**Introduction to Research in Kinesiology**

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**Multiple Choice Questions**

1. Where were the first two kinesiology programs developed in Canada?
2. The University of Saskatchewan and the University of Alberta
3. McGill University and the University of Toronto
4. Simon Fraser University and the University of Waterloo
5. The University of British Columbia and Memorial University
6. What two concepts represent a researcher’s belief in the nature of truth and reality and how she or he might acquire knowledge about that truth and reality?
7. Science and research
8. Postpositivism and constructivism
9. Quantitative and qualitative
10. Ontology and epistemology
11. What philosophical worldview is best represented in the following abstract?

*This study was designed to explore the meaning of sport from the perspective of professional athletes. Ten athletes and their coaches participated in this study. Data were collected by means of observation and interviews, conducted at their training centres. Participants’ data resulted in the following three themes: (a) more than a job, (b) building relationships and community, and (c) being held to a higher standard. The results showed the importance of sport to both athletes and coaches, as well as their influence on the cities in which they live and work.*

1. Two-eyed seeing
2. Postpositivism
3. Constructivism
4. Pragmatism
5. Which of the following rank order of philosophical worldviews best represents the highest likelihood of seeing a quantitative research approach (i.e., rank ordered from the worldview *most likely* to include a quantitative research approach to the worldview *least likely* to include a quantitative research approach)?
6. Transformative, constructivism, postpositivism, pragmatism
7. Postpositivism, pragmatism, transformative, constructivism
8. Constructivism, transformative, pragmatism, postpositivism
9. Pragmatism, postpositivism, constructivism, transformative
10. What are the three main components of a research design?
11. Ontology, epistemology, ethical approval
12. Philosophical worldview, research approach, research methods
13. Quantitative, qualitative, mixed methods
14. Determinism, reductionism, theory testing
15. What is a researcher’s set of beliefs that guide her or his orientation to science and research called?
16. Purpose statement
17. Research design
18. Philosophical worldview
19. Ethical principle
20. Which philosophical worldview is exemplified by researchers working collaboratively with participants and focusing on action to better change the lives of participants in the study?
21. Transformative
22. Two-eyed seeing
23. Pragmatism
24. Postpositivism
25. What does a mixed methods research design combine?
26. Pragmatic and transformative philosophical worldview-guided research
27. Physiological and psychological research
28. Sport, health, and exercise research
29. Quantitative and qualitative research
30. Which of the following rank order of philosophical worldviews best represents the highest likelihood of seeing a qualitative research approach (i.e., rank ordered from the worldview *most likely* to include a qualitative research approach to the worldview *least likely* to include a qualitative research approach)?
31. Transformative, constructivism, postpositivism, pragmatism
32. Postpositivism, pragmatism, transformative, constructivism
33. Constructivism, transformative, pragmatism, postpositivism
34. Pragmatism, postpositivism, constructivism, transformative
35. Which of the following statements best reflects the field of kinesiology?
36. The field of kinesiology continues to grow and expand enormously.
37. The field of kinesiology has remained relatively static over the past 50 years.
38. The field of kinesiology has been remarkably useful in confirming historically accepted “facts” by experts in other fields of study.
39. The field of kinesiology has become decreasingly multidisciplinary and research focused since the development of kinesiology programs in Canada.
40. Which of the following best represents the definition of “kinesiology”?
41. The study of applied health science
42. The study of physical education teacher training
43. The study of sport science
44. The study of human movement
45. Which of the following would we typically see in a quantitative research study?
46. Small sample sizes and numerical data
47. Large sample sizes and numerical data
48. Small sample sizes and non-numerical data
49. Large sample sizes and non-numerical data
50. Which of the following would we typically see in a qualitative research study?
51. Small sample sizes and numerical data
52. Large sample sizes and numerical data
53. Small sample sizes and non-numerical data
54. Large sample sizes and non-numerical data
55. Which of the following is an accurate statement about a mixed methods research approach in kinesiology?
56. Mixed methods research designs in kinesiology can prioritize either one or both of quantitative and qualitative methods.
57. Mixed methods research designs in kinesiology prioritize quantitative over qualitative methods.
58. Mixed methods research designs in kinesiology prioritize qualitative over quantitative methods.
59. Mixed methods research designs in kinesiology are unique in that they do not include either quantitative or qualitative methods.
60. Which of the following research questions is most likely best answered by a mixed methods research approach?
61. What is the relationship between physical activity and obesity in youth?
62. How do older adults cope with bullying in senior’s social housing?
63. How do perceptions of masculinity affect men’s body image?
64. How does self-esteem differ between male and female exercisers?
65. The Canadian Health Measures Survey, which measures variables ranging from physical activity to muscular flexibility, is an example of what type of research approach?
66. A mixed methods research approach
67. A qualitative research approach
68. A quantitative research approach
69. A transformative research approach
70. Clark et al.’s (2011) study that explored the physical activity experiences of young adolescent girls via interviews with eight participants is an example of what type of research approach?
71. A mixed methods research approach
72. A qualitative research approach
73. A quantitative research approach
74. A transformative research approach
75. Ferguson et al.’s (2014) study that explored the role of self-compassion in young women athletes’ psychological well-being across two phases, with the first phase using questionnaires across 83 athletes and the second phase having interviews with 11 athletes, is an example of what type of research approach?
76. A mixed methods research approach
77. A qualitative research approach
78. A quantitative research approach
79. A transformative research approach
80. Which of the following rank order of philosophical worldviews best represents the highest likelihood of seeing a mixed methods research approach (i.e., rank ordered from the worldview *most likely* to include a mixed methods research approach to the worldview *least likely* to include a mixed methods research approach)?
81. Pragmatism, postpositivism, transformative
82. Pragmatism, transformative, postpositivism
83. Transformative, pragmatism, postpositivism
84. Transformative, postpositivism, pragmatism
85. Which of the following rank order of philosophical worldviews best represents the highest likelihood of seeing collaboration with study participants as a main feature of the research approach (i.e., rank ordered from the worldview *most likely* to include collaboration with study participants to the worldview *least likely* to include collaboration with study participants)?
86. Pragmatism, postpositivism, transformative
87. Pragmatism, transformative, postpositivism
88. Transformative, pragmatism, postpositivism
89. Transformative, postpositivism, pragmatism
90. Within which philosophical worldview are you *unlikely* to see a researcher work with the participants in their study to identify the research questions and/or research methods that will be used to answer the research questions?
91. Transformative
92. Two-eyed seeing
93. Constructivism
94. Postpositivism
95. In which of the following professions might we find someone with a kinesiology degree?
96. Physical therapy
97. Athletic director
98. Firefighter
99. All of the above
100. What is the name of the accreditation body that values the wide range of areas that make up kinesiology and provides kinesiology program accreditation for postsecondary institutions in Canada?
101. University Kinesiology Accreditation Council of Canada (UKACC)
102. School of Kinesiology, University of Toronto
103. Canadian Council of University Phyiscal Education and Kinesiology Administrators (CCUPEKA)
104. Canadian Kinesiology Accreditation Council (CKAC)
105. What two ways of knowing are brought together in a two-eyed seeing philosophical worldview?
106. Indigenous ways of knowing and Western ways of knowing
107. Maculine ways of knowing and feminine ways of knowing
108. Scientific ways of knowing and ways of knowing rooted in the humanities
109. Ways of knowing derived from the perceptual system and ways of knowing derived from the sensory system
110. What philosophical worldview is best represented in the following abstract (from Reis et al., 2019)?

*Despite a growing emphasis on self-compassion in sport, little research has focused exclusively on men athletes. The purpose of this research was to explore the interaction of self-compassion and diverse versions of masculinity on the psychosocial well-being of men athletes. We sampled 172 men athletes (N =172, Mage = 22.8 years) from a variety of sports, using descriptive methodology with self-report questionnaires. Self-compassion was related to most variables (e.g., psychological well-being, fear of negative evaluation, state self-criticism, internalized shame, reactions to a hypothetical sport-specific scenario) in hypothesized directions and predicted unique variance beyond self-esteem across most of those variables, as well as moderated relationships between masculinity and both autonomy and attitudes towards gay men. In addition, self-compassion was differentially related to inclusive and hegemonic masculinity. Our findings support self-compassion as a promising resource for men athletes to buffer emotionally difficult sport experiences.*

1. Two-eyed seeing
2. Postpositivism
3. Constructivism
4. Pragmatism

**True or False Questions**

1. Physical education teacher training is no longer an important aspect of kinesiology.
2. A defining feature of a pragmatic philosophical worldview is being committed to one single notion of reality.
3. A defining feature of a postpositivist philosophical worldview is being committed to a single reality or objective truth to be discovered through research.
4. Researchers with a two-eyed seeing philosophical worldview position Indigenous ways of knowing over and above (i.e., dominating) Western ways of knowing.
5. A defining feature of a constructivist philosophical worldview is that the researcher should be objective and unbiased.
6. A defining feature of a two-eyed seeing philosophical worldview is valuing both Indigenous and Western knowledge systems.
7. A transformative philosophical worldview is based on the notion that research needs to be closely connected with politics and have an action agenda to advocate for marginalized peoples.
8. A combination of quantitative and qualitative research approaches should only be used by researchers with a pragmatism philosophical worldview.
9. Using the scientific method is recommended for all researchers in kinesiology because of the importance placed on being objective and unbiased in research.
10. Quantitative research studies require large sample sizes to be considered valid.
11. The terms science and research are not exclusive to the field of kinesiology.
12. The vast majority of studies conducted historically in field of kinesiology have used mixed methods research designs.
13. Understanding how knowledge within a field is generated is important because it allows professionals to critique “facts” that are accepted as true within their field.
14. An important milestone in kinesiology research in Canada was the development of university kinesiology programs.
15. Although there is a large body of research in various areas of kinesiology (e.g., exercise physiology, biomechanics, sport sociology), a significant gap is that there currently isn’t a body of research literature discussing the historical and philosophical roots of kinesiology and what subdisciplines and professions should be part of kinesiology.

**Short Answer Questions**

1. List and define the three main components of a research design.
2. Define the concept philosophical worldview and describe why it is so important to the research process.
3. Describe why it is important for professionals working in any field of kinesiology to have an understanding of the research process.
4. Provide a range of examples of professions in which we see graduates with kinesiology-related backgrounds.
5. Describe what makes the concepts of science and research both similar and distinguishable from one another.
6. Describe why someone with a pragamatic worldview might use a mixed methods research approach more readily than someone with a postpositivism worldview.
7. Twietmeyer (2012) stated, “Games, play, sport, exercise, dance (among others) are central to who we are and what we do. If physical activity is understood in this way, then the field is as reliant upon ‘ethics’ as much as it is reliant upon ‘biology’” (p. 20). Describe how Twietmeyer’s perspective compares to the Canadian Council of University Physical Education in Kinesiology (CCUPEKA) accreditation requirements for Canadian university kinesiology programs.

**Long Answer Questions**

1. Philosophical worldviews can be considered as guiding frameworks of research. Describe the distinguishing features among five philosophical worldviews, as well as how philosophical worldviews shape the specific research approach a researcher might take to answer research questions.
2. Write three fictional research abstracts in your area of interest, with each research abstract representing a different one of the three main research approaches (i.e., write one fictional research abstract for each of quantitative, qualitative, and mixed methods research approaches). The abstracts should clearly indicate an understanding of the key characteristics that differentiate quantitative, qualitative, and mixed methods research approaches.
3. Describe the value of recognizing a two-eyed seeing philosophical worldview to kinesiology research in the Canadian context.
4. Describe why some researchers within the field of kinesiology might be particularly drawn to using mixed methods research approaches within their research.

**Answer Key**

**Multiple Choice Questions**

1. **c** (Introduction: Current Knowledge in Kinesiology)
2. **d** (Components of a Research Design)
3. **c** (Philosophical Worldviews as Guiding Frameworks of Research)
4. **b** (Philosophical Worldviews as Guiding Frameworks of Research)
5. **b** (Components of a Research Design)
6. **c** (Components of a Research Design)
7. **a** (Philosophical Worldviews as Guiding Frameworks of Research)
8. **d** (Introduction to Research Methods in Kinesiology)
9. **c** (Philosophical Worldviews as Guiding Frameworks of Research)
10. **a** (Introduction: Current Knowledge in Kinesiology)
11. **d** (Introduction: Current Knowledge in Kinesiology)
12. **b** (Introduction to Research Methods in Kinesiology)
13. **c** (Introduction to Research Methods in Kinesiology)
14. **a** (Introduction to Research Methods in Kinesiology)
15. **b** (Introduction to Research Methods in Kinesiology)
16. **c** (Introduction to Research Methods in Kinesiology)
17. **b** (Introduction to Research Methods in Kinesiology)
18. **a** (Introduction to Research Methods in Kinesiology)
19. **b** (Philosophical Worldviews as Guiding Frameworks of Research)
20. **c** (Philosophical Worldviews as Guiding Frameworks of Research)
21. **d** (Philosophical Worldviews as Guiding Frameworks of Research)
22. **d** (Introduction: Current Knowledge in Kinesiology)
23. **c** (Introduction: Current Knowledge in Kinesiology)
24. **a** (Philosophical Worldviews as Guiding Frameworks of Research)
25. **b** (Philosophical Worldviews as Guiding Frameworks of Research)

**True or False Questions**

1. **F** (Introduction: Current Knowledge in Kinesiology)
2. **F** (Philosophical Worldviews as Guiding Frameworks of Research)
3. **T** (Philosophical Worldviews as Guiding Frameworks of Research)
4. **F** (Philosophical Worldviews as Guiding Frameworks of Research)
5. **F** (Philosophical Worldviews as Guiding Frameworks of Research)
6. **T** (Philosophical Worldviews as Guiding Frameworks of Research)
7. **T** (Philosophical Worldviews as Guiding Frameworks of Research)
8. **F** (Philosophical Worldviews as Guiding Frameworks of Research)
9. **F** (Philosophical Worldviews as Guiding Frameworks of Research)
10. **F** (Introduction to Research Methods in Kinesiology)
11. **T** (Introduction to Research Methods in Kinesiology)
12. **F** (Introduction to Research Methods in Kinesiology)
13. **T** (Introduction: Current Knowledge in Kinesiology)
14. **T** (Introduction: Current Knowledge in Kinesiology)
15. **F** (Introduction: Current Knowledge in Kinesiology)

**Short Answer Questions**

1. The three main components of a research design are (1) the researcher’s philosophical worldview (i.e., a researcher’s beliefs about the world and the nature of research); (2) the research approach (i.e., quantitative, qualitative, and mixed methods); and (3) research methods (i.e., specific methods of data collection, analysis, and interpretation). (Components of a Research Design)
2. A philosophical worldview can be defined as a researcher’s set of beliefs that guide her or his orientation to science and research. It shapes what is considered truth and reality, as well as how researchers acquire knowledge about truth and reality. It also shapes the type(s) of research that researchers value and appreciate. (Components of a Research Design)
3. Professionals need to understand the research process so that they (1) can critically evaluate existing knowledge in the field of kinesiology, and (2) are able to build on existing knowledge. (Introduction: Current Knowledge in Kinesiology)
4. Professionals with kinesiology backgrounds can be found in (1) professions that utilize the knowledge of kinesiology degrees directly, such as fitness trainers and recreation directors; (2) other health professional programs, such as medicine and physical therapy; and (3) professions that value the skills and knowledge of kinesiology graduates, such as the police force and government. (Introduction: Current Knowledge in Kinesiology)
5. The concepts of science and research are highly linked to one another, with both focused on the discovery of knowledge. They can be distinguished by describing science as the discovery of knowledge and research as a specific method to discover that knowledge. (Introduction to Research Methods in Kinesiology)
6. (new) The characteristics of a quantitative approach (e.g., numerical data, measurement of variables, large samples, and statistical analyses) align with the philosophy of objectivity and finding one single truth in research. Alternatively, within pragmatism rather than commit to one type of research approach and corresponding method over another, pramatists incorporate all approaches that are appropriate and necessary to understand their research problem. (Philosophical Worldviews as Guiding Frameworks of Research)
7. (new) In order for a postsecondary institution to have a kinesiology program accredited by the Canadian Council of University Physical Education and Kinesiology Administrators (CCUPEKA), minimum core curriculum requirements must include courses in human anatomy, human physiology, exercise physiology, biomechanics, motor learning/motor control, and psychology of physical activity, as well as additional courses in the social sciences and humanities, statistics, and research methods. Therefore the Twietemeyer persepetive and the CCUPEKA standards are highly compatible and recognize the importance and value of a wide range of areas of study that make up the field of kinesiology. (Introduction: Current Knowledge in Kinesiology)

**Long Answer Questions**

1. The main features of *postpositivism* are (a) a belief in a single reality or objective truth, (b) determinism, (c) reductionism, and (d) theory testing. A quantitative research approach is typically used by researchers with a postpositivist philosophical worldview. The main features of *constructivism* are (a) a belief in multiple realities, (b) meaning is varied and complex, (c) that knowledge is socially constructed, and (d) the researcher’s own realities and views shape the research process. A qualitative research approach is typically used by researchers with a constructivist philosophical worldview. The main features of *pragmatism* are (a) a focus on solution to problems and consequences of actions, (b) no commitment to any single notion of truth and reality, (c) application focused, and (d) pluralistic. A mixed methods research approach is typically used by researchers with a pragmatism philosophical worldview. The main features of a *transformative* worldview are (a) a belief that research needs to be closely connected to politics and advocacy, (b) that the research process be empowerment-oriented, (c) a focus on reform and change, and (d) collaborative. A combination of qualitative (typically the dominant approach) and quantitative (if useful) research approaches can be used by researchers with a transformative philosophical worldview. The main features of *two-eyed seeing* are (a) a recognition of the strengths of both Indigenous and Western knowledge systems, (b) recognizing equity in both knowledge systems, (c) a focus on addressing the needs of the individual and/or community, and (d) the premise of respect, reflection, and co-learning. A combination of quantitative and qualitative research approaches are often used by researchers with a two-eyed seeing philosophical worldview. (Philosophical Worldviews as Guiding Frameworks of Research)
2. Within each of the abstracts, students should identify a purpose statement that is consistent with the research approach. For example, a quantitative purpose statement could be focused on the relationship between two variables, a qualitative purpose statement could be focused on meaning of experience, and a mixed methods purpose statement should reflect a study purpose that could be informed by both quantitative and qualitative methods. Within each abstract, details should be consistent with the research approach. For the quantitative abstract, there would typically be a larger number of participants, the identification of measureable variables, and statistics as the data analysis strategy. For the qualitative abstract, there would likely be a small number of participants, data collection strategies consistent with the qualitative tradition (e.g,. observation, interviews), and the identification of themes as results. For the mixed methods abstract there should be elements of both quantitative and qualitative methods clearly presented. Overall, the abstracts will vary greatly by student and will need to be evaluated individually. (Introduction to Research Methods in Kinesiology)
3. Two-eyed seeing is a philosophical worldview that integrates Indigenous ways of knowing and Western ways of knowing. A significant value of a two-eyed seeing philosophical worldview to kinesiology research in the Canadian context is that it acknowledges and values Indigenous ways of knowing, which is generally not a significant focus of other philosophical worldviews. In addition, two-eyed seeing places Indigenous ways of knowing on the same level as Western ways of knowing, which can be particularly important when working with a variety of communities within the Canadian context. (Philosophical Worldviews as Guiding Frameworks of Research)
4. Many researchers in the field of kinesiology align with a pragmatism worldview, which is premised on the idea that researchers need to be concerned with solutions to problems; and therefore, there is no commitment to any single notion of reality. Researchers with a pragmatism worldview are concerned about application, or doing what works. This focus on application, or doing what works, is a strong fit for the field of kinesiology, which is field with many applied research questions and related professions (students could be expected to provide some applied examples to highlight this point, such as the goal to increase population physical activity or the goal to enhance the effectiveness of physical education programs). Researchers with a pragmatism worldview recognize that questions related to the nature of reality are indeed important but are willing to set aside those types of questions temporarily (or permanently) in their research. Thus, rather than commit to one type of research approach and corresponding method over another, pragmatists incorporate all approaches that are appropriate and necessary to understand their research problem. (Philosophical Worldviews as Guiding Frameworks of Research)