



search directed by Harvard University psychologist Carol Gilligan. In her much-praised and much-criticized book, *In a Different Voice* (1982, Harvard University Press), Gilligan asserted that girls and boys generally follow divergent paths of moral development. She based her contention on several studies of Harvard undergraduates, men and women at different points in the life cycle, and women considering abortion.

In Gilligan's view, females respond to an inner moral voice emphasizing human connections and care, and they attempt to solve moral dilemmas by responding to the needs and situations of those affected by the problem. Males, on the other hand, focus on abstract principles such as justice and follow a moral code centered on the impartial application of rules of right and wrong.

Gilligan's most recent research, described in *Making Connections: The Relational Worlds of Adolescent Girls at Emma Willard School* (1990, Harvard University Press), draws on findings collected over a three-year period among 34 students at a private girls' school in Troy, N.Y. Gilligan and her co-workers argue that many girls, at least in this predominantly white, privileged sample, show an aggressive confidence in their identities and ideas around age 11, only to find their self-assurance withering by age 15 or 16.

During this period of increasing separation from parents, marked by a search for an independent identity and future career possibilities, girls feel torn between responding to others and caring for themselves, the Harvard researchers maintain. In addition, they say, adolescent girls encounter more pressure from parents and teachers to keep quiet and not make a fuss than do adolescent boys or younger girls.

The gender gap seen in academic achievement during early adolescence arises largely because a social and educational emphasis on career development and personal advancement clashes with girls' distinctive sense of connection to others, Gilligan's team asserts. The researchers maintain that girls often learn best and gain increased self-confidence through collaboration with other students and faculty, not through competition among individuals as practiced in most schools.

Boys, in contrast, often perform best on competitive tasks or in games with a strict set of prescribed rules, the investigators contend.

Some adolescence researchers argue that Gilligan paints too stark a contrast between the moral development of boys and girls. Others say Gilligan's ideas have an intuitive appeal, but her small studies lack a sound empirical foundation on which to build educational reforms. These researchers see Gilligan's work as a preliminary corrective for previous studies, based largely on male participants, that suggested the ability to reason from abstract principles represented the pinnacle of moral development.

Similarly, social scientists differ over the extent to which self-esteem dips during adolescence and the meaning of the AAUW survey data. In fact, some investigators question whether a significant gender gap in self-esteem exists at all.

Most surveys of teenagers' self-esteem, including the AAUW project, focus on students and neglect school dropouts. This approach may lead to overestimates of self-esteem among boys, argues sociologist Naomi Gerstel of the University of Massachusetts in Amherst. More boys than girls drop out of school, and male dropouts may regard themselves in an especially poor light, Gerstel points out.

Furthermore, she says, since no one has examined the moral "voice" of boys in the intensive way Gilligan studied her group of girls, Gilligan's theory has yet to meet a scientifically rigorous test. Gilligan's ideas prove "problematic" when educators attempt to use them to formulate specific educational reforms, Gerstel writes in the Jan. 4 SCIENCE.

The self-esteem reports gathered in the AAUW survey fail to provide evidence for any particular need to change school instruction, contends psychologist Joseph Adelson of the University of Michigan in Ann Arbor. "It's been known for some time that girls report greater self-esteem declines in adolescence, but the reasons for those declines are unclear," he says. "It's inappropriate to take the correlations in this survey to politicized

conclusions about educational reform."

In his view, gender differences in mathematics achievement remain particularly mysterious and probably stem from a number of as-yet-unspecified social or family influences (SN: 12/6/86, p.357). Preliminary studies directed by Carol S. Dweck, a psychologist at Columbia University in New York City, suggest that bright girls show a stronger tendency than bright boys to attribute their difficulty or confusion with a new concept — such as mathematics — to a lack of intelligence. Thus, when bright girls confront mathematics, initial confusion may trigger a feeling of helplessness, Dweck writes in *At The Threshold* (1990, S. Shirley Feldman and Glen R. Elliot, editors, Harvard University Press).

Many girls with considerable potential in mathematics may deal with this sense of helplessness by throwing their energies into already mastered verbal skills, Dweck suggests. Rather than indict their intelligence, both boys and girls who shrink from challenging new subjects may need to learn how to channel initial failures into a redoubled effort to master the material, she says.

Gender differences in reported well-being — an aspect of personal experience closely related to self-esteem — also prove tricky to study, Adelson observes. A statistical comparison of 93 independent studies, directed by psychologist Wendy Wood of Texas A&M University in College Station, serves as a case in point. In examining these studies, which focused on well-being and life satisfaction among adult men and women, Wood and her colleagues found that women reported both greater happiness and more dissatisfaction and depression than men. Wood contends that societal influences groom women for an acute emotional responsiveness, especially with regard to intimate relationships, and that this helps explain why women report more intense emotional highs and lows than men.

"No clear advantage can be identified in the adaptiveness and desirability of [men's and women's] styles of emotional life," she and her colleagues write in the March 1989 PSYCHOLOGICAL BULLETIN.

Researchers have yet to conduct a similar statistical comparison of the literature on adolescent self-esteem and well-being. But according to Adelson, a per-