

Georg Lind

**Are Helpers Always Moral?
Empirical Findings from a Longitudinal Study of
Medical Students in Germany**

1997

A revised version of his paper appeared in:

Lind, G., 2000. Are helpers always moral? Empirical findings from a longitudinal study of medical students in Germany. In A.L. Comunian & U. Gielen, Eds., International perspectives on human development. Lengerich: Papst Science Publishers, pp. 463-477.

Contact:

Prof. Georg Lind
University of Konstanz
FB Psychologie
78457 Konstanz
E-Mail: Georg.Lind@uni-konstanz.de

For further information and publications on this topic see www.uni-konstanz.de/ag-moral/b-publik.htm

Introduction

The large number of scandals and criminal offenses by medical personnel and medical industries indicates that the new technological and economic changes pose great moral challenges to medical personnel and decision makers. Some offenses are clearly related to selfishness and other personality disorders. Yet, in many instances, they indicate that the Oath of Hippocrates, ethical codes¹ and committees do not give sufficient guidance for behaving morally in critical situations but that moral competencies are needed which the offenders seem to lack.

Let us look at Dr. Jane Paul's case (I changed her name). She is a dermatologist who just started her internship when she already had to make her first big decision. The head of her department asks her to go to the morgue and harvest skin from the corpus of a young person who has died in an accident. He explains that the skin was urgently needed for an emergency surgery of a patient whose skin was burned third degree, and who would not survive without a skin transplant. The hospital has run out of transplants and no other way of obtain transplants seemed feasible. Of course, she knew that harvesting skin from a dead person without his or her consent or the consent of relatives was illegal. Furthermore, Dr. Paul, who was a practicing Catholic, feels that this is a sin. What should she do if she wants to be moral? Which rules should she follow? Whatever she decides to do, she will do something wrong and transgress some moral principles in favor of others. If she follows her religious and legal conscience, and decides against harvesting the skin from the dead body, she will be responsible for the dying of the patient with the burning. If she obeys her boss and helps to save this patient, she will have to break the law and disregard her religious duty. Anybody who has ever come across a similar dilemma will understand that a solution surely is hard to find.

How can Dr. Paul ever find out, which decision is the best in the light of conflicting moral principles? How should she differentiate and integrate these values in order to make this dilemma solvable? The process of finding an answer to these questions, it seems, depends very much on specific moral competencies, in particular, on the ability

- to recognize one's own complex, conflicting moral feelings,
- to submit those feelings to reflective reasoning, and
- to enter ethical discourse with friends, experts and authorities (Hinman, 1985; Lind, 1989).

¹ "Modern professional codes date from one written by the physician Thomas Percival in 1797. It was originally written to settle a dispute in Manchester, England, among three groups of medical specialists (physicians, surgeons, and apothecaries). It contained statements about the duties of physicians to one another, to patients, and to society, as well as the duties of patients to physicians and of society to physicians. It became the basis for the first United States code, written in 1847 by the American Medical Association. These codes all emphasize that the physician's primary duty is to benefit the patient. Usually they assume the physician knows what is best for the patient. In this sense they are paternalistic. " (Compton's Interactive Encyclopedia, 1996).

If Dr. Paul was lucky, her training at medical has provided her not only with dermatological knowledge and skills but with the moral competencies needed to cope with the moral dilemma that arise out of her medical profession. If her medical schools has not given her opportunities to acquire moral competencies as part of her professional training, Dr. Paul will most probably deal with her problem in a immature, if not inadequate way. „I cannot believe that this could happen. Professor Lind, you surely made up this story, didn't you?“, said a fourth-year medical student, when I told his class about Dr. Paul's case as departure point for discussing ethical issues.

Dr. Paul's dilemma, of course, is only one of the many with which medical personnel is confronted today and will be confronted with in future. In the past decades, medical services have become more and more impersonal and mechanical. Many New moral dilemmas arise, which we have not thought of and cannot think of, because of the fast speed of new medical technologies and inventions: genetic therapy and genetic engineering, extra-uterinary fertilization and cloning. These inventions and technologies are not fate. They are the result of huge amount of private and public money that is pumped into medical research and industry.

Yet little is done to foster the ability of medical personnel to cope with the ethical problems that the technological revolutions imply. It appears that most people rest content with the notion that the Oath of Hippocrates, codes of the medical profession, ethics committees and existing laws suffice. Many believe that the intention to help is all that is needed in the medical profession and that the motivation to help is similar, if not identical, with moral competence. From this believe follows that morality is nothing that can be learned or taught like physiology and anatomy, but a trait which a person either has or not has. Accordingly, for professions like medicine, for which moral competence is essential, we need to make sure that we pick the "best" ones.

To clarify this issue, I will try to answer three questions in this paper: First, is morality nothing more than having good (helping) intentions? Based on recent research my answer will be: no, morality and helping motivation are not identical and are even not closely related. Second, Because helping behavior and moral competence are seen as so closely related to each other, sometimes these two terms are used interchangeably and the one is taken as a sign for the other. For example, we believe that a test of moral de-velopment must clearly distinguish between those who help and those who do not help. Indeed, some carefully designed studies, as the one by Shari McNamee (1977), support this view. McNamee found that there was a close linear relationship between subjects' level of moral development, as measured by Kohlberg's Moral Judgment Interview, and their helping behavior in a laboratory situation (for an overview see Sprinthall et al., 1994). Interestingly, the subjects' level of moral development was more closely related to their real helping behavior than to their intention to help.

In another very sophisticated experiment, Kathryn Jacobs (1975) found also a strong relationship between moral development and prosocial behavior. In a series of prisoner-dilemma-situations, subjects with a high P-score, derived from Rest's (1979) Defining Issues Test, tended first to respond egotistically to their confederates seemingly non-cooperative moves, just like subjects

with low P-scores did. Yet, after a while, in contrast to the low-scorers, the highly developed subjects settled their inner conflict by resuming their cooperative behavior.

In spite of this supportive evidence, the relationship between moral development and helping behavior is far from being perfect. Many studies found also low or zero correlations between moral development and prosocial behavior (Blasi, 1980). These low correlations may in some instances be merely due to bad research design. Yet, the research evidence showing low correlations is massive, indicating that this relationship is more complex than we used to believe and that we need to do more research to understand how moral development affects prosocial behavior and how prosocial behavior affects moral development. The first part of this question, whether the level of moral judgment competence accounts for adolescents' intention to help, I addressed in another study (Lind, 1997). In that study, we found that moral judgment competence was not related to secondary school students' prosocial intentions. There was only a weak, non-linear relationship between the adolescents' MJT score and their willingness to help. However, we found that moral judgment competence very much influences the sort of factors that trigger helping intentions. Low scoring students helped when they were asked to do so by an authority (e.g., the teacher), or when they believed that others would also help, whereas students with high moral judgment competence were much less depend on such external triggers but intended to help when they felt responsible. This finding can be taken as a confirmation of Kohlberg and Candee's (1984) theory about the mediating role of responsibility judgments.

In the present study, I focus on the second question, whether helping behavior determines moral development. Various theories predict such a causal relationship. From a psychoanalytic theory point of view, a person who is continually exposed to an environment that demands prosocial behavior, will eventually incorporate prosocial values in his or her super-ego. From a social learning theory point of view, a person will always adopt the values of the group to which he or she belongs (Hogan & Emler, 1995). Even cognitive-developmental theorists can be understood in this way. So for Kohlberg (1984/1969) moral development depends strongly on role-taking opportunities. Hence, we could hypothesize that people who live in an environment that provides them with many opportunities to help other people, will reach a higher level of moral competence than people with little opportunities. Kohlberg postulated some kind of "match" between a person's moral ideology and the moral ideology of the institution in which he or she lives.

The question we want to answer than is: Does the participation in an institution with high prosocial aims and values - either through internalization, or through social pressure, or through role-taking opportunities - increase the moral development of its members?

Our dual-aspect theory of moral development (Lind, 1993; Lind, 1995) requires us to be more specific. We must ask: Does the fact that one lives and works and learns in a "moral" institution increase the moral attitudes of its member, or their moral competencies or both? We have shown in many studies a) that moral attitudes and competencies can be clearly discriminated and independently measured, b) that both aspects are non separable into different domains of behavior but are attributes of the same pattern of behavior, c) that, in many instances, both aspects are

highly correlated with one another, but d) that both aspects behave also different in a predictable way (Lind, 1985; 1993; 1995). For example, while people can fake their moral attitudes in any direction, they cannot pretend to have a higher moral judgment competence than they actually have.

To answer these questions we will study a group of people who are highly exposed to a prosocial environment and whose status makes them especially prone to influences from this institution, namely medical students. Medical students have chosen helping as their profession and career. Through their status as students they should be especially open for the prosocial values of the health care system. Moreover, they entered this social institution voluntarily and, as many studies show, they bring with them a high level of moral development already at the beginning of their study.

The German medical students on which I will report here, may stand for medical students all over the world. However, as medical schools and the health care system differ profoundly from one country to another, they may also show some particularities. In Germany, attendance of university is (still) for free. Yet, because only a limited number of students is admitted to medical school, the students are highly selected. Their grand point average in high school is unusually high. This does not mean that medical students are merely “cold intellectuals.” Most medical students chose this profession for highly prosocial reasons. Their motivation to help is higher than that of most other students. Indeed, this helping orientation is a better predictor for their admittance to medical schools than any other variable, including academic achievement (Lind, 1981; Bargel & Ramm, 1994). Moreover, many medical students made their career plans at a younger age than the students of most other fields of study (Lind, 1981). Through this early career decision, even those with a low grand point average often manage to meet the academic requirements right in time to get admitted. Finally, as we will see, beginners at medical school, exhibit a higher level of moral judgment competence than beginner in most other fields of study. The more we were surprised when we found in our longitudinal study that, in contrast to all other students that we have studied so far, medical students do not increase in their moral development but seem to even regress.

Methods

Although the data reported here have been collected in the early Eighties already, they have not been analyzed or published yet, nor do they seem outdated in any sense. In his presentation at this conference, Klaus Helkama reports on a more recent longitudinal study in Finland using Kohlberg’s Moral Judgment Interview, which shows a very similar phenomenon (see also Helkama, 1987). In a series of representative surveys of medical (and other) students in Germany, conducted every two year, medical students, more than any other group of university students,

express great concern that their study fails to provide them with social and communicative competencies needed in their profession (Bargel & Ramm, 1994).²

Subjects

The medical students (as well as the other students who will be taken as comparison group) have been surveyed four times: in their first, fifth and ninth semester and in their 13th semester when many of them had already graduated and did their internship.³ Here I will analyze only those students who have participated in all four surveys (N=746 out of 1673 students who participated in the first-semester survey). Among these were 104 medical students and 604 students from other fields of study. Because of the selection of field of studies, much more male (N=563) than female subjects (N=183) were sampled.

Independent variable

Moral judgment competence and moral attitudes were measured using the Moral Judgment Test (MJT) by Lind (1978; 1985; 1995; Lind & Wakenhut, 1985). The MJT measures both moral attitudes and moral competencies (or cognition) simultaneously though as logically independent aspects of a person's judgment behavior. In the MJT, moral *attitudes* are defined as the average rating of arguments pertaining to a particular stage of reasoning. Moral judgment competence is defined in the MJT, following Kohlberg (1964), as "the capacity to make decisions and judgments which are moral (i.e., based on internal principles) and to act in accordance with such judgments" (p. 425). The MJT measures the degree to which subjects rate other people's moral arguments with respect to their moral quality rather than with respect to amoral considerations like the arguments' opinion agreement.

²The reader may wonder why these data remained unpublished for so long. The group that conducted this research at the University of Konstanz (Tino Bargel, Barbara Dippelhofer-Stiem, Gerhild Framhein, Georg Lind, Hansgert Peisert, Johann-Ulrich Sandberger, and Hans Gerhard Walter), had to dissolve before the major body of data from this longitudinal, cross-cultural study could be analyzed and published. While the funding agency, the Deutsche Forschungsgemeinschaft, was willing to continue this research, the hosting university was not. The present analysis was privately funded by the author. I like to thank my former colleagues who helped to design this study and to collect the data.

³It should be noted that the German educational system differs markedly from the US-American and other systems. As I already noted, there are no fees for studying at a university. There are no colleges in Germany though in English some institutions of higher education (Fachhochschulen) are called colleges. They do not offer a liberal arts curriculum as in the US and, therefore, compare rather to institutes of technology. The undergraduate curriculum of American colleges is largely integrated in German high schools, which prepare for university and are called "Gymnasium" (for further information on the German educational system, see Peisert & Framhein, 1994; the study design is reported in more detail in Framhein & Langer, 1984).

Because the MJT has been described at length in various places, a short overview may suffice. The standard version of the MJT consists of two sub-tests, each containing a dilemma-story and questions regarding this story. The unique feature of the MJT is the fact that it contains both arguments in favor and arguments against the presented solution of the dilemma. So the test-taker is confronted with moral reasons that are inconsistent with his or her opinion. In fact, many people find it hard to understand and appreciate the moral quality of arguments that oppose their opinion. Some people are even unwilling (or unable) to read through such arguments. Hence, the MJT provides a good task for observing subjects' moral judgment competence, that is, their ability to judge in accordance to moral principles. This ability is indexed by the so-called C score. The C score can range from zero, indicating absence of any moral judgment competence, to 100, indicating perfect judgment competence.

In contrast to other tests of moral development, the MJT provides a pure measure of moral judgment competence (and, of course, also pure measures of moral attitudes). A high C score indicates that the subject can rate arguments consistently from a moral point of view. This does not mean that he or she must prefer stage 5 or 6 reasoning to get a high C score. The C index is logically independent from a person's moral ideology. Because of these features, one may hypothesize that persons with high C scores are unable to take a stance on a moral issue (DuBois, 1997a). We will provide data on this hypothesis below. In order to include as many subjects as possible in the analysis, I substituted missing data through empirical means if, and only if, no more than one out of 24 items was missing in a dilemma. For substitution, the individual mean rating of the other 23 items in a dilemma was used.

As a second set of information, the MJT provides scores for subjects' attitudes toward each of the six stages of moral reasoning as defined by Kohlberg (1984/1969). These attitudes can be looked at individually stage by stage, and in total, as profiles. So we can assess both a) the absolute degree of acceptability of each stage of moral reasoning, and b) the order or hierarchy that these stages form in the subjects' minds.

Statistical analysis

My statistical analysis will focus mainly on frequencies, means and correlations, and report statistical significance only by ways of convention. On the one hand, our sample is so large that almost any difference becomes statistically significant even though it may be psychologically insignificant.⁴ On the other hand, as all of know of course, statistical significance testing is biased against the null hypothesis since it totally ignores type-II errors.

⁴“There is no good excuse,” as Carver (1993) notes, “for saying that a statistically significant result is significant because this language erroneously suggests to many readers that the result is automatically large, important, and substantial” (p. 288).

Findings

Four findings pertain to our question. To get a general idea about what impact higher education has on students' moral development, we will first look at the change of their moral attitudes and of their moral competencies.

Moral attitudes

The findings in Figure 1 show that higher education has almost no impact on students' moral attitudes. Over the whole range of seven years, from first to 13th semester, the mean moral attitudes are almost invariant. Students clearly prefer stages 5 and 6 over all other stages, as the most adequate levels of moral reasoning for solving the two dilemmas presented in the MJT, the dilemma of the doctor who is asked to help a lethally ill woman to die, and of two workers who break the law in order to enforce law abiding.

It seems that young adults' moral ideology is not influenced by such a mighty social institution as a medical school. Our data are clearly inconsistent with social learning theory, which claims that persons of all ages are influenced by the social institutions of which they are member. For other theories, the findings presented in Figure 1 are not relevant. Psychoanalytic theory would predict such influence only for early childhood. With regard to Kohlberg's theory the data on people's moral attitudes seem not relevant as this theory claims moral cognition to be at the heart of moral development.

Moral judgment competence

In regard to moral judgment competence scores of university students, we found a strong developmental trend. Figure 2 depicts the data for all students except medical students. While first semester students show a mean C score of about 41, the mean C score of 13th semester students (or graduates) is about 6 points higher, namely 47, that is well above the standard sampling error shown in the whisker-box-plot. Very similar changes have been found in studies using Kohlberg's Moral Judgment Interview (Colby, Kohlberg, et al., 1987) or Rest's Defining Issues Test (Rest, 1979). However, the studies using these two measures, could not differentiate between moral attitudes and cognition, as the MJT does. The MJT studies help us clarify this issue. Those findings seem to reflect changes of moral competence rather than of moral attitudes. Thus it seems fair to conclude that higher education promotes students' ability to make judgment consistent with their moral principles rather than presses students to change their moral attitudes.

The impact of medical school

The impact of medical education differs markedly from this. As Figure 3 shows, first semester medical students start on a high level. Yet over their time of study, their moral judgment competence stagnates or even regresses. This is, as far as I know, the only field of study in which such a phenomenon has ever been observed. I do not believe that this is a chance finding. Note that it is based on a longitudinal study of over 100 medical students from three different universities. Moreover, Klaus Helkama reports a similar phenomenon with Finish medical students who responded to Kohlberg's Moral Judgment Interview. We will discuss the meaning of this findings in more depth later.

Moral judgment competence and helping

In a study by James DuBois (1997) of approx. 200 medical doctors and nurses in Austria and Saudi-Arabia, moral judgment competence was correlated with doctor's opinions on how to help other people in need (Figure 4). A majority expressed a strong opinion on ethical issues like on mercy killing and organ explanation. This figure also shows that helping can mean quite different things. It can mean to deny mercy killing, and it can mean to help a lethally ill person die to shorten her suffering. The opinion on this problem is split among medical personnel, implying that even among them there is no clear answer on the question which decision is moral and which is immoral. It is interesting to note though that there is a tendency for doctors and nurses with high C scores to allow mercy killing.

Data on theoretical validity

To check on the validity of these data from different cultures, we analyzed the relationship of the C-score gender (no differences were expected) and to other indicators. As in most other studies on gender differences (Walker, 1986), there was hardly any differences in moral judgment competence between male and female students (Lind et al., 1987). The small differences that we found were in favor of female students, whose scores were higher (© = 44,2) than the score of the male students (© = 41,5).

Lind (1985) proposed three other criteria for checking on the theoretical validity of MJT data from various cultures. The MJT data meet all these criteria:

- a) As we saw in Figures 1, the preferences for the six stages are ordered in the predicted way,
- b) the stage inter-correlations form an almost perfect quasi-simplex structure,

- c) the six moral attitude scores on the one hand, and the moral competence score on the other, are nearly perfectly inter-correlated and support the notion of affective-cognitive parallelism in all four longitudinal surveys.

Discussion

Our initial question was whether helpers are always moral. That is, does the intensive learning of helping behavior and its daily exercise as professional, impact people's moral development? After our study, this question seems rather naive and needs rewording. For example, we must say which aspect of moral development we mean, the change of moral attitudes or the change of moral competencies? Yet, even when we make this distinction, the answer remains negative. Medical students, who enter medical school with high moral development scores, and with a strong motivation to help other people, neither change their moral ideals (which could only be to the worse), nor improve their moral judgment competence. While their peers in other fields of study also do not change their moral attitudes during their study, they clearly profit from the opportunities for role-taking and guided reflection that their education seems to offer (Lind, 1996).

Various checks for evidence which could attenuate this finding, are negative, that is, they do not alter this conclusion. The MJT data proved to be highly valid from a theoretical point of view. Moral judgment competence, as measured through its C score, seems to really reflect an ability rather than merely a moral ideology (Lind, 1993). Although this score is defined in a rather formal way, that is, independently from a person's moral ideology, subjects with high scores exhibit strong opinions on ethical issues. This is so because the C score is defined independently only from a particular moral stage of reasoning but not from the moral point of view. The C score reflects the fact that subjects judge arguments in respect to their moral, rather their amoral, principles, whatever kind they may be.

So it seems that medical education offers too little, if any role-taking opportunities and opportunities for guided reflection in the domain of socio-moral competencies. Such a conclusion is clearly supported by the reports that German medical students give about their learning environment (Bargel & Ramm, 1994). More than students from any other field, medical students report that they must study very hard and feel highly pressured for good grades, but that they are hardly taught to understand the basic principles of their profession, to cooperate with their peers, to develop own areas of interest or evaluate critically the information they rely on in their work. What are the implications of our findings for theories of moral development? They seem to clearly refute social-learning theory which predicts that medical students would change their moral attitudes. They also partly refute Kohlberg's stage-theory of moral development, which predicts that there is always increase but no regression in moral judgment competence. However, our findings strongly support Kohlberg's notion of moral competencies which are at the heart of moral development. I believe that this notion is much more important than the assumption of

invariant sequence, and that we must not do away with the competence assumption when we refute the invariant sequence assumption.

In respect to practical questions, our findings together with others, I believe, point at a deep crisis of medical education which calls for a profound change in the way in which we train our doctors and nurses. I do not believe that courses in medical ethics, as they are widely practiced in the United States and elsewhere, will help much to improve the situation. Many of these course contain little ethics, and if they do, the subject matters taught are too remote from the real moral tasks with which medical doctors are confronted everyday. I believe that we must take problems and conflicts that a doctor may run into, as the focus of their ethical training. I also believe that we need not teach doctors moral ideals or moral attitudes. These they already have to such a high degree that such teaching would mean carrying coal to Newcastle. Rather, such ethical education should foster future doctors' ability to translate their moral ideals into proper moral action and to solve the conflicts and dilemmas that they will inevitably experience when they try to help other people.

In regard to the more general question of this study how morality and prosocial behavior are related with one another, this study demonstrates that careful distinctions are in place. We need to clearly distinguish between affective and cognitive aspects of moral judgment behavior. Otherwise, we will confound these two distinct yet inseparable aspects of moral behavior. We also need to look more carefully at the meaning of "helping behavior." People do not only differ very much in how they define "helping" but also in regard to how to help someone who is in need. For example, some belief that helping a lethally ill persons implies to preserve his or her biological life whatever kind of life this may be, while others belief that, in this case, helping means to fulfil that person's will to die and to shorten his/her unbearable pain. Which side is morally right? Each of us may have a personal opinion on this question but can we, as scientists, decide this question in an objective way? Surely, we cannot.

All that we can do as scientist, is to take an Aristotelian point of view by defining that reasoning as more morally mature which takes the most perspectives into account. This is the truly universalistic point of view, proposed by philosophers like Immanuel Kant and John Rawls, as well as by educators like John Dewey. This point of view commands us to judge the morality of another person not by his or her concrete decision but by the way he or she arrived at this decision.

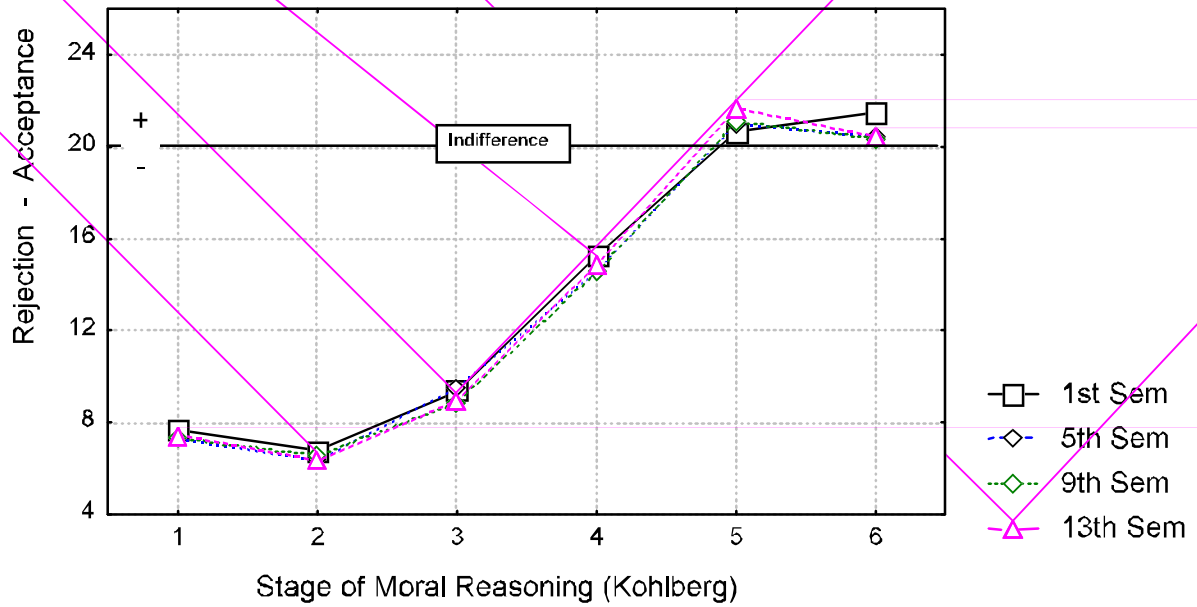
References

- Bargel, T. & Ramm, M. (1994). The study of medicine. A description of a field from students' point of view. (German: Das Studium der Medizin. Eine Fachmonographie aus studentischer Sicht. Bonn: Federal Ministry of Education and Science.
- Blasi, A. (1980). Bridging moral cognition and moral action: A critical review of the literature. Psychological Bulletin, 88, 1-45.
- Carver, R.P. (1993). The case against statistical significance testing, revisited. Journal of Experimental Education, 61(4), 287-292.
- DuBois, J. (1997a). The moral judgment of medical personnel. A cross-cultural study about brain death and organ explanation. Unpublished doctoral dissertation, University of Vienna.
- DuBois, J. (1997b). Secondary analysis of the data from DuBois (1997a) by the author.
- Framhein, G. & Langer, J., eds. (1984). Students and study in an international perspective. (German: Student und Studium im internationalen Vergleich). Klagenfurt: Kärntner Druck- u. Verlagsanstalt.
- Helkama, K. (1987). The fate of moral reasoning in medical school: a two-year longitudinal study. University of Helsinki, Finland: Unpublished manuscript.
- Hogan, R. & Emler, N. (1995). Personality and moral development. In W.M. Kurtines & J.L. Gewirtz, eds., Moral development. An introduction, pp. 209-227. Boston: Allyn and Bacon.
- Kohlberg, L. (1964). Development of moral character and moral ideology. In M.L. Hoffman & L.W. Hoffman, eds., Review of Child Development Research, Vol. I, pp. 381-431. New York: Russell Sage Foundation.
- Kohlberg, L. (1984). Stage and sequence. In: L. Kohlberg, ed., Essays on moral development, Vol. II, The psychology of moral development, pp. 7-169. San Francisco: Harper & Row (originally published 1969).
- Kohlberg, L. & Candee, D. (1984). The relationship of moral judgment to moral action. In: L. Kohlberg, ed., Essays on moral development, Vol. II, The psychology of moral development, pp. 498-582. San Francisco: Harper & Row.
- Jacobs, M.K. (1975). Women's moral reasoning and behavior in a contractual form of prisoner's dilemma. University of Toledo. Unpublished doctoral dissertation.
- Lind, G. (1981). The effects of interest in medical studies on the choice of medicine as a career. A follow-up study of "Gymnasium" graduates who enter medical school. (Fachinteressen im Prozeß der Ausbildungsentscheidung am Beispiel des Medizinstudiums.) Special Research Unit 23, Konstanz, Germany: Mimeographed report.
- Lind, G. (1985). Content and structure of moral judgment behavior. Theoretical, epistemological and empirical investigations of moral and democratic competencies of students. (Inhalt und Struktur. Theoretische, methodologische und empirische Untersuchungen zur Urteils- und Demokratiekompetenz bei Studierenden.) University of Konstanz. Mimeographed doctoral dissertation.
- Lind, G. (1993). Education and morality (Moral und Bildung). Heidelberg: Asanger.
- Lind, G. (1995). The measurement of moral development revisited. Invited paper, SIG Moral Development and Education, AERA meeting 1995, San Francisco.
- Lind, G. (1996). Educational environments which promote self-sustaining moral-development. Paper presented at the meeting of the American Educational Research Association, April 1996, New York.

- Lind, G., Grochowska, K. & Langer, J. (1987). Do women have a different morality? An empirical study of female and male students in Austria, Germany, and Poland. (Haben Frauen eine andere Moral? Eine empirische Untersuchung von Studentinnen und Studenten in Österreich, der Bundesrepublik. In L. Unterkirchner & I. Wagner, eds., Die andere Hälfte der Gesellschaft, pp. 394-406. Wien: Verlag des Österreichischen Gewerkschaftsbundes.
- McNamee, S. (1977). Moral behavior, moral development and motivation. Journal of Moral Education, 7(1), 27.
- Peisert, H. & Framhein, G. (1994). The system of higher education of the Federal Republic of Germany. (German. Das Hochschulsystem in der Bundesrepublik Deutschland. Aktualisierte Fassung). Bonn: Bundesministerium für Bildung und Wissenschaft.
- Rest, J.R. (1979). Development in judging moral issues. Minneapolis, MI: University of Minnesota Press.
- Sprinthall, N.A., Sprinthall, R.C. & Oja, S.N. (1996). Educational Psychology. A Developmental Approach. Sixth Edition. New York: McGraw-Hill.
- Walker, L. (1986). Sex differences in the development of moral reasoning: a critical review. Child Development, 57, 677-691.

Affective Aspect: Moral Attitudes of German University Students by Semester

$F(15, 6975)=5,03; r=0.03$

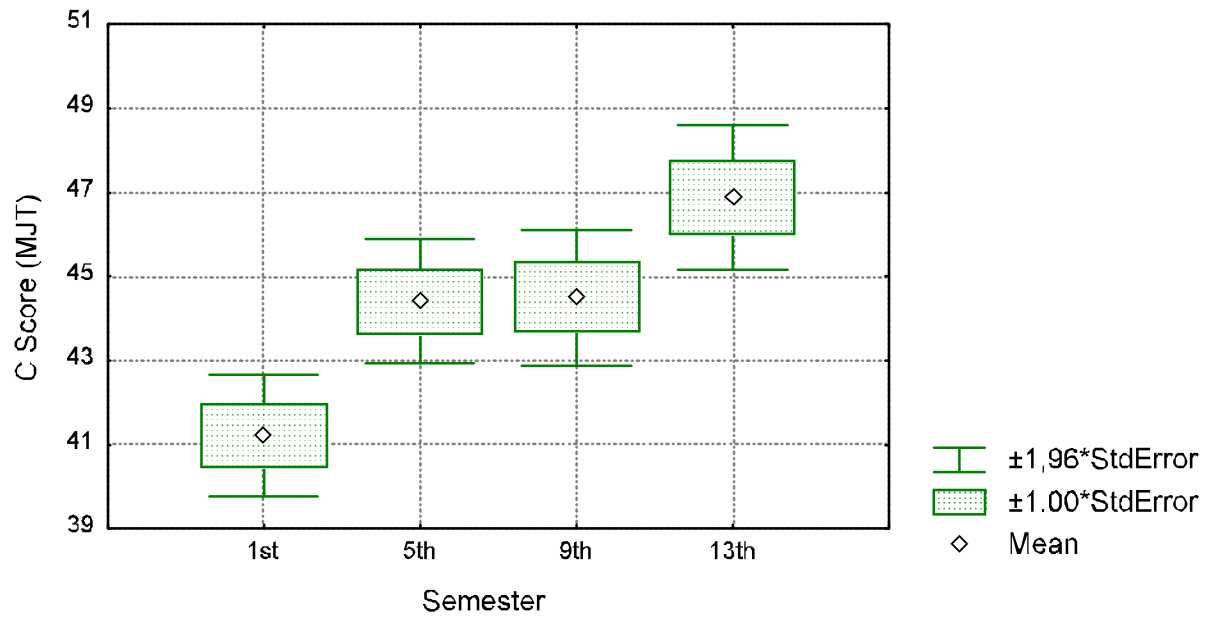


Source: FORM-Project
 Analysis: G. Lind, 1997
 File: St4-Profilc.etg

Fig. 1

Longitudinal Change of Moral Judgment Competence in German University Students (w/o Medicine)

$F(3,1212)=10,14; p<0.0000$

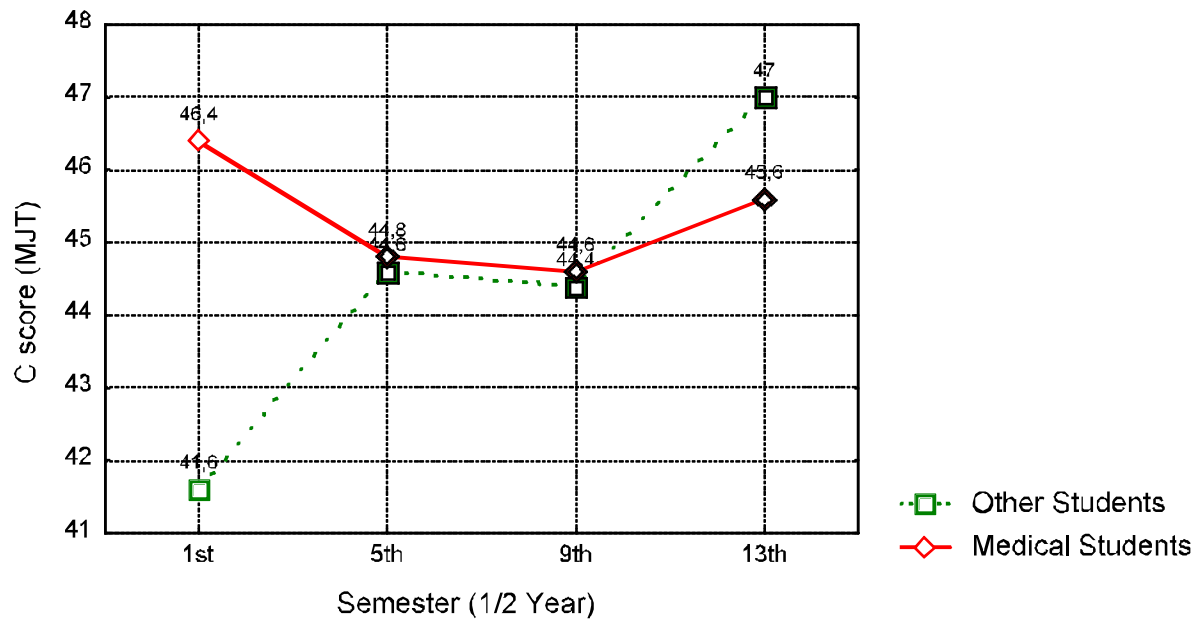


Source: FORM-Project
Analysis: G. Lind, 1997
File: St4-C-all.stg

Fig. 2

Longitudinal Change of Moral Judgment Competence in German Medical Students

$F(3,1383)=1,84; p<,1380; \text{min. } N= 592, \text{max. } N=719$

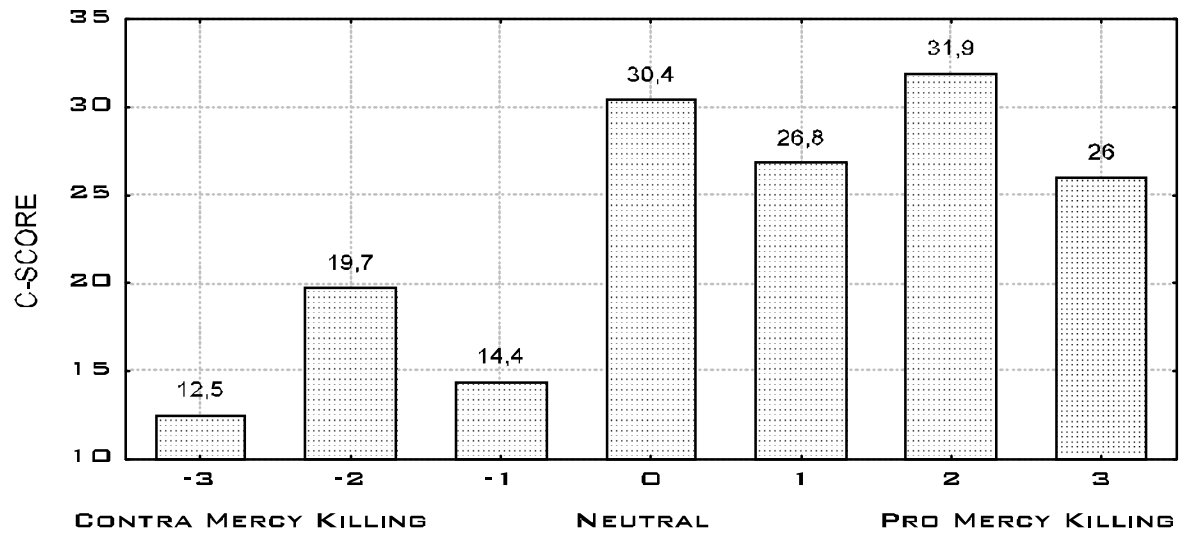


Source: FORM-Project
Analysis: G. Lind, 1997
File: St4-C.stg

Fig. 3

Opinion of Medical Personnel on Mercy Killing
by Moral Judgment Competence (MJT)

$F(6,178)=7,59; p<,0000$



Data: J. DuBois, 1997
Analysis: G. Lind, 1997
File: MU&Euth.stg

Fig. 4