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Boys will be “Boys”: Variability in Boys’ Experiences of Literacy

Sixty-nine grade 2 boys participated in a study of the effects of book genre and sex of reading model on boys’ (a) view of reading as feminine, (b) intrinsic motivation toward reading, (c) interest in reading, and (d) attitude to reading. Differential effects occurred in boys based on whether they liked or disliked reading and whether they viewed reading as a feminine activity. Findings are examined in the context of gender schema theory as a way of explaining why boy-friendly books are important to some boys’ reading development and not to that of others.

Soixante-neuf garçons en deuxième année ont participé à cette étude portant sur les effets que pourraient avoir la sorte de livre et le genre de la personne qui lit sur les quatre éléments suivants: (a) la perception qu’ont les garçons de la lecture comme étant une activité « féminine », (b) leur motivation intrinsèque à la lecture, (c) l’intérêt qu’ils portent à la lecture, et (d) leur attitude face à la lecture. Les effets varient selon que les garçons aiment la lecture ou pas et qu’ils l’interprètent comme une activité féminine ou pas. L’analyse des résultats se fait dans le contexte de la théorie du genre pour expliquer pourquoi il est important, pour leur développement en lecture, que certains garçons soient exposés à des livres pour « garçons », alors que pour d’autres, cela n’est pas nécessaire.

Research has shown that overall, boys spend less time reading, have lower intrinsic motivation to read, do not particularly value reading, are less confident readers, have less interest in reading, and perceive themselves as having

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lower reading skill levels than girls (Baker & Wigfield, 1999; Eccles, Wigfield, Harold, & Blumfield, 1993; Gambell & Hunter, 2000; McKenna, Ellsworth, & Kear, 1995; Millard, 1997; Solsken, 1993; Wigfield et al., 1997). Observations such as these have created the impression that boys are the “new disadvantaged” in the educational system (Foster, Kimmel, & Skelton, 2001). It is important to remember that gender is a social construct and that not all boys exhibit these characteristics. Studies that compare girls’ and boys’ literacy experiences and performance have created a false dichotomy and artificial homogeneity that is fodder for the rhetoric surrounding the “boy crisis” (Weaver-Hightower, 2003). In contrast, Martino (2000) calls for research that addresses how various masculinities affect boys’ negotiations of schooling and their achievement. The current study seeks to explore the variability in boys’ motivation toward reading and how it can be addressed at the classroom level through book genre and the sex of reading models.

Motivation to Read

Examination of reading must focus not only on the process of learning to read, but also on factors that affect motivation toward reading (Shiel & Cosgrove, 2002). Moreover, in the variable of reading motivation are subcategories that allow even greater specificity of study. Guthrie and Wigfield (1997) and others (Eccles & Wigfield, 2002) propose that children’s engagement in reading is affected by a variety of factors such as subjective task value, social motivation, cost analysis, as well as intrinsic and extrinsic motivation. *Subjective task value* refers to the readers’ perceptions of whether the task is something at which they would like to succeed. Reasons for the absence of subjective task value for reading vary and may include lack of interest in the task or perceptions that the task is unimportant or of little use (Guthrie & Wigfield).

Another component of motivation discussed by Guthrie and Wigfield (1997) is social motivation (Wentzel, 1996). According to Wigfield (2000), sharing reading with others in school and at home can “strengthen a child’s sense of reading competence and stimulate a child’s motivation to read” (p. 143). Research suggests that this interaction is especially important to girls (Gambell & Hunter, 2000). It is less clear whether social variables play the same role in boys’ motivation toward reading.

Related to the ideas of social motivation and subjective task value is Eccles’ (Eccles & Wigfield, 2002) concept of *cost analysis*. Eccles, whose Expectancy-Value model is the basis of Guthrie and Wigfield’s (1997) model, suggests that to understand students’ motivation, we must also examine the perceived cost of task engagement: the loss of opportunity to participate in another activity, social consequences, and the like.

Guthrie and Wigfield (1997) further suggest that both intrinsic and extrinsic factors affect the various dimensions of reading motivation. Research has shown that intrinsic motivation is a stronger predictor of reading success than is extrinsic motivation (Guthrie & Wigfield; Gambell & Hunter, 2000; Oldfather, 1992), and this is therefore the focus of our study. Theorists have elaborated the concept of intrinsic motivation into attitudes toward reading and interest in reading. Attitudes toward reading are generalized feelings toward reading itself (Alexander & Filler, 1976), and interest in reading can be

further distinguished as stable interest in reading as an activity or interest in a particular book (Schiefele, 1991).

In the current research we use several dimensions of motivation—intrinsic motivation to read including its subcategories of reading interest and reading attitudes—viewed through the lens of gender schema theories (Bem, 1981; Liben & Bigler, 2002; Martin & Halverson, 1981) to explore variability in boys' motivation toward reading. Furthermore, we contextualize our findings in the various dimensions of motivational theory (Eccles & Wigfield, 2002; Guthrie & Wigfield, 1997).

Defining Literacies

That literacy is a sociopolitical and ideological construct (Bernstein, 1971; Delpit, 1992; Heath, 1983; Street, 1984) is well established and underlies the concept of multi-literacies. Too often accepted definitions of what constitutes literacy reflect the values of dominant elites. Schools are particular examples of social institutions that recognize specific definitions of literacy as legitimate. In our study we focus on classroom variables to enable some boys who do not accept legitimated approaches to school success to master reading strategies. We recognize that, for example, technology-based literacy, that is, video games and possibly resistance-based narratives such as the *Captain Underpants* series and comic books are also forms of literacy.

Origins of Reading as a Gender-Marked Activity

Some authors have speculated that the reason for some boys' lack of motivation to read is that they perceive it to be a feminine activity (Baron, 1996; Brophy, 1985; Cummings, 1994; Government of the UK, 2000; Hermine, 1998; McKenna, 1997; Nodelman, 2001; Pottorff, Phelps-Zientarski, & Skovera, 1996; Shapiro in Hall, 1999). Canadian research has supported this claim: Katz and Sokal (2003) showed that 24% of grade 2 boys view reading as feminine.

The origins of these perceptions have been explored in the research literature. The importance of mothers and fathers in children's gender development has been examined (see Tenenbaum & Leaper, 2002, for a review) and has been shown to be related to children's attention to gender in their environments. Research about reading practices in the home and in school offers some evidence about why boys may come to perceive reading as feminine. In the home the average child is read to for approximately 1,000 hours before beginning school (Adams, 1990). In most cases the reading model is the child's mother (Millard, 1997; Pottorff et al., 1996). A feminized understanding of reading is further reinforced when children enter into day care or school, where their teachers and reading models are also predominantly female (Basow, 1992; Delamont, 1990). Thus cultural factors promote children's perceiving reading as a gender-marked behavior (Millard, 1997).

Another situational variable that may influence some boys' belief that reading is feminine is found in the types of books offered to children by parents, teachers, and librarians. In one study (Worthy, Moorman, & Turner, 1999), when asked their reading preferences, boys stated that comics, scary stories, and magazines were their preferred books. These were not usually the genres of books offered in school and at home. Only one third of school libraries offer

these genres (Worthy et al., 1999) because many teachers and librarians do not view these books as legitimate forms of literacy (Gambell & Hunter, 2000). This situation results in most boys having difficulty finding in school that interest them (Ivey & Broaddus, 2002).

Gambell and Hunter (2000) found that girls more often choose books that are suggested by friends, family, and teachers—a behavior linked to Guthrie and Wigfield's (1997) social motivation. Boys, however, are more likely to mention genre—including dimensions of story grammar, and the sex of the main character—as an important factor in book selection, suggesting that interest in how content is presented may be more important to them than social motivation. Gambell and Hunter contend that identification with genre is the most consistently supported explanation for gender differences in reading performance among Canadian youths. Oldfather (1992) supports this view with his finding that readers become more engaged with the book when they perceive it as being personally meaningful. Considered together, the limited selection of book genres available to young boys and the pervasiveness of female reading models may be powerful factors in convincing young boys that reading is a feminine activity.

Salience of Gender Stereotypes and Diversity in Boys' Reading Motivation

Perceptions that reading is feminine may serve as a strong anti-motivator to some boys. Millard (1997) suggests that the most powerful influence on some boys' weak motivation to read may be the pressure of peer culture. Among boys who view reading as feminine, Guthrie and Wigfield's (1997) social motivation factor may actually serve as an anti-motivator to reading. That is, whereas girls seek social affiliation through sharing this gender-marked feminine activity, boys share social affiliation through rejecting it. Mac en Ghaill (2000) suggests that to be a "real boy" requires public opposition to and distance from the feminine. This is not to imply that boys do not talk with their peers about what they read. Possibly some boys may be more reluctant to respond in the affective way that is often expected of children when teacher-initiated and teacher-led response activities are undertaken in the classroom. Furthermore, Eccles and Wigfield's (2002) cost analysis factor may also come into play. Research has demonstrated that boys who take part in cross-gender activities are viewed more negatively than girls who do so (Levy, Taylor, & Gelman, 1995; Sandnabba & Ahlberg, 1999) and are more likely to receive negative social consequences for participating in these activities (Zucker, Wilson-Smith, Kurita, & Stern, 1995). These perceived costs may be relevant to the motivation of young boys who choose to reject reading because they view it as feminine.

It is important to note, however, that not all boys are struggling readers and that some boys hold positive views of reading. Many boys do not perceive reading as feminine, and even those who do sometimes maintain their love of reading despite its cross-gendered classification (Katz & Sokal, 2003). Attention to the diversity in boys' responses to reading is necessary if we are to understand the complex interactions between gender development and reading motivation.

Gender Schema Theory

That some boys and not others lack motivation to take part in something that they interpret as a feminine activity can be understood through the lens of gender schema theories (Bem, 1981; Liben & Bigler, 2002; Martin & Halverson, 1981). The multidimensional aspects of reading motivation are a good fit with the multidimensional aspects of gender schema theories. Gender schema theory posits that gender is a multidimensional construct that includes gender stereotype knowledge, gender attitudes, gender preferences, and gender schematicity. *Gender stereotype knowledge* refers to an individual's knowledge of societal gender stereotypes (*Who usually reads?*) and is thought to be well developed by middle childhood (Ruble & Martin, 1998). *Gender attitudes* refer to a person's attitudes about the traits, occupations, and the behaviors of others and are usually referenced to males or females as groups (*Who should read?*). *Gender preferences* refer to individuals' own actions or choices about themselves (*Would I like to read?*). Finally, *gender schematicity* refers to an individual's inclination to use gender as a salient schema for interpreting social information. High-gender-schematic individuals will use gender to help understand and categorize their environments whereas low-gender-schematic individuals will use other schemata such as interest in an activity, prior knowledge, or cultural values. Given the copious evidence that society supports a more rigid masculine gender role, it comes as no surprise that research has shown that boys are more gender-schematic than girls (Carter & Levy, 1988; Levy, 1989; Sokal, 2000, 2001).

In general, most research carried out under gender schema theory models demonstrates weak or no relationships between the four dimensions of gender development (Ruble & Martin, 2002), although some researchers (Liben & Bigler, 2002; Ruble & Martin) have suggested that the possibility of a relationship between the various dimensions of gender development needs further examination. In particular, the relationship between children's gender stereotype knowledge (*Who reads?*) and their gender preferences (*Would I like to read?*) has received recent attention (Miller & Ruble, 2003). Earlier research (Katz & Sokal, 2003) has shown that gender schematicity acts as a mediating factor between boys' feminized views of reading and their reading preferences. Katz and Sokal showed that boys who view reading as feminine and dislike reading are more gender-schematic than boys who view reading as feminine and like reading. This finding suggests that understanding the relationship between the various dimensions of gender development may also have implications for our understanding of boys' reading motivation and preferences.

If some boys come to perceive reading as a feminine activity due to their experience with female reading models and feminine books, it may be possible to modify these perceptions. Defeminized views of reading could in turn lead to higher intrinsic motivation toward reading in some boys. In order to illuminate these relationships, the goals of the study were to determine whether the sex of the reading model and the genre of book modified grade 2 boys' (a) view of reading as feminine (gender stereotype knowledge); (b) intrinsic motivation toward reading (gender preferences); (c) interest in reading; and (d) attitude to reading. We hypothesized that exposure to male reading models

and high-interest, boy-friendly books would result in the boys coming to see reading as a gender-neutral or masculine, not solely a feminine activity, and would enhance their intrinsic motivation toward reading. Furthermore, we hypothesized that the effects of the two variables would be different among boys who liked or disliked reading and those who viewed reading as feminine or did not view reading as feminine.

Method

Participants

The participants included 69 grade 2 boys from four elementary schools in a Canadian urban center. Grade 2 was selected because it has been shown that gender knowledge is established by this age (Blakemore, 2001; Serbin & Sprafkin, 1986; Weinraub et al., 1984). That is, by the age of 7 boys would have solidified their understanding of reading as masculine, feminine, or gender-neutral. Because we aimed to measure and modify boys' perceptions of reading as feminine, it is important that the participants had achieved this milestone before they began the treatment and were also young enough for change to be feasible.

The schools that participated in the study ranged from suburban high-socioeconomic settings to inner-city low-socioeconomic settings. Demographic information about the families is presented in Table 1.

Instruments

A modified version of the Children's Academic Intrinsic Motivation Instrument (Gottfried, 1986) was used. The original Children's Academic Intrinsic Motivation Instrument (CAIMI) is group-administered and includes 44 self-report questions that measure children's intrinsic motivation toward reading, science, math, and social studies. Academic intrinsic motivation is characterized in the CAIMI by an "orientation toward mastery, curiosity, persistence, task-endogeny [promotion of growth]; and the learning of challenging, difficult, and novel tasks" (p. 11). Students respond to statements by selecting from a five-point Likert scale with choices ranging from *strongly disagree* to *strongly agree*.

We modified the CAIMI's composition for our study. First, the subscale that measures children's academic intrinsic motivation toward reading was retained, as this was the variable of interest, whereas those concerning other school subjects were dropped. The resulting shortened version included 18 items. Second, piloting of the shortened version revealed that some grade 2 children did not understand the term *disagree* used in the five-point Likert scale. The Likert scale items were modified to incorporate terms that would be more understandable to grade 2 boys: 1. *Yes, this is true!* 2. *Sort of true;* 3. *I'm not sure;* 4. *I don't think so;* 5. *No way!*

Two additional statements were added to the inventory for the purpose of determining whether the boys viewed reading as feminine and/or masculine. The statements were *Reading is mostly a girls' activity* and *Reading is mostly a boys' activity*. Boys chose from the same five-point Likert scale when responding to these statements.

Table 1
Demographic Information

<i>Descriptor</i>	<i>Frequencies Number</i>
<i>Family income</i>	
Under \$40,000	19
\$40,000-\$60,000	17
Over \$60,000	17
Total reporting	53
<i>Language spoken in home</i>	
English	57
Other	1
Total reporting	58
<i>Ethnic culture</i>	
Canadian	53
Other	4
Total reporting	57
<i>Mother's education</i>	
High school diploma or less	24
University degree	32
Total reporting	56
<i>Father's education</i>	
High school diploma or less	25
University degree	28

Procedures

At each school the children were gathered as a group, and the male and female co-investigators administered the CAIMI to them.

The boys were then randomly selected into one of four reading interventions: (a) female research assistants (RAs) reading typical books; (b) male RAs reading boy-friendly books; (c) female RAs reading boy-friendly books; and (d) male RAs reading typical books. In each case the RA visited his or her group of boys once a week for 10 weeks and read a book to the boys in the treatment group from the relevant book list. Visits ranged from 20 minutes to 40 minutes in duration, yet total reading time was consistent across groups. In order to maximize treatment consistency, the RAs were instructed to read the stories without asking the children questions and to respond to all the children's comments neutrally.

There is much overlap in books that may appeal to boys and girls. For example, girls and boys enjoy stories with sports themes (Worthy et al., 1999; Gambell & Hunter, 2000). However, in choosing typical and boy-friendly books, we distinguished between those identified in the research as books that boys actively wanted to read and those that are most typically found in early-years classrooms as chosen and used by teachers, most of whom are women whose choices often reflect their experiences and preferences. Boy-friendly books included stories about animals, adventure stories with male protagonists, informational texts about natural events (e.g., volcanoes) and

about sports, and book series such as *Captain Underpants* in which many boys express great interest. Typical books were predominantly narratives with protagonists who were predominantly female and story lines that were not adventures.

At the conclusion of the reading interventions, the two co-investigators again administered the modified CAIMI to the groups of boys.

Results

Three sets of analyses were conducted. The first explored pre-treatment correlations between and among demographic variables and dependant variables. The second set explored changes to the dependant variables over the course of the reading treatments. The final set of analyses explored post-treatment correlations between changes in the dependant variables.

Pre-Treatment Correlations

Pre-treatment correlations indicated 10 significant correlations between demographic and reading variables (see Table 2).

MANOVAs

A series of two (sex of reading model) X two (book genre) MANOVAs were conducted to determine the effects on four dependent variables. In each case the boys' aggregate pre-treatment scores were subtracted from their aggregate post-treatment scores on the relevant CAIMI items in order to determine the magnitude of change over the course of the intervention. The four dependant variables were: (a) change in 11 items measuring boys' overall intrinsic motivation to reading; (b) change in four items measuring boys' interest in reading (a subscale of intrinsic reading motivation) over the course of the treatment; these items asked about boys' interest in and curiosity about reading; (c) change in three items measuring boys' attitude to reading (a subscale of intrinsic reading motivation) over the course of the treatment; these items asked about boys' liking and feeling good about reading; and (d) change in two items measuring boys' views of reading as feminine and/or masculine.

The first MANOVA was conducted on the total sample ($N=69$). Analysis revealed one main effect for book genre, which indicated that boys who listened to boy-friendly books exhibited significantly greater reductions in their views of reading as a feminine activity ($M_{\text{change}}=-1.16$) than boys who listened to typical books ($M_{\text{change}}=-.17$), $F(1, 68)=5.56$, $p=.02$. Boys who listened to boy-friendly books, whether read by a male or a female research assistant, viewed reading as a less feminine activity after the treatment than before.

Four further MANOVAs were conducted to determine treatment effects on subgroups of the sample: (a) boys who liked reading, (b) boys who did not like reading, (c) boys who did not view reading as feminine, and (d) boys who viewed reading as feminine. In each case an initial aggregate score of 3.5 on the five-point Likert scale was used as the cut-off point.

The MANOVA conducted on boys who liked reading ($n=54$) indicated one main effect. Boys who experienced boy-friendly books ($n=30$) exhibited greater reductions in their views of reading as feminine ($M_{\text{change}}=-1.18$) than boys who listened to typical books ($n=24$, $M_{\text{change}}=-.19$), $F(1, 53)=5.04$, $p=.03$.

The MANOVA conducted on boys who did not like reading ($n=15$) indicated one main effect. Boys who experienced boy-friendly books ($n=8$) ex-

Table 2
Correlation Between/Among Demographic Variables and Reading Variables
Prior to the Treatment

Subscale	1	2	3	4	5	6	7
1. Mother's education		.60**	.56**	ns	ns	ns	ns
2. Father's education			.48**	ns	ns	ns	ns
3. Family income				ns	ns	.27*	ns
4. Intrinsic motivation to reading					-.33**	.91**	.93**
5. Reading as feminine						-.29*	-.30*
6. Interest in reading							.77**
7. Attitudes to reading							

Note.*Correlation is significant at the .05 level (2-tailed).

hibited gains to their interest in reading ($M_{\text{change}}=3.73$), whereas boys who listened to typical books became less interested in reading ($n=7$, $M_{\text{change}}=-1.04$), $F(1, 14)=4.76$, $p=.05$.

The MANOVA conducted on boys who did not view reading as feminine ($n=52$) resulted in one sex-of-reading-model X book-genre interaction effect. Results indicated a significant difference in their intrinsic motivation toward reading, $F(1, 51)=5.14$, $p=.03$. A follow-up t -test indicated that the change in intrinsic motivation toward reading was significantly different between treatment group 1 and treatment group 4. The boys in group 1 ($n=17$), who were read typical books by a female RA, increased in their intrinsic motivation by an average of .23 on the 5-point Likert scale, whereas the boys in treatment group 4, who were read typical books by a male RA ($n=11$), reduced their intrinsic motivation by .31 on the 5-point Likert scale. Although neither group was significantly different in its intrinsic motivation from the beginning to the end of the treatments, the changes in opposite directions made the groups significantly different from one another by the endpoints of the treatments.

The final MANOVA was conducted on boys who viewed reading as feminine. Neither sex of reading model nor genre of book had any significant effects on any of the dependent variables in this group of boys.

Post-Treatment Correlations

Post-treatment correlations indicated five significant correlations between changes to dependant variables (see Table 3).

Discussion

The findings of the research are interesting in several regards. They lend strength to the assertion of researchers such as Blair and Sandford (2003) and Guthrie and Wigfield (1997) that interventions such as introducing boy-friendly books into the classroom are oversimplified responses to boys' learning needs. Our study showed that the characteristics of boys recorded during the pre-treatment assessment contributed to their reactions to male reading models and boy-friendly books. Clearly boys respond to books and models in varying

Table 3
Post-Treatment Correlations Between Changes to Dependant Variables

	1	2	3	4
1. Feminine view of reading		-.36**	ns	-.39**
2. Intrinsic reading motivation			.78**	.79**
3. Interest in reading				.39**
4. Attitude toward reading				

Note.*Correlation is significant at the .01 level (2-tailed).

**Correlation is significant at the .01 level (2-tailed).

ways, and attention to these differences is necessary if we are to understand the complex mechanisms that contribute to boys' motivation to read.

The pre-treatment findings yielded a variety of expected results. Strong correlations among intrinsic motivation to reading and its subscales of interest in reading and attitudes to reading support the interdependence of these three variables. The strength of these relationships also supports that validity of the CAIMI subscale items used in our analyses. Pre-treatment correlations revealing the negative relationship of intrinsic motivation toward reading, interest in reading, attitudes toward reading with boys' view of reading as a feminine activity support the claim that reading is a gender-marked activity (Millard, 1997). Finally, the negative correlation between boys' interest in reading and their family income supports claims that socioeconomic status is an important variable of consideration in boys' literacy development (Rowan, Knobel, Bigum, & Lankshear, 2002).

MANOVAs exploring the changes in dependant variables in the sample and its subgroups over the course of the intervention demonstrated that some children's intrinsic motivation and views of reading as feminine are more malleable than those of other children. Although analysis of the total sample indicated that boys' views of reading as feminine can be positively affected by boy-friendly books, the lack of main effect of the sex of the reading model was a surprise. Shapiro (in Hall, 1999) also found no effect of male reading models, although others have found effects. These findings support Robertson's (2003) claims that the perceived feminization of schools (Rowe, 2000) is not simply solved by hiring more male teachers.

In terms of the subgroups—and in the light of the recent alarming reports of the “reading crisis” among boys—it was refreshing to find that the largest subgroup comprised boys who liked reading. Fifty-four of the 69 boys indicated in the pre-treatment phase that they had positive intrinsic motivation toward reading. Although these boys exhibited high initial intrinsic reading motivation, the intervention still yielded positive effects in that boys who listened to boy-friendly books demonstrated greater reductions in their views of reading as feminine than did boys who listened to typical books. Although this effect is positive news, the lack of change to boys' intrinsic motivation toward reading and its subscales is somewhat troubling. Examination of the raw data, however, revealed that most of the boys who liked reading before the

reading intervention indicated this by choosing a score of five of five on the Likert scale. It is probable that the lack of growth in children's intrinsic motivation toward reading, positive attitudes toward reading, and interest in reading over the course of the study was the result of the initial ratings being as high as possible.

In the small group of 15 boys who began the intervention disliking reading, exposure to boy-friendly books resulted in an increased interest in reading. It is interesting to note that over the course of the intervention, those boys who began the study disliking reading and who were exposed to typical books during the intervention not only failed to increase their interest in reading to the same degree as boys who experienced boy-friendly books, but actually exhibited a reduction in their interest toward reading by the end of the study. Au (1997; Au, Scheu, Kawakami, Herman, 1990) and Ryan and Stiller (1991), showed that choice is an important component of school success and that we would do well to ensure that boys' are given greater choices in reading materials.

The large group of 52 boys who did not view reading as feminine also benefited from the intervention. The interaction effect is most interesting because it demonstrated a negative effect when male RAs and typical books were combined. In some ways this effect mirrors the case of the boys who did not like reading: typical books can reduce intrinsic motivation in both groups. In the large groups who did not view reading as feminine, however, this effect was limited to the boys who experienced these books through a male RA. In this case only, the sex of the RA affected the children's intrinsic motivation toward reading. Clearly the complexity of the relationship between boys' views of reading, the sex of the reading model, and the genre of book is illustrated. Simple general statements about these variables in isolation do little to aid our understanding of this complex relationship (Weaver-Hightower, 2003).

The last group is interesting not for its significant effects, but for lack of them. This small group of 17 boys began the intervention with the view that reading is a feminine activity. For this resilient group there were no changes on any of the dependent variables. Ironically, this is the group that would most probably be targeted for interventions where male models or boy-friendly books were used to engage the boys. That this group is a minority is reassuring. However, the lack of treatment effects on this group is troubling. The resilience of these boys' views of reading as a feminine activity may support the claim that gender knowledge is intact by age 7 (Ruble & Martin, 1998). Research supporting the salience of the male gender role and boys' reluctance to engage in cross-gender-stereotyped activities is also supported (Levy, Taylor, & Gelman, 1995; Sandnabba & Ahlberg, 1999). It is probable that the 10-week intervention was inadequate to change gender knowledge in boys who place high value on gender stereotypes, and it is possible that a longer intervention might have shown some effects on this group of boys. Alternatively, it may be that interventions aimed at contributing to younger boys' initial classification of reading as a gender-neutral activity rather than a feminine activity may be

more effective than the current intervention aimed at reducing boys' already-formed views of reading as feminine.

Despite the lack of change in boys who view reading as feminine, the finding that many of the groups exposed to boy-friendly books experienced increases in intrinsic motivation to reading or one of its subscales (attitudes and interest) is noteworthy. Wigfield et al. (1997) found that children's interest in reading declines most sharply from grade 1 to grade 4. Practices that inhibit declining intrinsic motivation toward reading certainly deserve our attention. Although boy-friendly books are clearly not the complete answer, they can make a contribution to some boys' intrinsic motivation toward reading.

The final set of analyses lends support to the claim that gender schema theory provides a useful lens through which to explore boys' intrinsic motivation to read. These correlations indicate strong relationships between reductions in the total sample of boys' views of reading as feminine and their increases in intrinsic reading motivation and positive attitudes toward reading. The current study clearly illustrates the value of considering the various dimensions of gender schema theory, specifically gender knowledge and gender preferences, when studying boys' intrinsic motivation toward reading.

Caution is needed in drawing implications for practice from a study limited to a 10-week intervention of the kind conducted. However, two broad implications suggest themselves. First, although choice of books for the classroom appears to be a highly important factor in making books accessible to many boys, clearly there is more to choosing appropriate books than engaging a stereotypical view of boys. In our study, pre-treatment characteristics were found to affect boys' response both to male readers and to books read to them. The range of boys in our study—the four schools encompassed Aboriginal, new immigrant, white middle-class, and working-class boys—suggests that the multicultural character of Canada is a reality and that in attending to the literacy interest of boys, particularly in choice of literature, this multicultural reality should be taken into account. Second, and related to choice of literature, is the hint of possible resistance on the part of some boys, as evidenced in the popularity of such books as the *Captain Underpants* series, and among older boys in the *Goosebumps* series of books, as well as in individual trade books that hold school up to forms of ridicule and question. If some boys are in effect saying that they will not cede control of their literacy learning to the teacher, perhaps they are facilitating teachers' consideration of multiple literacies in the classroom. This student-directed broadening of our understanding of literacies offers opportunities for teachers, librarians, and researchers to explore the effects of nontraditional texts on boys' learning. For example, to make literacy accessible to some boys it may well be necessary to put greater emphasis and a more liberal interpretation on the fifth of the six language arts in the Western Canadian protocol: viewing and including reading and writing video games and other technology-based literacies in our classroom language arts programs. Further research is needed to measure the effect of technology frames for literacies on boys' attitudes toward reading.

Although our findings make a contribution to understanding the diversity in boys' intrinsic motivation to reading by examining it through the lens of gender schema theory, as in any research study they have limitations. First,

there are limitations to using the CAIMI. Modifications to the CAIMI that were responsive to the developmental needs of grade 2 boys may have altered the internal reliability of the instrument. Second, there are a variety of ways to interpret the term *reading* as used in the CAIMI. Our intention was that the boys would infer that it was school-based reading that was being referenced. Based on past research (Gambell & Hunter, 2000), boys are likely to interpret the term *reading* as referring to school-based reading. Furthermore, both CAIMI administrations took place at the children's schools, further supporting this interpretation. As such, it is likely, although not certain, that the boys also shared our intended interpretation of the term *reading* when questioned about their reading motivation. Third, although we asked the participants two questions about their view of reading as a feminine, masculine, or gender-neutral activity, it may be that by asking the question we were activating awareness of gender differences that were not in the participants' consciousness, and in this sense the responses may be misleading. In future studies a more indirect, embedded approach such as a Q-Sort should be considered. Finally, although this study offers insights into the intersection of intrinsic motivation to read and gender development, it should not be interpreted as contributing to the discussion of boys' reading achievement. Other studies have supported this link (Baker & Wigfield, 1999). Further studies will be necessary to address the relationship between boys' intrinsic motivation to reading, gender development, and reading achievement.

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