviate from consensus views (see Levine, 1980), though few studies have involved natural settings. Gender-specific belief systems may contribute in a similar normative way to differences in the way many girls and boys come to view and value literacy. With respect to gender, however, some theorists have suggested the possibility of a genetic factor that may interact with social forces (Eagly & Chaiken, 1993).

Notwithstanding the complexity of the belief systems harbored by individuals, certain predictions about reading attitudes can be made on the basis of the McKenna model, assuming that effects remain relatively consistent over time. For example, frequent frustrating experiences should eventually lead to a belief that the inevitable result of reading is frustration. Attitude toward reading should consequently grow more negative with time for poor readers but not for good ones (if other factors are disregarded) so that the relationship between ability and attitude should grow stronger. Normative beliefs related to the acceptability of reading suggest that certain subpopulations, perhaps associated with gender and/or ethnicity, may exert cultural influences on individual members. The availability of alternative leisure outlets, such as television, may compete with reading outside of school and may in fact reduce the time spent reading by poorer readers, thus contributing to their problems. Finally, certain instructional approaches may produce more successful experiences, contributing directly and cumulatively to attitude, and they may also lead to more positive beliefs about the outcomes of reading, contributing to attitude indirectly. Validating McKenna's derived model in any detail will require numerous investigations in addition to the present one, but some support for these general and important predictions now exists.

Figure 2 McKenna model of reading attitude acquisition



From McKenna (1994). Reprinted by permission.

Summary of research

Overall developmental trends. Evidence concerning the development of reading attitudes over time is inconsistent. The McKenna model predicts that as children mature and as more and more leisure options compete with reading, positive attitudes toward reading will on average worsen. This trend may well apply to many skillful readers because their beliefs that reading can be pleasurable are likely to compete with beliefs that other activities may be even more pleasurable. Findings supporting this prediction have been reported by Anderson, Tollefson, and Gilbert (1985) and by Martin (1984). For readers experiencing problems, the model's prediction of worsening attitudes is more emphatic, and again supporting evidence is available (Ishikawa, 1985; Ross & Fletcher, 1989; Shapiro, 1980).

Some studies have shown no such declines, however. Wallbrown, Levine, and Engin (1981) reported no significant differences between the fifth and sixth graders they studied. Parker and Paradis (1986) not only reported no significant differences in attitude among students in Grades 1-3 but higher scores for fifth than for fourth graders. In the past, a peaking of reading attitude was often discussed (see Witty & Kopel, 1939), contrary to the prediction of the McKenna model that attitudes will on average begin to worsen almost from the onset of instruction.

Thus, although much of the available evidence supports a gradual worsening of reading attitude on average, controversy surrounding the issue persists. A general worsening may be masked in studies with relatively small samples by the effects of factors such as ability, gender, ethnicity, and instructional method. Research into the effects of these factors on attitude has produced uneven findings.

Effects of reading ability. Because, according to the McKenna model, attitudes are formed in part on the basis of beliefs about the outcomes of reading, it is natural to predict that poorer readers, who have reason to expect frustrating outcomes, will tend to harbor more negative attitudes than better readers. In fact, extensive evidence relates reading attitude to ability (Askov & Fishback, 1973; Lipsky, 1983; Martin, 1984; Ransbury, 1973; Richards & Bear, 1986; Swanson, 1982; Walberg & Tsai, 1985; Wallbrown, Brown, & Engin, 1978; Wallbrown, Vance, & Prichard, 1979). Although they serve to document a relationship between ability and attitude, these studies cast little light on the cumulative effect, if any, of ability over time. The McKenna model predicts such an effect from the onset of instruction.

Effects of gender and ethnicity. The model specifies that normative beliefs (those concerned with the expectations of significant others) also play a formative role in

the development of attitudes. If a child's cultural environment encourages, models, and reinforces reading, more positive attitudes should result. Gender-specific beliefs concerning what others expect about reading may explain consistent findings that girls tend to possess more positive attitudes than boys (Anderson, Tollefson, & Gilbert, 1985; Askov & Fishback, 1973; Ross & Fletcher, 1989; Shapiro, 1980; Smith, 1990; Stevenson & Newman, 1986; Wallbrown, Levine, & Engin, 1981). The situation is complicated, however, by the fact that girls tend as a group to outperform boys on ability measures (Mullis, Campbell, & Farstrup, 1993). It may be that societal beliefs lead first to more positive attitudes toward reading in girls, which in turn facilitate an advantage over boys in acquiring ability, and that this difference in ability then helps to perpetuate more positive attitudes among girls.

Ethnic group membership can also be expected to impose subjective norms about reading. Few studies have examined this relationship, however. Saracho and Dayton (1991) reported that among a large sample of preschool children, African Americans tended to possess more negative attitudes than Whites or Hispanics. Since this study involved children who had not yet begun to learn to read, the cumulative effects of reading difficulty cannot account for the difference. The possibility that culturally transmitted beliefs may retard the development of positive reading attitudes deserves more thorough examination.

Effects of instruction. Opinions about the effects of methods and materials on attitudes are frequently expressed, but evidence is scant. Some studies have demonstrated positive effects attributable to specific techniques including metacognitive training (Payne & Manning, 1992), reading aloud to students (Herrold, Stanchfield, & Serabian, 1989), using high-quality literature (Morrow, 1983), avoiding denegrating reading group placement (Wallbrown, Brown, & Engin, 1978), stressing links between literature and the lives of students (Guzzetti, 1990), and using questions to activate prior knowledge (Jagacinski & Nicholls, 1987). The more controversial issue of basal readers and their oft-alleged impairment of attitudes has been harder to substantiate. In a sequence of related studies reported by McKenna, Stratton, Grindler, and Jenkins (1995), no significant differences were observed between basal and whole language instruction on the reading attitudes of children in Grades 1-5. The fact that instructional techniques can at times influence attitudes is a potential source of variance in developmental studies that may account for some of the inconsistent findings of the past and argues for large-scale studies.

Table 1 Demographic characteristics of the sample

Grade/gender	Reading ability												All ability levels and ethnic groups
	High				Average				Low				
	African American	White	Hispanic	Other	African American	White	Hispanic	Other	African American	White	Hispanic	Other	
1/Boys	16	292	10	7	39	401	14	6	39	266	16	5	1,111
Girls	19	340	15	13	56	391	14	10	37	193	21	6	1,115
Total	35	632	25	20	95	792	28	16	76	459	37	11	2,226
2/Boys	38	374	17	13	60	463	28	17	39	313	22	10	1,394
Girls	48	452	16	20	57	434	28	13	38	252	18	14	1,390
Total	86	826	33	33	117	897	56	30	77	565	40	24	2,784
3/Boys	23	342	19	26	47	510	54	31	60	321	39	30	1,502
Girls	27	471	21	30	71	484	42	26	42	239	29	21	1,503
Total	50	813	40	56	118	994	96	57	102	560	68	51	3,005
4/Boys	15	425	24	22	65	676	45	27	68	299	45	14	1,725
Girls	30	553	35	22	77	656	43	31	53	224	40	11	1,775
Total	45	978	59	44	142	1,332	88	58	121	523	85	25	3,500
5/Boys	31	451	19	20	69	557	50	18	51	307	44	15	1,632
Girls	46	496	19	20	65	532	48	19	49	207	35	10	1,546
Total	77	947	38	40	134	1,089	98	37	100	514	79	25	3,178
6/Boys	23	308	18	13	49	421	34	22	37	200	28	10	1,163
Girls	24	362	41	22	57	406	39	8	37	159	24	7	1,186
Total	47	670	59	35	106	827	73	30	74	359	52	17	2,349
All grades and genders	340	4,866	254	228	712	5,931	439	228	550	2,980	361	153	17,042

Purposes of the study

The present investigation sought, by means of improved instrumentation and an extensive, stratified U.S. national sample, to reexamine several of the most persistent and educationally significant issues related to children's reading attitudes. Specifically, the following research questions were addressed:

1. What are the overall developmental trends in recreational and academic reading attitude across the elementary grades?
2. What is the developmental relationship between recreational and academic reading attitude, on the one hand, and (a) reading ability, (b) gender, and (c) ethnicity, on the other?
3. What effects on reading attitude can be ascribed to the use of basal reading materials?

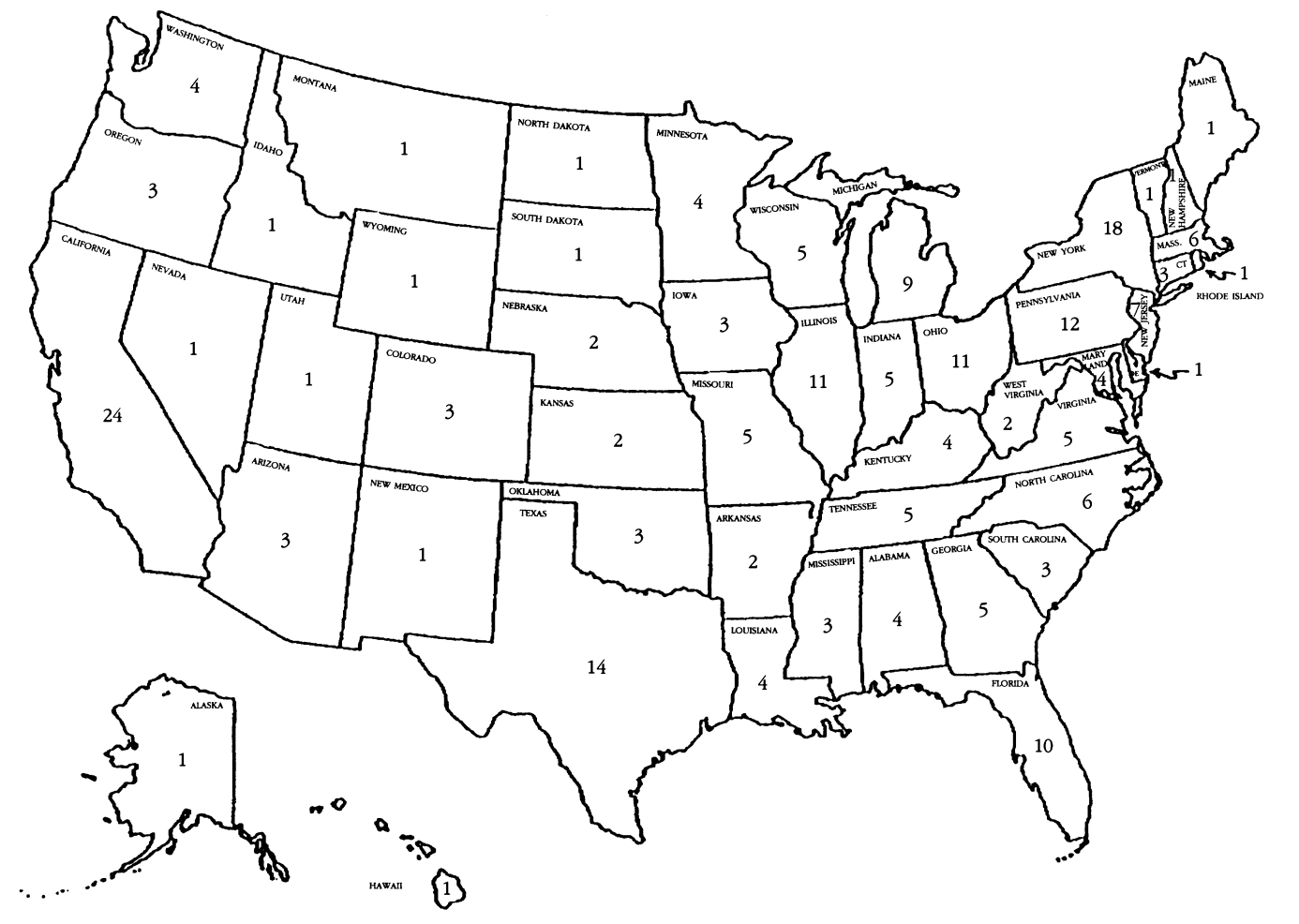
Method

Subjects

To secure participants, letters were sent to a geographically distributed subset of state and local council

presidents of the International Reading Association. These individuals either served as liaisons with participating schools or identified an individual to do so. A resultant sample of 18,185 children in Grades 1 through 6 was established. To permit broad generalizability, the sample was stratified by gender and ethnicity. The proportion of boys and girls (50% each) was within 1% of the national distribution in the United States, the proportion of African Americans (9.4%) was within 3%, and the proportion of Hispanics (6.2%) within 2% (*Statistical Abstract of the United States*, 1990). In addition, a wide geographical diversity was sought, and the sample included students from 229 schools in 95 districts located in 38 states. Demographic characteristics of the sample are presented in Table 1. (Students for whom one or more demographic data points are missing account for a total in Table 1 that is less than the actual sample size.)

The participating school districts were distributed by community size as follows. Thirty-three districts were located in communities of fewer than 25,000 residents: 23 in those with populations between 25,000 and 49,999; 15 in those between 50,000 and 99,999; 10 in those between 100,000 and 249,999; and 10 in those with populations greater than 250,000. Four districts were located

Figure 3 Geographic distribution of schools contributing to the sample

in isolated rural settings serving several distant communities so that categorization by community size was problematic. One limitation of the sampling procedure was the difficulty experienced in gaining access to children in large metropolitan districts. Although several of these districts participated (such as Baltimore, Pittsburgh, and Salt Lake City), children from the very largest cities in the U.S. (New York, Chicago, and Los Angeles) were not included.

An effort was also made to ensure that the sample was distributed according to population patterns among states and regions. Figure 3 shows the number of participating schools in various states. By region studied in the National Assessment of Educational Progress, there were 62 schools in the west, 59 in the central region, 53 in the southeast, and 55 in the northeast.

Instruments

Attitude. Attitude was measured by means of the Elementary Reading Attitude Survey, or ERAS (McKenna & Kear, 1990). This 20-item, 4-node, pictorial rating scale is based on the cartoon character Garfield and comprises two 10-item subscales for recreational and academic (school-related) reading attitude. All 20 items are represented in the Appendix. Responses are quantified by assigning from 1 to 4 points to each item, from most negative to most positive, respectively. Thus, scores on each of the two subscales can range from 10 to 40 total points.

Use of Likert-type summated rating scales to measure attitude involves certain limitations. These include the need for relatively subjective judgments by respondents; the unpredictable effects of mood, attentiveness, cooperativeness, and other circumstances at the time of

assessment; and the decontextualization of the assessment process. It is our hope that careful development of the instrument and the use of a particularly large sample have alleviated the first two of these limitations, which are largely psychometric in nature. With respect to the third limitation, an assumption that global attitudes exist and can be measured independently of contextual considerations is central to the method of the present study. To be sure, alternative paradigms hold the potential to examine in more detail important questions related to attitude development, and these will be discussed toward the conclusion of this report.

The ERAS was developed according to methods typical of attitude-scale construction (such as Anastasi, 1988; Rajecki, 1990). The decision to use a pictorial format was made because of the likelihood that young children would easily comprehend the significance of the options. The Garfield character was selected after a survey of elementary-age students indicated his virtually complete recognizability. The decision to use an even number of scale nodes, thus avoiding a neutral middle choice, was based on research suggesting that subjects often use a middle option to avoid committing themselves, even when clear opinions exist (see Nunnally, 1967). The decision to include four nodes and no more was based on findings that short-term memory development often prevents young school-age children from considering more than five discrete options (Case & Khanna, 1981; Chi, 1978; Chi & Klahr, 1975).

Some 39 items were selected from earlier published surveys (such as Estes, 1971; Heathington, 1979; Right to Read Office, 1976; Robinson & Good, 1987) and were revised to begin uniformly with the words, "How do you feel." Items were selected to reflect either attitude toward recreational reading or attitude toward academic reading. Wordings were composed with the aim of ensuring equal relevance for children across the elementary grades. These two draft subscales were administered to 499 students in Grades 1–6 in a middle-sized midwestern school district. Interitem correlation coefficients were then computed to select the final 10 items for each subscale.

Reliability estimates for the two subscales and for their composite score are based on Cronbach's alpha (Cronbach, 1951). The coefficients range from .74 to .89, and of 18 coefficients computed (for the two subscales and the full scale at each of six grade levels), 16 were at least .80. Evidence of construct validity was gathered by means of a series of tests in which subjects were grouped according to various criterial variables. In all tests, attitude scores differed significantly in the predicted direction. The recreational subscale was tested by grouping children into (a) those with and without library cards (provided a library was available to them) and (b)

those with and without a book currently checked out from the school library (provided there was no requirement for them to check one out). The academic subscale was tested by grouping children on the basis of reading ability.

Two factor analyses provided additional evidence of validity. Both used the unweighted least squares method of extraction and a varimax rotation. The first allowed factors to be identified liberally (using a limit equal to the smallest eigenvalue greater than 1). As a result, three factors were identified. Of the 10 items in the academic subscale, 9 loaded primarily on a single factor while the 10th (item 13) loaded nearly equally on all three factors. A second factor was associated with seven items of the recreational subscale, although three recreational items (6, 9, and 10) loaded principally on a third factor. These three items did, however, load more heavily on the second (recreational) factor than on the first (academic). The second factor analysis limited the number of factors identified to two. In this case, 19 of the 20 items loaded cleanly on the subscale to which they belonged. The exception (item 13) loaded nearly equally on both factors. This item, which asks students how they feel about "reading in school," may have been interpreted from a recreational perspective and thus involved some ambiguity.

Reading ability. Because of the wide diversity in schools and policies, no uniform measure of reading ability was available. Rather, each teacher was asked to categorize students as above average, average, or below average, on the basis of all evidence accumulated over the 5 months of his or her daily interaction with the students (that is, from the start of school to the attitude assessment near midyear). Specific guidelines for categorization were deliberately not given. Teachers were simply encouraged to use their knowledge of daily performance in the classroom context. It was believed that reliance on professional judgment based on situated behavior over an extended period was preferable to the use of standardized measures. On the other hand, it must be acknowledged that variance in teacher judgments of global ability undoubtedly introduced a source of error whose magnitude is difficult to estimate.

Procedure

Multiple copies of the survey were sent to all participating teachers, together with detailed instructions about how to administer it. The instruments were given in group settings during late January 1989. Teachers began by describing the survey and its purposes and by making clear that there were no "correct" answers. Discussion focused on the pictures of Garfield, and class consensus was achieved as to the predominant mood

characterized by each illustration. To minimize the possible effects of decoding difficulties, teachers then read each item aloud twice as students followed along and marked their responses. Before returning the completed protocols (unscored) to the investigators, teachers classified each student by gender and ethnicity, and they indicated the degree to which their instruction relied on basal readers.

Analysis and results

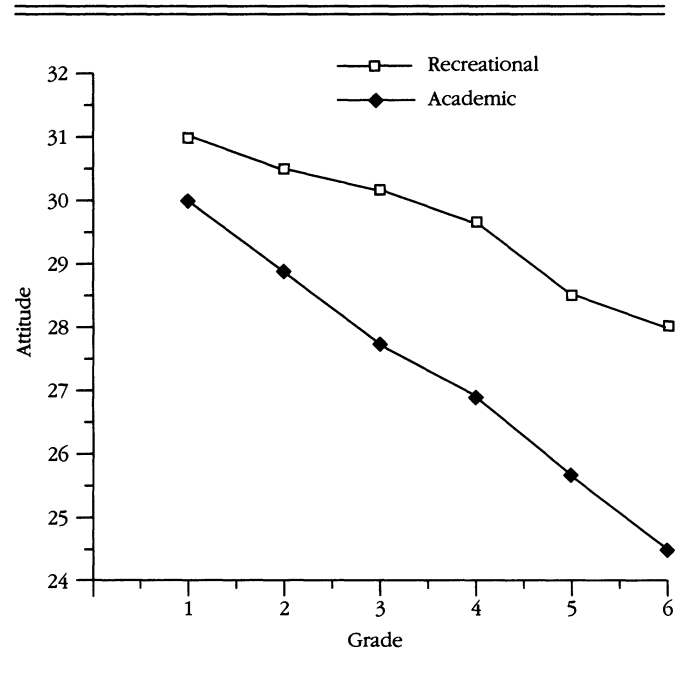
Overall developmental trends

The question of overall developmental trends in attitude was addressed by means of two separate one-way designs for recreational and for academic reading attitude by grade. These relationships are depicted in Figure 4, and these and other means appear in Tables 2 and 3.

The F -test for recreational attitude was significant, $F_{(5,18153)} = 104.1, p < .001$. A similar relationship was observed for academic reading attitude, $F_{(5,18149)} = 266.0, p < .001$. Post-hoc Scheffe tests were then computed to determine whether mean drops between successive grade levels were significant. In the case of recreational reading, all drops were significant ($p < .05$) except between second and third grades. For academic reading, all five declines between successive grade levels were significant ($p < .05$).

Thus, in general, attitude toward reading both as a pastime and as a school-related undertaking was observed to grow increasingly negative as students passed from first to sixth grade. In a critical sense, first-grade means for both recreational attitude (31.0) and academic attitude (30.1) were very near the slightly smiling Garfield. By sixth grade, the two means (27.9 and 24.6, respectively) had fallen to points near the middle of the scale, between the slightly smiling and slightly frowning Garfields (suggesting virtual indifference). Although the decrements between successive grade levels do not appear to be alarmingly large, the long-term negative trends in recreational and academic reading attitude from Grade 1 to Grade 6 represent effect sizes of .54 and .80, respectively, based on the delta statistic. Effects of this magnitude are considered educationally significant. Computation of the f statistic, based on η^2 (see Cohen, 1977), yielded effect sizes of .20 for recreational attitude and .27 for academic attitude. These values are interpreted according to criteria different from those relevant to delta values. Cohen suggested that f values near .10 were small effects, near .25 were moderate effects, and near .40 were large effects.

Figure 4 Overall attitude trends



Attitude and ability

The four components of the second research question were approached by similar factorial designs. The relationship of attitude to reading ability and to ethnicity were addressed by 3×6 designs, and its relationship to gender by means of a 2×6 design. Recreational and academic attitude were analyzed separately.

Recreational reading attitude. Significant main effects of both ability, $F_{(2,17093)} = 317.7, p < .001$, and grade level, $F_{(5,17093)} = 108.9, p < .001$, were observed for recreational scores. The two-way interaction was also significant, $F_{(10,17093)} = 9.2, p < .001$. These results were predictable on the basis of the McKenna model, which suggests that a reader's history of success or frustration plays a central role in shaping attitude. The diverging interaction depicted in Figure 5 indicates a widening attitudinal gap among the ability groups.

Trend analysis revealed significant linear components for high-ability readers, $F_{(1,5711)} = 47.6, p < .001$, for middle-ability readers, $F_{(1,7330)} = 250.3, p < .001$, and for low-level readers, $F_{(1,4052)} = 282.5, p < .001$. The quadratic component was significant only for above average readers, whose recreational attitude scores appeared to decline slightly only when they reached the upper elementary grades, $F_{(1,5711)} = 12.0, p < .001$. In this respect, post-hoc Scheffe tests confirmed that high-ability means for fifth and sixth graders differed from each of Grades 1–4, while no differences among the lower grades were

Table 2 Means (and standard deviations) of attitude toward recreational reading

Grade/gender	Reading ability												All ability levels and ethnic groups
	High				Average				Low				
	African American	White	Hispanic	Other	African American	White	Hispanic	Other	African American	White	Hispanic	Other	
1/Boys	32.7 (4.9)	30.3 (5.7)	31.8 (7.0)	30.5 (5.7)	29.8 (5.2)	29.8 (6.0)	33.6 (5.2)	30.1 (5.9)	31.1 (5.4)	29.3 (6.3)	29.6 (8.4)	29.6 (6.3)	30.0 (6.0)
Girls	34.9 (4.4)	32.1 (4.7)	34.7 (3.2)	32.4 (4.7)	31.2 (6.2)	31.6 (5.4)	28.9 (4.8)	31.5 (5.5)	30.9 (5.4)	32.0 (4.9)	31.2 (4.2)	31.9 (5.0)	31.9 (5.2)
Total	33.9 (4.7)	31.3 (5.3)	33.5 (5.1)	31.5 (5.3)	30.6 (5.8)	30.7 (5.8)	31.3 (5.5)	30.8 (5.8)	31.0 (5.4)	30.5 (5.9)	30.5 (6.3)	30.6 (5.9)	31.0 (5.7)
2/Boys	29.9 (5.9)	30.0 (5.7)	30.6 (6.7)	30.0 (5.7)	28.5 (5.4)	28.7 (5.5)	29.6 (6.8)	28.7 (5.6)	28.5 (6.1)	28.4 (5.8)	29.8 (6.6)	28.4 (5.9)	29.0 (5.7)
Girls	30.8 (5.3)	32.4 (5.1)	35.0 (3.9)	32.4 (5.1)	30.4 (5.5)	31.0 (5.3)	33.0 (6.3)	31.1 (5.4)	32.1 (4.7)	31.4 (5.3)	31.7 (5.5)	31.5 (5.1)	31.7 (5.3)
Total	30.4 (5.5)	31.3 (5.5)	32.8 (5.8)	31.3 (5.5)	29.4 (5.5)	29.8 (5.6)	31.2 (6.7)	29.9 (5.6)	30.3 (5.7)	29.7 (5.8)	30.7 (6.1)	29.8 (5.7)	30.3 (5.7)
3/Boys	29.2 (5.4)	29.8 (5.4)	28.8 (5.3)	29.7 (5.4)	27.5 (5.7)	28.6 (5.6)	28.1 (5.6)	28.5 (5.6)	27.8 (4.9)	27.2 (5.8)	29.4 (4.9)	27.5 (5.6)	28.5 (5.6)
Girls	31.1 (4.8)	33.3 (4.7)	31.4 (3.8)	33.1 (4.6)	30.1 (6.0)	31.4 (4.8)	31.2 (5.2)	31.3 (5.0)	29.0 (4.6)	30.1 (5.8)	29.6 (5.1)	30.1 (5.5)	31.6 (5.2)
Total	30.2 (5.2)	31.8 (5.3)	30.2 (4.7)	31.7 (5.3)	29.1 (6.0)	30.0 (5.4)	29.4 (5.6)	29.9 (5.5)	28.3 (4.8)	28.4 (6.0)	29.5 (4.9)	28.6 (5.7)	30.1 (5.6)
4/Boys	28.4 (5.6)	29.6 (5.7)	27.0 (6.3)	29.4 (5.7)	28.0 (4.5)	26.9 (5.9)	26.6 (7.3)	27.1 (5.9)	25.6 (4.6)	26.6 (5.8)	26.3 (5.8)	26.5 (5.6)	27.6 (5.9)
Girls	31.4 (5.2)	32.8 (4.9)	31.0 (5.6)	32.6 (5.0)	31.5 (4.1)	30.7 (5.1)	30.9 (4.4)	30.8 (4.9)	28.6 (5.8)	30.3 (5.0)	30.3 (5.5)	30.0 (5.2)	31.3 (5.1)
Total	30.5 (5.4)	31.4 (5.5)	29.4 (6.2)	31.2 (5.5)	29.9 (4.6)	28.8 (5.8)	28.7 (6.4)	28.9 (5.7)	26.9 (5.4)	28.2 (5.8)	28.2 (6.0)	28.0 (5.7)	29.5 (5.8)
5/Boys	27.0 (4.9)	28.3 (5.8)	26.8 (6.6)	28.2 (5.8)	27.3 (5.2)	26.1 (5.7)	27.9 (6.8)	26.3 (5.8)	23.9 (4.1)	25.0 (6.1)	24.0 (5.9)	24.8 (5.9)	26.5 (5.9)
Girls	30.4 (6.2)	32.6 (5.0)	30.2 (5.3)	32.3 (5.1)	27.9 (5.7)	30.1 (5.3)	30.6 (5.4)	30.0 (5.4)	28.6 (4.6)	29.4 (5.3)	28.2 (6.7)	29.2 (5.4)	30.7 (5.5)
Total	29.0 (5.9)	30.5 (5.8)	28.5 (6.1)	30.4 (5.8)	27.6 (5.4)	28.0 (5.9)	29.2 (6.3)	28.1 (5.9)	26.2 (5.0)	26.8 (6.2)	25.9 (6.6)	26.6 (6.0)	28.5 (6.1)
6/Boys	28.2 (6.6)	27.9 (6.1)	25.8 (7.2)	27.8 (6.1)	25.0 (5.7)	25.8 (5.8)	22.3 (6.4)	25.6 (5.9)	28.0 (5.2)	23.9 (5.9)	25.0 (7.2)	24.6 (6.1)	26.0 (6.1)
Girls	29.2 (6.1)	31.9 (5.3)	30.8 (5.6)	31.6 (5.4)	28.8 (5.1)	29.3 (5.3)	27.8 (6.1)	29.2 (5.3)	27.6 (4.9)	26.9 (6.3)	27.8 (5.2)	27.2 (6.0)	29.7 (5.7)
Total	28.7 (6.3)	30.1 (6.0)	29.3 (6.5)	29.9 (6.0)	27.1 (5.7)	27.6 (5.8)	25.2 (6.8)	27.3 (5.9)	27.8 (5.0)	25.2 (6.2)	26.3 (6.5)	25.8 (6.2)	27.9 (6.2)
All grades and genders	30.2 (5.7)	31.1 (5.6)	30.2 (6.1)	31.0 (5.6)	28.9 (5.6)	29.1 (5.8)	28.9 (6.5)	29.1 (5.8)	28.2 (5.4)	28.3 (6.2)	28.1 (6.3)	28.3 (6.1)	29.5 (5.9)

Note: Missing data points resulted in a total less than the sample size of 18,185.

Table 3 Means (and standard deviations) of attitude toward academic reading

Grade/gender	Reading ability												All ability levels and ethnic groups
	High				Average				Low				
	African American	White	Hispanic	Other	African American	White	Hispanic	Other	African American	White	Hispanic	Other	
1/Boys	33.9 (4.5)	29.4 (7.0)	31.9 (7.9)	29.7 (7.0)	29.5 (6.2)	28.6 (7.4)	34.7 (5.8)	28.9 (7.3)	30.9 (7.3)	28.7 (7.5)	30.0 (9.1)	29.1 (7.6)	29.2 (7.3)
Girls	34.5 (4.9)	31.0 (6.2)	33.9 (6.6)	31.4 (6.2)	31.4 (6.8)	30.8 (6.4)	31.0 (4.5)	31.0 (6.4)	30.9 (5.7)	30.4 (6.3)	29.4 (4.9)	30.5 (6.1)	30.9 (6.3)
Total	34.2 (4.7)	30.3 (6.6)	33.1 (7.1)	30.6 (6.6)	30.6 (6.6)	29.7 (7.0)	32.9 (5.4)	30.0 (6.9)	30.9 (6.5)	29.4 (7.0)	29.6 (6.9)	29.7 (7.0)	30.1 (6.8)
2/Boys	30.4 (6.7)	28.3 (6.6)	31.8 (5.9)	28.6 (6.6)	27.9 (6.3)	27.2 (6.7)	27.9 (7.5)	27.3 (6.7)	28.5 (6.1)	27.3 (7.0)	27.6 (7.8)	27.4 (7.0)	27.7 (6.8)
Girls	30.6 (6.6)	30.0 (6.0)	34.1 (4.4)	30.3 (6.1)	31.5 (6.4)	29.2 (6.6)	32.2 (6.9)	29.6 (6.7)	32.0 (5.0)	29.9 (6.4)	30.1 (6.1)	30.2 (6.2)	30.0 (6.4)
Total	30.5 (6.6)	29.2 (6.3)	32.9 (5.3)	29.5 (6.4)	29.7 (6.6)	28.2 (6.7)	30.1 (7.4)	28.4 (6.8)	30.2 (5.8)	28.4 (6.9)	28.8 (7.1)	28.7 (6.8)	28.9 (6.7)
3/Boys	29.7 (6.1)	27.6 (6.1)	26.5 (7.4)	27.6 (6.2)	27.6 (6.8)	26.4 (6.4)	25.7 (6.2)	26.5 (6.4)	27.0 (6.9)	26.1 (6.2)	28.1 (5.9)	26.4 (6.2)	26.8 (6.4)
Girls	30.5 (5.0)	29.3 (6.3)	28.4 (5.1)	29.4 (6.2)	29.3 (6.6)	28.5 (6.0)	30.2 (7.0)	28.8 (6.1)	28.6 (6.3)	27.7 (7.1)	27.8 (5.3)	28.0 (6.8)	28.9 (6.3)
Total	30.1 (5.5)	28.6 (6.3)	27.5 (6.3)	28.6 (6.2)	28.6 (6.7)	27.5 (6.3)	27.7 (6.9)	27.6 (6.3)	27.7 (6.7)	26.8 (6.6)	28.0 (5.6)	27.1 (6.5)	27.8 (6.4)
4/Boys	27.1 (7.8)	26.4 (6.4)	25.3 (7.0)	26.4 (6.4)	27.4 (5.5)	25.0 (6.4)	26.9 (5.7)	25.4 (6.3)	26.2 (6.2)	25.2 (6.2)	25.8 (6.7)	25.5 (6.3)	25.8 (6.3)
Girls	30.9 (5.9)	28.1 (5.9)	27.1 (6.9)	28.2 (6.0)	29.5 (5.6)	27.6 (6.0)	28.5 (5.5)	27.8 (6.0)	28.7 (6.6)	28.2 (6.1)	28.7 (6.0)	28.3 (6.1)	28.0 (6.0)
Total	29.6 (6.7)	27.3 (6.2)	26.4 (6.9)	27.4 (6.2)	28.5 (5.6)	26.3 (6.3)	27.7 (5.6)	26.6 (6.3)	27.3 (6.5)	26.5 (6.4)	27.2 (6.5)	26.7 (6.4)	26.9 (6.3)
5/Boys	27.1 (4.8)	24.8 (5.9)	26.4 (5.7)	24.9 (5.9)	27.4 (6.1)	24.1 (5.8)	26.7 (7.3)	24.7 (6.0)	24.3 (6.2)	24.3 (6.0)	23.4 (6.6)	24.2 (6.1)	24.6 (6.0)
Girls	28.7 (5.9)	27.0 (5.7)	27.1 (3.3)	27.2 (5.7)	27.0 (5.7)	26.1 (5.8)	28.5 (7.2)	26.4 (5.9)	27.2 (6.2)	26.7 (6.1)	26.3 (6.8)	26.8 (6.2)	26.7 (5.9)
Total	28.1 (5.5)	25.9 (5.9)	26.7 (4.6)	26.1 (5.9)	27.2 (5.9)	25.1 (5.9)	27.6 (7.2)	25.5 (6.0)	25.8 (6.4)	25.3 (6.1)	24.7 (6.8)	25.3 (6.2)	25.6 (6.0)
6/Boys	25.3 (6.3)	23.6 (5.4)	22.7 (6.2)	23.7 (5.5)	26.6 (4.9)	24.0 (5.8)	22.3 (6.9)	24.2 (5.8)	27.7 (5.5)	22.9 (5.6)	23.5 (7.1)	23.7 (6.1)	23.9 (5.8)
Girls	26.6 (6.2)	25.4 (5.3)	25.9 (6.2)	25.6 (5.4)	27.0 (5.4)	25.0 (5.8)	23.3 (6.4)	25.1 (5.6)	27.9 (4.5)	24.3 (5.6)	26.3 (6.3)	25.3 (5.7)	25.3 (5.7)
Total	26.0 (6.2)	24.6 (5.4)	24.9 (6.3)	24.7 (5.5)	26.8 (5.2)	24.5 (5.8)	22.8 (6.6)	24.6 (5.8)	27.8 (5.0)	23.6 (5.6)	24.8 (6.8)	24.4 (5.9)	24.6 (5.8)
All grades and genders	29.5 (6.3)	27.6 (6.4)	27.8 (6.8)	27.8 (6.4)	28.5 (6.2)	26.8 (6.5)	27.5 (7.1)	27.0 (6.6)	28.1 (6.4)	26.8 (6.7)	26.9 (6.8)	27.0 (6.7)	27.3 (6.6)

Note: Missing data points resulted in a total less than the sample size of 18,185.

Figure 5 Attitude toward recreational reading for students with high, average, and low ability across grades

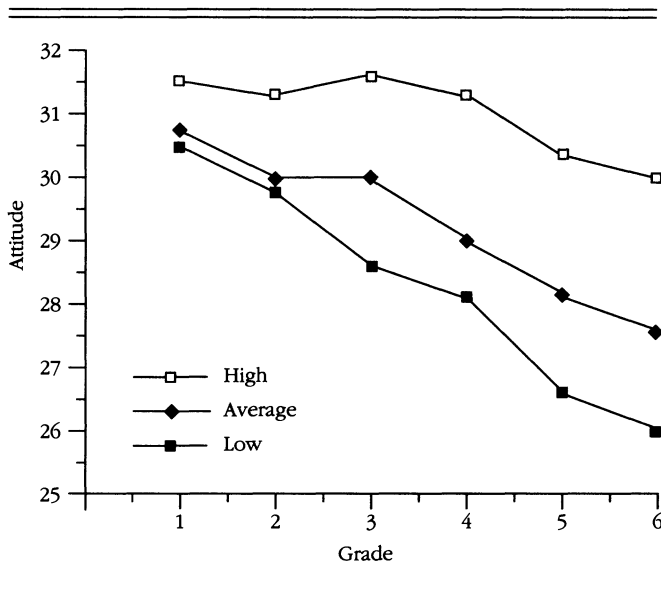
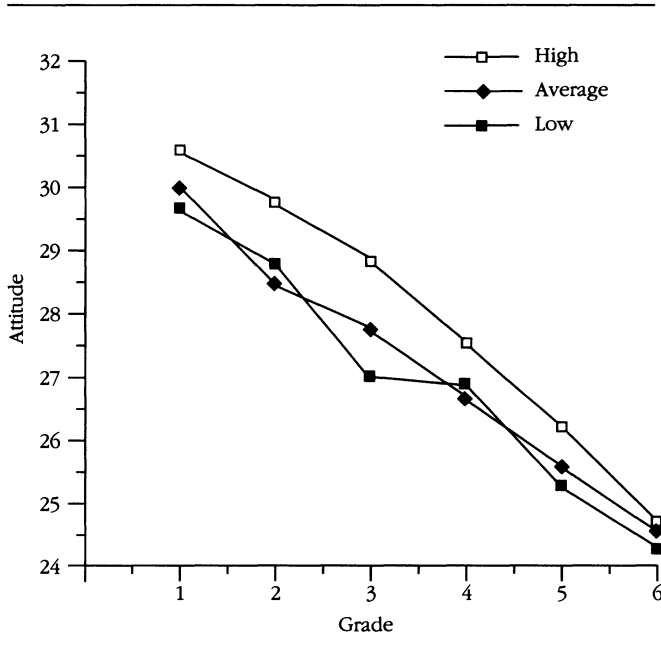


Figure 6 Attitude toward academic reading for students with high, average, and low ability across grades



observed. For middle-ability students, a significant decline in means was observed with each successive grade level except from second to third. For less able readers, significant mean declines were observed only between second and third grades and between fourth and fifth grades. These declines were more precipitous, however, as noted earlier with respect to the significant interaction between grade level and reading ability.

Academic reading attitude. A different pattern emerged for academic attitude. Significant main effects of grade level, $F_{(5,17091)} = 257.7, p < .001$, and of ability, $F_{(2,17091)} = 29.8, p < .001$, were observed. However, the two-way interaction was not significant, $F_{(10,17091)} = 1.3, p > .05$. Attitude means for all three ability groups declined at approximately the same rate. Trend analysis revealed significant linear components for high-ability readers, $F_{(1,5714)} = 518.5, p < .001$, for middle-ability readers, $F_{(1,7329)} = 491.5, p < .001$, and for low-level readers, $F_{(1,4048)} = 269.7, p < .001$. Post-hoc Scheffe tests did reveal some differences among the ability groups at certain grade levels. However, although these tests indicated that the high-ability students occasionally had more positive attitudes toward reading instruction than did less able students, the differences were slight (see Figure 6).

Post-hoc Scheffe tests also revealed relatively steady declines in academic reading attitude scores as grade level rose. For high-ability readers, these declines occurred between all successive grade levels except from second to third. An identical pattern was observed for average readers. For less able readers, declines in means between successive grade levels were statistically significant at all points except from fifth grade to sixth and from third grade to fourth.

Attitude and gender

Recreational reading attitude. The main effect of gender was statistically significant, $F_{(1,17718)} = 1497.0, p < .001$, as was the interaction between grade level and gender, $F_{(5,17718)} = 15.3, p < .001$. Girls possessed statistically significantly more positive attitudes toward recreational reading at all grade levels than did boys, a gap that widened with age. (See Figure 7.)

For boys, the decline in means was linear only, $F_{(1,8853)} = 429.2, p < .001$. For girls, the linear component was likewise statistically significant, $F_{(1,8865)} = 130.7, p < .001$, but so was the quadratic component, $F_{(1,8865)} = 21.9, p < .001$. The quadratic component is reflected in the fact that post-hoc Scheffe tests revealed no statistically significant differences between successive grade levels for girls until they passed from fourth grade to fifth and from fifth to sixth. For boys, the drops in recreational attitude scores between successive grades were statistically sig-

nificant at all points except from second to third grade and from fifth to sixth.

Because a relationship between gender and reading ability, favoring girls, had been reported in many previous studies, the present gender effect on recreational reading attitude was further investigated by computing the interaction between gender and ability. This interaction was not statistically significant, $F_{(2,17089)} = 0.4, p = .65$. This finding suggests that the more positive recreational reading attitudes of girls in this sample cannot be explained on the basis of reading ability.

Academic reading attitude. The main effect of gender was again statistically significant for academic attitude, $F_{(1,17715)} = 478.5, p < .001$, but the interaction between grade level and gender was not, $F_{(5,17715)} = 2.0, p > .05$. Although girls' attitudes toward academic reading were more positive than those of boys at every grade level, the two sets of means declined at approximately the same rate. (See Figure 8.)

For boys, the linear decline in means was statistically significant, $F_{(1,8850)} = 596.4, p < .001$, but not the quadratic, $F_{(1,8850)} = 3.3, p > .05$. Post-hoc Scheffe tests revealed statistically significant declines in means between all successive grades except from fifth to sixth. For girls, trend analysis revealed both a statistically significant linear component, $F_{(1,8865)} = 745.8, p < .001$, and a statistically significant quadratic component, $F_{(1,8865)} = 4.4, p < .05$. Post-hoc Scheffe tests revealed statistically significant declines in means between all successive grade levels. The size of these declines tended to increase slightly in the upper grades, thus accounting for a curvilinear trend.

Again, the possibility that the more positive attitudes of girls were attributable to superior ability was examined by computing the gender-by-ability interaction. As in the case of recreational attitude, this interaction was not statistically significant, $F_{(2,17087)} = 0.6, p = .55$. The gender effect apparently cannot be accounted for by ability.

Attitude and ethnicity

Recreational reading attitude. The main effect of ethnic group membership was statistically significant, $F_{(2,16690)} = 11.6, p < .001$, as was the interaction between ethnicity and grade level, $F_{(10,16690)} = 2.6, p < .01$. In all, however, interethnic differences were slight, and at no point did mean differences exceed 1.25 scale points. (See Figure 9.)

For Whites, the linear component of the downward trend was statistically significant, $F_{(1,13979)} = 324.7, p < .001$, but a quadratic component was also statistically significant, $F_{(1,13979)} = 11.5, p < .001$. Post-hoc Scheffe tests revealed more rapid declines in means in the upper

Figure 7 Attitude toward recreational reading for girls and boys across grades

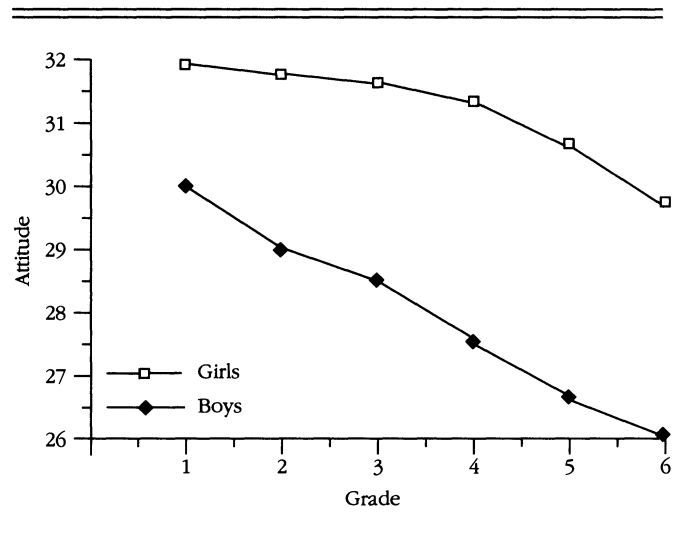


Figure 8 Attitude toward academic reading for girls and boys across grades

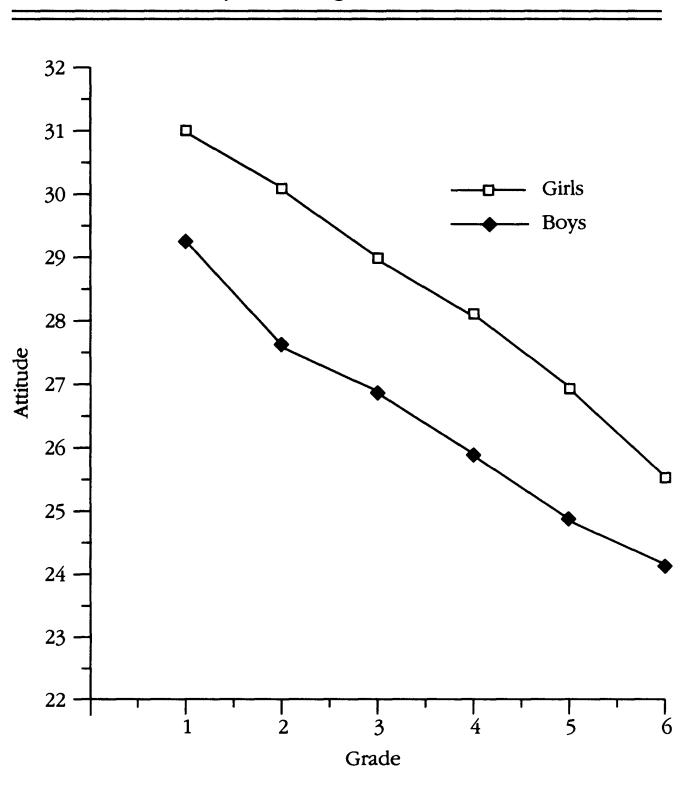


Figure 9 Attitude toward recreational reading for three ethnic groups across grades

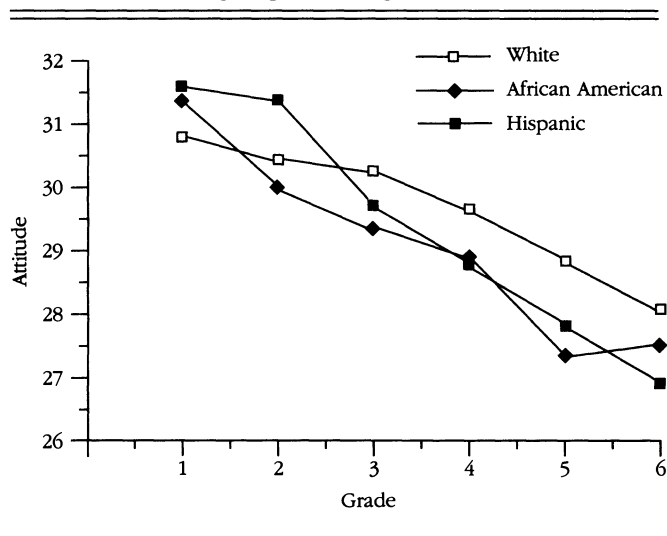
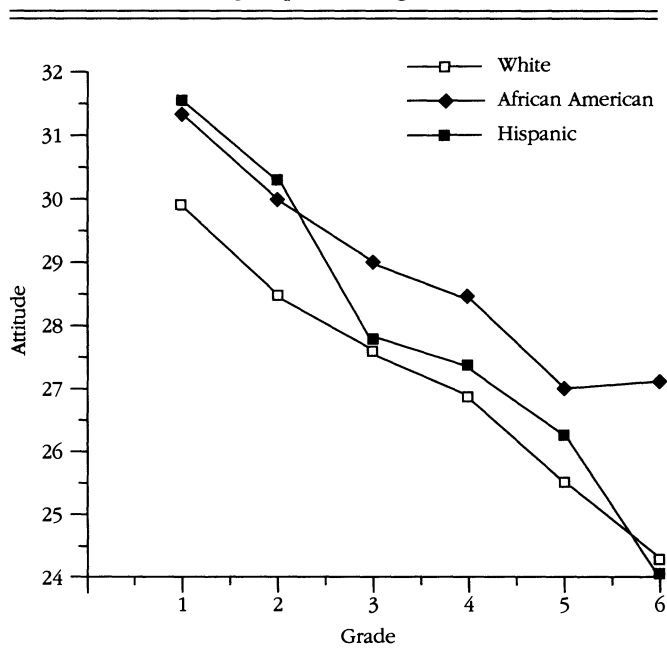


Figure 10 Attitude toward academic reading for three ethnic groups across grades



grades, with no statistically significant decline until fourth grade.

For African Americans, the linear trend component was statistically significant, $F_{(1,1642)} = 78.5, p < .001$, but the quadratic component was not, $F_{(1,1642)} = 2.6, p > .05$. Declines did, however, appear to level off in the upper elementary grades, but post-hoc Scheffe tests indicated no statistically significant drop in means between any two successive grade levels.

For Hispanic children, the linear component was statistically significant, $F_{(1,1069)} = 60.0, p < .001$, but the quadratic was not, $F_{(1,1069)} = 0.1, p > .05$. As for African Americans, the differences between successive grade levels were not statistically significant, as revealed by post-hoc Scheffe tests.

Academic reading attitude. As for recreational attitude, a statistically significant main effect of ethnic group membership was observed, $F_{(2,16686)} = 48.5, p < .001$, for academic reading. The interaction between grade level and ethnicity was also statistically significant, $F_{(10,16686)} = 2.0, p < .05$. An especially interesting finding was that attitude means of African American children were higher than those of White children. These differences were statistically significant at every grade level (see Figure 10). Hispanic children, on the other hand, started with higher attitude scores than Whites in Grade 1, but scores of these two groups had virtually converged by Grade 6.

For White children, trend analysis revealed a statistically significant linear trend, $F_{(1,13975)} = 1043.8, p < .001$, while the quadratic trend was not statistically significant, $F_{(1,13975)} = 0.2, p > .05$. Post-hoc Scheffe tests revealed statistically significant declines in means between all successive grade levels ($p < .05$).

For African American children, both the linear component, $F_{(1,1643)} = 90.4, p < .001$, and the quadratic, $F_{(1,1643)} = 3.9, p < .05$, were statistically significant. The curvilinear nature of the relationship is reflected in the fact that attitudinal score declines leveled off between grades 5 and 6. For Hispanic children, the linear trend component was statistically significant, $F_{(1,1068)} = 108.6, p < .001$, while the quadratic component was not, $F_{(1,1068)} = 0.0, p > .05$. High variance within the second-grade Hispanic group may have prevented the observation of a statistically significant stepwise decline in means in the early grades. Nevertheless, the overall decline in academic reading attitude scores for Hispanic children from first to sixth grade is striking (7.4 points of a 30-point scale).

Attitude and basals

Teachers were asked whether they used a basal reader series and, if so, whether the basal was the main instructional tool or heavily supplemented. Teachers of

14,831 children (81.6%) reported that the basal was their chief tool; teachers of 2,168 children (11.9%) reported supplemented forms of basal use; teachers of only 662 children (3.6%) stated that they taught in a basal-free environment. Teachers of 2.9% of the sample did not respond.

Recreational reading attitude. A statistically significant main effect of basal reliance among the three groups (full, partial, and none) was observed, $F_{(2,17643)} = 3.1, p < .05$, as was a statistically significant interaction between basal reliance and grade level, $F_{(10,17643)} = 1.9, p < .05$. Figure 11 illustrates the relationship. As the graph suggests, the main effect of basal reliance is difficult to interpret. At no grade level do the three group means differ by more than 1.2 scale points. By sixth grade, the groups are virtually indistinguishable. The statistically significant interaction may best be explained by this slight convergence, but such a conclusion must be tentative and cautious.

The long-term effects of basal use could not be assessed by this study because teachers answered only for themselves. The past instructional history of each teacher's students was not known. For this reason, trend analyses were not conducted. This investigation, however, offers no evidence that the presence of a basal series dampens attitudes toward recreational reading in any meaningful way.

Academic reading attitude. A statistically significant main effect of basal reliance on children's attitudes toward school-related reading (including reading instruction) was observed, $F_{(2,17640)} = 4.1, p < .05$. The interaction between grade level and basal reliance was not statistically significant, $F_{(10,17640)} = 0.9, p > .05$. As was true for recreational attitude, the main effect is hard to interpret meaningfully. (See Figure 12.) At first grade, the full-reliance group exhibited more positive attitudes toward academic reading than the nonbasal group. At sixth grade, the three group means differed by less than half a point. For the reasons outlined above, trend analyses were not conducted. Unknown student histories prevent confident statements about the long-term effects of basal use. This investigation, however, produced no evidence that such use is damaging.

Summary of findings

The use of a stratified national sample warrants several generalizations about children's reading attitudes in the United States as a whole. (These findings may not, of course, generalize to a particular group or setting, or to an individual child.) Principal findings include the following:

1. Recreational and academic reading attitudes, on

Figure 11 Attitude toward recreational reading across grades related to extent of basal reader reliance

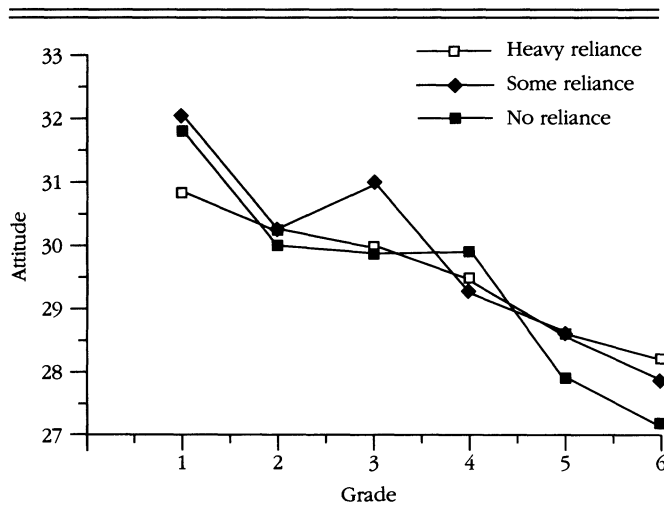
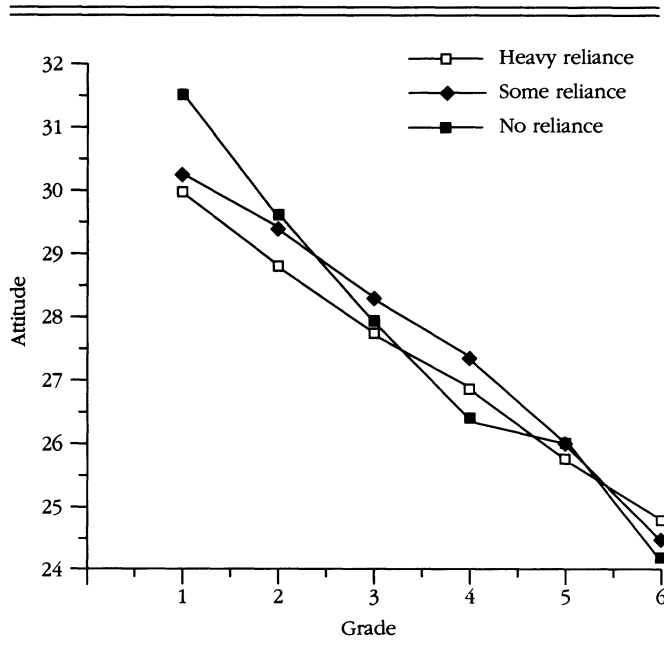


Figure 12 Attitude toward academic reading across grades related to extent of basal reader reliance



average, begin at a relatively positive point in Grade 1 and end in relative indifference by Grade 6.

2. Increasingly negative recreational attitude is clearly related to ability, and the trend is most rapid for least able readers. The attitudinal gap among ability levels widens with age. For academic reading attitude, however, the negative trend is similar regardless of ability.

3. Girls as a group possess more positive attitudes than boys at all grade levels, both toward recreational and academic reading. In the case of recreational attitude, this gap widens with age. In the case of academic attitude, it remains relatively constant. These gender differences appear to be unrelated to ability.

4. Ethnicity appears to play little role in the negative trend in either recreational or academic reading attitude.

5. The extent of a teacher's reliance on basal readers does not appear to be meaningfully related to recreational or academic reading attitude.

Discussion

These data document a negative trend in children's attitudes toward recreational reading and reading instruction as they pass through the elementary grades. The idea that attitude reaches its most positive point sometime after first grade before gradually growing more negative was not supported, nor was the hope, advanced by occasional past findings, that positive swings between certain successive grades are a normal development. Instead, the point at which attitudes appear to be most positive is at the beginning of the elementary school experience. The 5-year negative pattern in both dimensions of reading attitude assessed in this study is educationally significant and challenges reading educators to understand its etiology.

The overall negative trend in reading attitude can be explained in part by the increasing impact of poor reading ability in the upper grades. The sharply worsening attitudes of poor readers contribute substantially to the downward trend across the total population of students. (Contrasting Figures 4 and 5 makes this phenomenon graphically striking.) The increasing effect of ability also lends support to the McKenna model, which postulates a cumulative attitudinal impact of a child's reading experiences. This finding notably amplifies past studies in which a relationship between attitude and ability has been reported, for the strengthening nature of that relationship over time has now been established. Implications for educators seem clear. Early intervention in an effort to preempt reading difficulties may curb the attitudinal decline.

The prediction of the McKenna model that beliefs about subjective norms directly influence attitude was

supported in the gender differences observed from first grade on, differences that for recreational reading attitude appear to increase with age. The fact that differences in ability cannot explain this gap suggests that cultural expectations may cause many girls to harbor more positive attitudes toward reading than boys. Precisely how these expectations function is unclear. Gender comparisons in other English-speaking countries might illuminate the question further. For example, Johnson's (1973) finding that boys in England and Nigeria are better prepared for beginning reading instruction than girls is contrary to findings for children in the United States and suggests that gender norms may not be universal across cultures. Encouraging a positive image of reading in the minds of boys may tend to offset the gender effect.

The lack of any meaningful effects of ethnic group membership may indicate that cultural norms regarding reading are similar across the three cultures studied. It may also mean that mere membership in an ethnic group may involve too broad a categorization for meaningful social norms to affect beliefs. Membership in smaller social units, such as families, gangs, cliques, and friendships, may well exert stronger normative influences. It may also be that the sample did not include enough of those minority children presumably most affected by negative norms, due to the underrepresentation of inner-city schools located in large metropolitan areas. In any case, these results appear to reflect Heath's (1994) contention that there is "no single black experience" (p. 209). They also call for further study of the ways in which group pressures affect attitudes in natural social contexts, an avenue of inquiry that has, unfortunately, been largely neglected by psychologists interested in attitude formation (Eagly & Chaiken, 1993).

Finally, the fact that both recreational and academic reading attitude become steadily more negative whether or not basals are in use suggests that these trends are not easily curbed. Use or nonuse of basals is clearly a gross categorization that allows many methodologies on either side. The fact that numerous techniques (enumerated earlier) have been shown to cause improved attitudes gives reason for hope and suggests that how materials are used is a crucial variable under the control of teachers.

Implications for theory and research

A large-scale survey of this nature, in addition to providing a broad national portrait of attitudinal trends, can serve to answer preliminary questions about the theoretical basis of reading attitude development. Although the paradigm employed here might have invalidated a candidate theory of such development, that did not occur. On the other hand, the best that can be said of

these results is that they are generally supportive of the McKenna model of reading attitude acquisition. Much more remains to be done in the course of validating and refining such a model, and alternative paradigms are called for in particular. For example, methodologies that rely on situated observations of how children spend free time, deal with distractions, and so forth have been used successfully by Turner (1991, 1992) as a different indicator of attitude, one that does not rely on self-reports by young students. If trends similar to those of the present study could be documented through alternative approaches such as Turner's, these findings would gain considerable strength. A further key to informing the theoretical basis of reading attitude development is the examination of sharpened hypotheses that test highly specific predictions of the model. Reexamining the central findings of this study from such a perspective suggests a blueprint for further investigation.

Perhaps the strongest evidence from this study in support of the McKenna model is the finding that the relationship between ability and attitude grows stronger over time. This finding implies a cumulative impact of undesirable experiences on the attitudes of poor readers, just as the model predicts. However, this is only a first step. For example, the model postulates that reading experiences also affect one's beliefs about reading and about its outcomes and that these altered beliefs have their own effect on attitude. In what ways do frustrating experiences affect attitude directly, and how do they affect belief structures? Further, how and when do the negative influences of significant others begin to exert an influence on attitude development through the acquisition of normative beliefs? The answers to such questions must come from case studies and from longitudinal investigations that track cohorts of students across years.

The support from this study of a gender effect independent of ability can also be interpreted as evidence in support of the McKenna model, but only if that effect can be traced to differential belief systems in girls and boys. Such beliefs might relate to cultural norms or to the outcomes of reading. Because these results tend to eliminate reading ability as an explanation for the gender effect, the model predicts that divergent belief systems must be the cause. The present study cannot confirm this aspect of the prediction, however, nor can it answer more pointed questions about the acquisition of such beliefs. Qualitative inquiries involving structured interviews with girls and boys, documentation of their habits, and situated observations could do much to help answer these questions.

We believe that the greatest potential for further research and for theory building lies in the matter of instructional techniques. The fact that basal use was found

here to be unrelated to reading attitudes should not be taken as evidence that methods and materials are irrelevant to attitude development. Both the NAEP results (Mullis, Campbell, & Farstrup, 1993) and two recent research syntheses (Stahl, McKenna, & Pagnucco, 1994; Stahl & Miller, 1989) suggest that basal use is largely unrelated to achievement levels in elementary students. If basals offer neither advantage nor drawback in terms of students' reading proficiency, the model predicts no cumulative attitudinal differences in children taught through basals versus those taught through less structured approaches. This is because the outcomes of reading, at least in terms of success and increasing ability, should not differ appreciably.

However, a large number of studies (cited earlier) suggest that teaching techniques can positively affect reading attitudes. The McKenna model predicts that these techniques might cause improved attitudes by virtually any of the three channels available: (a) a direct effect due to the positive nature of the experience afforded by the technique; (b) an indirect effect on the beliefs a student harbors about the outcomes of reading (for example, the technique might induce the student to believe that reading will be less frustrating); and (c) an indirect effect on a student's beliefs about how influential others view reading (a collaborative technique might afford one student the opportunity to hear another's positive comments about reading). It is clear that carefully designed investigations must be carried out to identify the cause-and-effect relationships that underlie the changes in attitude that preliminary studies may superficially substantiate for a given technique. That is, the studies cited earlier tend to show that certain teaching techniques can indeed have positive effects on attitude, but the paradigms chosen prevent us from knowing why they have those effects.

The centrality of belief systems in the McKenna model also opens another avenue of investigations into effective methodologies. To date, effects on attitude have typically been measured with respect to teaching techniques designed to improve proficiency or facilitate content reading. It may be that techniques designed to confront and alter belief systems directly hold the greatest potential for effective teacher intervention (see Pajares, 1992). There is evidence that positive new experiences in reading may have minimal effects on attitude if they are greatly at odds with established beliefs about reading. For example, when a student possessing a negative attitude reads an engaging book, there may be a small direct impact on attitude (as the model predicts), but the belief system about reading may be minimally altered. Posner, Strike, Hewson, and Gertzog (1982) identified four conditions that must be satisfied for anomalous new experiences to alter the belief system meaningfully. First,

the student must recognize the new experience as anomalous ("I dislike reading but I must admit this book is good."). Second, the student must believe there is a need to reconcile the disparate beliefs ("Perhaps I need to reevaluate how I feel about reading."). Third, the student must wish to reduce the inconsistencies among beliefs ("If I dislike reading, I need to explain to myself how certain books can be enjoyable."). Finally, the student must realize that the two beliefs cannot be assimilated ("I cannot dislike reading and at the same time like this book."). These insights from the general study of belief acquisition are important in any effort to improve reading attitudes because they suggest intervention strategies for teachers. The success of such strategies would not only offer effective new approaches, they would also serve to refine the McKenna model by elaborating the ways in which experiences differentially affect attitudes and beliefs.

In summary, this investigation (a) offers a picture of attitude development through the elementary years and (b) gives preliminary support for a model describing that development. As with each of the issues preliminarily explored in this study, however, more sensitive methodologies are needed to examine the phenomena at work in the course of attitude development and to ascertain whether the McKenna model provides an adequate basis for explaining those phenomena.

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APPENDIX**Elementary Reading Attitude Survey (ERAS) item texts**

Recreational attitude subscale

1. How do you feel when you read a book on a rainy Saturday?
2. How do you feel when you read a book in school during free time?
3. How do you feel about reading for fun at home?
4. How do you feel about getting a book for a present?
5. How do you feel about spending free time reading?
6. How do you feel about starting a new book?
7. How do you feel about reading during summer vacation?
8. How do you feel about reading instead of playing?
9. How do you feel about going to a bookstore?
10. How do you feel about reading different kinds of books?

Academic attitude subscale

11. How do you feel when the teacher asks you questions about what you read?
12. How do you feel about doing reading workbook pages and worksheets?
13. How do you feel about reading in school?
14. How do you feel about reading your school books?
15. How do you feel about learning from a book?
16. How do you feel when it's time for reading class?
17. How do you feel about the stories you read in reading class?
18. How do you feel when you read out loud in class?
19. How do you feel about using a dictionary?
20. How do you feel about taking a reading test?

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