REPLY1:

**Macrina Case Studies**

Case study 10.1 pages 351-352

In this case, several trainees are leaving a lab group ran by someone who is thought to be aggressive with too high of expectations for scientific research. A faculty member of the university comes to you with concerns over the integrity of the results but does not wish to confirm misconduct has occurred in the lab (Macrina, 2011). I believe that making an unannounced visit to the lab to observe what the faculty member is concerned about is the first step. Also, maybe ask to interview the trainees that left to find out why. Based on these observations and finding out more information, it would direct a better decision on how to handle this case. Proverbs 10:9 states “whoever walks in integrity walks securely, but he who makes his ways crooked will be found out” (Gideons, 2012).

Case study 10.3

A man is preparing for his first publication and asks a colleague to review over this, in which she finds he has falsified information because he is worried others may steal his unique findings. The faculty reviewing over the material encourages him to withhold the novel information and only place expected data (Macrina, 2011). I think in both viewpoints there is deception. Both interfere with evidence: one via secrecy and not provided all details and the other through withholding information completely. If possible, the paper should be postponed for the 6-8 months until he has more information regarding the novel findings, so all the data can be presented accurately. “Let no one deceive you with empty words, for because of such things God’s wrath comes on those who are disobedient” seen in Ephesians 5:6 (Gideons, 2012).

**Wagner chapter 4 questions**

Question 1

I agree with Dr. Samuel D. Hensley regarding fetal genetic testing. I do not believe it should be used for unborn children.

Question 2

Genetic testing in the work place I think the risks outweigh the benefits. I think it should be between health care providers and the individual if the individual wants this: not through the employer. The local health care system where I live does genetic testing on their employees, if they would like it done and it seems to cause more issues than good. I also do not think insurance providers should know about genetics, either. How the person lives their life should be revealed, but the person cannot change their genetics. I don’t think immigrants should be genetically tested either. I do support, communicable disease testing though.

**Is genetic testing ethical and how does this relate to specifically to neo-eugenics?**

I think if a man or a woman have a disease in their family (like sickle cell or factor V) that could cause issues, then absolutely, do genetic testing. I think this should be done before conception though. God gave human’s the ability to understand science. I do not think this directly relates with neo-eugenics because the professionals looking at the blood samples are not manipulating them. They are simply looking for genetic abnormalities.

**Is sex-selection ethical?**

I do not believe being able to choose the sex of your child is ethical. That is God’s domain that human’s should not play in. Read in Psalm 127:3 “children are a gift from the LORD, they are a reward from Him” (Gideons, 2012), in which God should decide.

**Is surrogacy ethical?**

This is a difficult question to answer. For the mother carrying a child of a different man or woman, this can lead to psychological distress and legal issues (Geisler, 2010).

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REPLY2:

**10.1**

As the institutional research integrity officer, I would argue that it is within your responsibility to do something. With that being said, a full fledged investigation along with accusations towards Dr. Dickerson is not only unnecessary, but also rather unprofessional. As a reminder, we do live in a country where the guilt of an individual is to be proven, not innocence. The issue of this possibly being speculation and a falsehood rings true to me since Professor Sarkar is only interested in provoking “hallway conversation” instead of supporting an actual allegation. From the information we were given, I would argue that a follow up and questioning specifically with the trainees who had left is in order. From there, if they reported something questionable or anything that raised any issues, then that would be justification for a legitimate investigation into Dr. Dickerson as a whole from his current students to his laboratory experiments.

**10.3**

I agree with Ellen’s opinion in this scenario that Joshua is treading treacherous waters. His manipulation of the data could very easily be seen as falsification by a whole plethora of individuals, and not only those within the scientific community. The idea of cropping it is something that I was thinking about whilst reading the case study. Ellen could not have provoked a better idea that is not only beneficial to Joshua’s first major paper, but also protective to his future research on the topic. Not only does this concept save the data of the DNA that Joshua does not wish to show, it also is not manipulated, for it covers the entire piece of data it says it covers with the only difference being the size represented. While this recommendation will fix Joshua’s issue in the current time frame, if he is able to take a little bit more time perhaps he has another option. Given he is able to take six more months to a year to finish his major paper and submit it to whomever he is submitting it to, it is possible for him to finish the research on the DNA fragments with the exciting hypotheses. This not only allows him to not have any of his progress used as a stepping stone for others without any benefit to him, but he is also able to finish the major paper that he desires.

**Is genetic testing ethical?**

From a scientific standpoint, genetic testing can generally be viewed as ethically sound. With that being said, there are definitely specific scenarios that would question an individual's set of morals and place them into an ethical quandary. For example, if a geneticist were to inform a given individual about their genetically linked disease or disorder that is recessive, then they might not tell their relatives. Perhaps a given patient was told that they are predisposed to getting cancer at some point in their lives, and they did not want to inform their family, of whom are also at the same risk, since the original patient is ashamed or something of the like. This puts the geneticist into a quandary conflicting directly between confidentiality of their patients versus the duty of a physician to care for the well being of all humans alike. From a religious standpoint, it is also quite questionable and has many quandaries one can be placed in. As children of God, we would want the best for our fellow brothers and sisters and for them to live joyous and healthy lives no? We also do not want to bring offense toward the Lord by playing God. For example, a geneticist may inform a pregnant woman about a recessive gene that can be passed down to the next of kin. This may make the individual eventually come to the decision of abortion. This in of itself is its own ethical quandary, for now we not only have to weigh abortion, but also the intervention of another persons personal lives. Who are we to tell them whether or not to have an abortion? The way I see it, I am not to infringe on another’s God given right of free will and privacy. With all of this being considered, I do not feel that the answer to the question is simply black or white, but rather it takes on many shades of grey.

**How does this relate specifically to neo-eugenics?**

Neo-eugenics is another issue that is rather conflictive in nature. We are most likely all aware of the cases of eugenics that have taken place historically, such as the artificial selection of the super race of blonde haired blue eyed individuals by the Nazi regime and Adolf Hitler specifically. The individuals who posed a biological threat to the future of the world as Hitler had seen it, were removed from existence one way or another. This is an extreme example of course and neo-eugenics takes on a different angle. Neo-eugenics loosely has the aim not to exterminate individuals but rather genetically select specific ones and only give them the right to pass on their superior genes.1 The idea is that their genes would prevent the continuation of the many diseases and disorders we are afflicted with as a society today. With that being said, this currently theoretical concept is rather ethically dark. The end goal of eliminating afflictions we face as humans is nice, but the means are not justified by that end. This would not only mean the intervention into people’s lives and directly removing their chance to have offspring, but in more extreme uncontrolled countries it could lead to mass execution. This is not to mention how from a religious standpoint this is the definition of playing God. We are genetically altering an individual’s framework. That in itself is the work of God, and we would be changing that. This also provokes the issues that many humans have with mortality despite the eternity we are to have within the kingdom of the Lord. This is a dangerous territory to enter as is said in Genesis 3:1-24, "Now the serpent was more crafty than any other beast of the field that the Lord God had made. He said to the woman, “Did God actually say, ‘You shall not eat of any tree in the garden’?” And the woman said to the serpent, “We may eat of the fruit of the trees in the garden, but God said, ‘You shall not eat of the fruit of the tree that is in the midst of the garden, neither shall you touch it, lest you die.’” But the serpent said to the woman, “You will not surely die. For God knows that when you eat of it your eyes will be opened, and you will be like God, knowing good and evil.”2The story of Adam, Eve, and the serpent provokes the idea that the original sin, where the fruit of the tree was consumed, elucidates just how sinful it is to act with the desire and intention to “be like God, knowing good and evil”.

**Is sex-selection ethical?**

From both a religious and scientific standpoint, I would argue no in most cases. From a simple non religious view, the idea of choosing one sex of a child over another, evokes the idea that one of them is inherently more valuable than the other. From a religious viewpoint it is yet again the concept of playing God. Not only that, but it insinuates that having one child over another would provide you with more happiness and in turn them more love. Parents are to love their children regardless of their sex. Now, the only case where I could see this to be applicable is the sex selection in order to avoid a certain disease or disorder that is more prevalent on males or females. This is only ethical, for you have the desire to not force a child into an existence of pain and anguish.

**Is surrogacy ethical?**

Surrogacy as a whole is yet another concept that has its benefits, but also raises many ethical flags. It brings forth problems such as the possible exploitation of the volunteered women, it has the possibility of splitting a parent and children, and a few more. Not only this, but it can also raise the potential issues surrounding why one would want to have a surrogate child. Is it genuinely to have offspring where you cannot, or is it monetarily related? The issue of commoditization of children is viewed as an illegal action in many countries. This is not to mention how the actual birth mother could have no contact with the child they birth. From a religious standpoint, perhaps child bearing was not the design of the Lord for the given individuals.

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REPLY3:

Case study 10.1: In this case study as the Institutional research integrity officer even though Professor Sarkar did not say that she was making an allegation I would still investigate to see if any of the information is true or if it was just things she heard others speaking about.

Case Study 10.3: Even though Joshua did put an explanation in the draft of his paper I do agree with Ellen that it could be looked at as falsifying data and that cropping out the unexpected fragments would be the better option so no one can accuse him of falsifying any data.

Is genetic testing Ethical and how does this relate specifically to neo-eugenics? I think that the action of genetic testing is ethical, but when a person or couple makes a decision to terminate a pregnancy due to the results of genetic testing could definitely be considered unethical. Genetic testing relates to neo-eugenics when people decide to manipulate hereditary qualities in a human to make improvements, which is unethical and can be seen as playing god.

Is sex selection ethical? I do not think that sex selection is ethical due to the fact that now instead of leaving it to God, they are taking it into there own hands and in a way playing god.

Is Surrogacy ethical? I think that surrogacy is ethical especially when there are women who are unable to have children of their own due to medical issues. Also, I think that a person who is the surrogate is very brave and courageous to do that for a couple.

References

Macrina FL. Scientific Integrity. 4th edition. 2005.

REPLY 4:

**Macrina- Ch. 10- Scientific Record Keeping- Case Studies**

***10.1***

As the research integrity officer of this private university, it would be my responsibility to promote responsible research activities as well as to investigate any allegations of research misconduct. Although Dr. Sarkar has not made an official allegation of misconduct against Dr. Dickerson or his department, she has heard rumors of possible research misconduct consisting of modifying and falsifying research data. I would immediately review the accuracy of the laboratory data notebook by checking the quality of the recordkeeping. Dr. Dickinson would be the principal investigator and has the responsibility for the collection, recording and storage of all the data. Since his research was federally funded, the data belongs to the institution and a periodic review of the data should already be taking place. Proverbs 11:3 says that the integrity of the upright guides them, but the crookedness of the treacherous destroys them2.

***10.3***

In this case, Dr. Fang suspects that data was possibly deliberately altered in Joshua’s manuscript. Joshua then admits he altered an image to conceal some of the results from his original experiment. He then makes another mistake by justifying the missing data with misleading language intended to minimize the importance of the omitted data. Joshua is committing misconduct in reporting the results because he is not including all the data observed from his experiment in the official laboratory data book. And according to the Macrina text, investigators should “never make comments that could be subject to misinterpretation by others.” Dr. Fang is correct when she warns Joshua that he is deliberately falsifying data. Her suggestion of cropping the image to exclude the same data is also a case of misconduct for the same reasons explained above. I would tell them that they must publish all results in the data notebook as they occurred.

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**Wagner- Chapter 4-Is Human Genetic Testing Ethical? p. 242**

Q1.

Fetal genetic testing involves human embryos along with the rights of an unborn child. This presents ethical dilemmas that are much more prominent than those associated with adult genetic testing. In the first viewpoint, Boyle and Savulescu support using PND and PGD for any reason as long as the termination of a pregnancy is unrestricted. I disagree with them and would be against using these procedures for detecting minor or major chromosomal abnormalities. PGD can lead to producing designer babies. PND produces excess embryos, some of which will have to be destroyed. In both scenarios, we are disrespecting the rights of the unborn child and this amounts to playing God, which we should not do. Producing a child in order to save another person’s life should also not be allowed. In the Hensley viewpoint, he states that producing children with desired traits can lead to parents having higher expectations for them during their lifetimes. This does not seem to be an advantage to me. Colossians 3:17 tells us that whatever we do, we should do everything in the name of the Lord2.

Q2.

***Workplace***

The MacDonald and Williams -Jones viewpoint finds it beneficial to offer employees genetic testing in the workplace. They believe this screening can detect genetic predispositions to toxins or other environmental factors in the workplace and reduce costs for the employer that would be related to lost productivity, absenteeism and higher health insurance premiums5. They think the company should be selective in their hiring process and use genetic testing to hire workers that are healthy and productive.

The O’Neill viewpoint states that genetic testing of employees is never justifiable, and employers will use this testing unethically for their gain, such as in reducing pension costs. The entire process would be fraught with discrimination. The author further contends that genetic testing has never worked in the past. Instead, he suggests eliminating risks within the workplace. He concludes by saying that genetic testing is unethical and a violation of human rights.

***Immigration***

Genetic testing can be used for immigration purposes as a tool to provide additional proof of relationship for someone who wishes to become a U.S. citizen. This can reduce immigration fraud while also allow for the process to become more efficient.

***Insurance***

Manson and Congo believe that genetic testing should be used to measure employee’s health risks so that insurance premiums can be adjusted appropriately. They think that doing this will change employee behavior and lead to lower health risks. Their premise is that these genetic tests will be able to detect genetic mutations that cause diseases. They also believe that discrimination based on these tests is not currently a problem or will become one in the future. They think that with this information, life insurance companies can customize policies using the information about the insurance health risks. They claim that this will make their system more efficient by lowering insurance premiums and helping the insurer become more profitable.

In the viewpoint by the National Council on Disability, an independent federal agency, they contend that health and life insurance companies, as well as other entities, have discriminated against people using these genetic tests. This leads to many people being screened and subsequently denied insurance coverage and jobs even though they may have never developed a disease. Further, they believe that this discrimination undermines the purpose of genetic testing research which should be the early identification and prevention of disease.

**Questions**

1. **Is genetic testing ethical?**

I do not believe that genetic testing should be done on an embryo or fetus because it disrespects the rights of the unborn child and it is an attempt to play God. However, genetic testing on adults for medical reasons can be beneficial. It can help to diagnose a disease and therefore target specific treatment options for that disease. Test results can also determine the risk of developing certain diseases that may be able to be prevented. Genetic testing can confirm certain diseases such as anemia, cystic fibrosis, Huntington’s disease, Duchene muscular dystrophy and sickle cell disease. Genetic testing can help determine your risk of developing colorectal cancer and breast cancer1.

1. **How does this relate specifically to neo-eugenics?**

Neo-eugenics, sometimes called positive eugenics, is the attempt to improve human characteristics by using genetic engineering to obtain desirable traits. It can be seen as the next step from using PND to screen for genetic diseases and disorders in fetuses which are then medically aborted. It is an attempt to produce designer babies from preimplantation genetic diagnosis (PGD) and an overall genetically superior child2. As more disease-causing mutations are detected before birth, it is possible that more PGD will be done leading to the spread of neo-eugenics.

1. **Is sex-selection ethical?**

I do not believe that sex selection is ethical for non-medical or elective reasons especially if it involves an elective abortion of the undesired sex. However, sex selection can be used for medical reasons. These include sex linked diseases such as hemophilia and Duchenne muscular dystrophy3. Assisted reproductive technologies (ART) target the sperm for sex selection. In one method, a sperm sorting technique is used to isolate the sperm with the X or Y chromosome3. Another method uses IVF-PGD which creates embryos that may have to be discarded or destroyed. This would not be ethical. Mark 10:6 says that from the beginning of creation, God made them male and female6.

**4. Is surrogacy ethical?**

Although surrogacy is an acceptable procedure, I do not think it is ethical to use. I believe there are psychological effects on both the newborn when it is separated from its mother and the surrogate mother who must give up the child. It is not morally right to pay money to a surrogate mother for renting out their body. There are also additional physical health considerations involved for the surrogate mother because she is not using her own egg. Psalm 139:13 says that for you formed my inward parts; you knitted me together in my mother’s womb6.

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REPLY 5:

**Case Study 10.11**

Dr. Sarkar approaches the university research integrity officer (RIO) and relays to her what she has heard about people leaving the neurobiology department run by Dr. Dickerson.  Dr. Sarkar says she has heard rumors that Dr. Dickerson pressures his trainees to modify test results among other things.  Dr. Sarkar suggests auditing Dr. Dickerson’s data books for falsification, but she stops short of making a formal allegation of misconduct.  While the RIO has the responsibility to respond to any allegation of scientific misconduct,2   what Dr. Sarkar is telling the RIO is little more than gossip at this point.  The RIO should document the conversation, obtain a written statement from Dr. Sarkar, and then interview the three cohorts of Dr. Dickerson who have left the department.  The RIO should also speak with Dr. Dickerson.  I think all of these steps should precede an official investigation or audit of the data books.

Exodus 23:1 “You shall not spread a false report.  You shall not join hands with a wicked man to be a malicious witness”.3

**Case Study 10.31**

Dr. Hanani asks Dr. Fang to critique his first major paper. She detects that he has altered a gel bed image in the paper.  He says he did this because the image showed a promising possible second experiment that he would like to work on, but didn’t want other scientists to see the image and beat him to the punch.  Dr. Fang suggests he crop the intriguing DNA fragments out of the photo.  Neither of these solutions are viable options.  My suggestion would be for Dr. Hanani to run more gels and retake the photo.  If he replicates the same results he will be ahead of the game on his new discovery and can include the image in his original paper knowing that he is further in his research for a second potential experiment and paper.

John 17:17 “Sanctify them in the truth; your word is truth.”3

**Wagner Chapter 4, Question 14**

Fetal genetic testing is abhorrent to many people because they fear that if a mother is faced with a genetic defect during pregnancy that she will abort the fetus.  At the time of publication of this textbook (2008), 800 genetic conditions could be detected through prenatal diagnosis (PND).  Those who debate the ethicality of PND are Robert Boyle and Julian Savulescu, and Chris McDonald and Bryn Williams-Jones who speak from a personal and employer perspective respectively.  They debate whether terminating a pregnancy when a genetic defect is found is not only a form of eugenics, but discriminatory.  By eliminating certain genetic ailments, are we telling the living with the same disease that we do not accept them?  Another point debated is the idea of creating designer children by picking and choosing traits, however, say Boyle and Savulescu, PND is not necessarily needed for some information since it is already provided during ultrasound of a fetus.  McDonald and Williams-Jones believe that it is ethical to provide employers with the results of an employee’s genetic testing.  They believe this would give employers a fairer advantage when hiring by screening out prospective employees with preexisting diseases which could cost them more in benefits paid, cause high rates of absenteeism or loss of productivity.  Conversely, Rory O’Neill argues that this is an unethical practice.  Trying to weed out those employees who may be susceptible to, say environmental hazards simply does not work.  It just cuts down  a potentially larger of applicants.  It does not make the workplace safe, says O’Neill, just flawed.

James 4:1-3 “What causes quarrels and what causes fights among you? Is it not this, that your passions are at war within you? You desire and do not have, so you murder. You covet and cannot obtain, so you fight and quarrel. You do not have, because you do not ask. You ask and do not receive, because you ask wrongly, to spend it on your passions.”3

**Wagner Chapter 4, Question 24**

*Genetic testing in the workplace:*

McDonald and Williams-Jones claim genetic testing of future employees will help employers benefit by lowering lost productivity, absenteeism, cost reduction, and less payouts to workers compensation benefits.  **Pro.**

O’Neill is against genetic testing in the workplace because he says it simply does not work; it is faulty, inaccurate, discriminatory, and a violation of human rights.  He claims it could affect blood relatives applying for other jobs.  **Con.**

*Genetic testing and insurance*

Manson and Conko claim there is no evidence that genetic discrimination occurs.  If insurers know up front through genetic testing that a client is susceptible to a genetic disorder, the insurance company can use the information to eliminate high pay out customers which lowers premiums for others.  **Pro.**

The National Council on Disability argues that genetic discrimination is a problem.  They say people are denied employment and insurance based on a preexisting genetic information.  They claim fear of reprisal could make people less likely to be truthful with their doctors or genetic counselors.  **Con.**

**Is genetic testing ethical?**

I believe genetic testing is ethical depending on the context.  I disagree with workplace and insurance genetic testing due to the discriminatory nature.  Under the Genetic Information Nondiscrimination Act (GINA) passed in 2008, denial of insurance based on preexisting genetic illness is illegal.1   I, however, believe it is a person’s right to seek genetic testing for themselves, children, or unborn children to screen for genetically predisposed diseases.

**How does this relate specifically to neo-eugenics?**

Using modern genetic technology, prospective parents can be prescreened to determine their carrier status for certain diseases. Preimplantation genetic diagnosis (PGD) following *in vitro* fertilization allows parents to select embryos that are free of disease. Additionally, prenatal genetic testing can provide a lot of information to parents about their unborn child.5   These technologies make more informed decision-making possible, however these procedures smack of neo-eugenics to some.  The original intention of Francis Galton when he coined the term “eugenics” was to improve the human race through selective breeding, however the eugenics movement soured when Nazi Germany added a sinister twist.  If the above-mentioned goals of genetic technology stop the transmission of negative or “undesirable” traits from generation to generation, or the alteration of human genome lines,6 is this not eugenics, or at least a new form of eugenics:  neo-eugenics?   All of these techniques and more seem to me to be simply the commercialization of eugenics.

Galatians 3:28 “There is neither Jew nor Greek, there is neither slave nor free, there is no male and female, for you are all one in Christ Jesus.”3

**Is sex-selection ethical?**

Sex selection is also a money-making technology.  Balancing one’s family with one boy and one girl like bookends is not a necessity, it is a personal preference and I find it unethical.  Why would one reasonably need to select their baby’s sex?  Sex selection can be made through preimplantation genetic diagnosis (PGD), a test sometimes performed as part of *in vitro* fertilization(IVF) cycle.1   Although there are many reasons parents may use **PGD; perhaps to assist with fertility or to prevent serious genetic predisposition,** sex selection makes me uncomfortable.  It’s a little too close to playing God.*Darwin to Hitler: Evolutionary Ethics, Eugenics, and Racism in Germany*

**Is surrogacy ethical?**

Surrogacy is another topic which I believe is ethical depending on the context.  Norman Geisler rather callously refers to surrogate motherhood as a “womb for hire” situation.7    I believe there are valid reasons why surrogacy should be used, such as in cases of infertility, for same-sex couples, for single men who wish to have a child, or if a woman’s age or health do not permit her to carry a child.  I do not believe surrogacy should be used simply for convenience such as a means for a couple to continue their careers without interruption or so that a woman does not lose a well-maintained physique.

Psalm 127:3 “Behold, children are a heritage from the Lord, the fruit of the womb a reward. Like arrows in the hand of a warrior are the children of one's youth. Blessed is the man who fills his quiver with them! He shall not be put to shame when he speaks with his enemies in the gate.”3

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