

## ABSTRACT

**Lissa Febria Sari Batu Bara (2021): The Effect of Hand Muscle Power Durability, Eyes-Hand Coordination and Reaction Velocity on the Student's Basic Volley Ball technique Skill at Self Development Extracurricular Activity of SMAN 6 Kerinci.**

The problem of the research was the student's basic volley ball technique skill at self development extracurricular activity held by State Senior High School 6 Kerinci was still low. This case was influenced by some factors such as Hand Muscle Power Durability, Eyes-Hand Coordination and Reaction Velocity. The objective of the research was to figure out direct, indirect and simultaneous effect of those three factors on the student's basic volley ball technique skill.

This research was quantitative path analysis design. The population was all of the students who participated on volley ball extracurricular activity held by SMAN 6 Kerinci consisting of 29 students. There were 18 of them as the sample. The technique used to select the sample was purposive sampling technique. There were three instruments used, first, *Push-up* testing to measure hand muscle power durability, next, throw-catch tennis ball test to measure eyes-hand coordination, and the last one was Whole Body Reaction test used to measure Reaction Velocity. Then, the data were analyzed by applying Path analysis through Structural Model Testing. The hypothesis result proved that: (1) There was direct effect of hand muscle power durability on the student's basic volley ball technique skill ( $P_{y1} = 0,271$  and the percentage effect was 7,34%), (2) There was direct effect of eyes-hand coordination on the student's basic volley ball technique skill ( $P_{y2} = 0,244$  and the percentage effect was 7,34%), (3) There was direct effect of reaction velocity on the student's basic volley ball technique skill ( $P_{y3} = 0,580$  and the percentage effect was 33,64%), (4) There was indirect effect of hand muscle power durability through reaction velocity on the student's basic volley ball technique skill. ( $P_{3.1} : P_{y3} = 0,293 > P_{y1} = 0,271$  and the total percentage effect was 33,64%), (5) There was indirect effect of eyes-hand coordination through reaction velocity on the student's basic volley ball technique skill ( $P_{3.2} : P_{y3} = 0,249 > P_{y1} = 0,244$  and the total percentage effect was 24,29%), and (6) There was simultaneous effect of hand muscle power durability, eyes-hand coordination, and reaction velocity on the student's basic volley ball technique skill ( $R_{square} = 0,904$  or 90,40%

**Key Terms** : *Hand Muscle Power Durability, Eyes-Hand Coordination, Reaction Velocity, Basic Volleyball Technique Skill*

## ABSTRAK

**Lissa Febria Sari Batu Bara. (2021). Pengaruh Daya Tahan Kekuatan Otot Lengan, Koordinasi Mata Tangan dan Kecepatan Reaksi terhadap Keterampilan Teknik Dasar Bolavoli pada Kegiatan Pengembangan Diri Siswa SMA Negeri 6 Kerinci.**

Masalah dalam penelitian ini adalah rendahnya keterampilan teknik dasar bolavoli yang dimiliki oleh siswa yang mengikuti kegiatan pengembangan diri di SMA Negeri 6 Kerinci. Rendahnya keterampilan teknik dasar bolavoli dipengaruhi oleh beberapa faktor, seperti daya tahan kekuatan otot lengan, koordinasi mata tangan dan kecepatan reaksi. Penelitian ini bertujuan untuk mengetahui seberapa besar pengaruh langsung, pengaruh tidak langsung dan pengaruh simultan daya tahan kekuatan otot lengan, koordinasi mata tangan dan kecepatan reaksi terhadap keterampilan teknik dasar bolavoli.

Jenis penelitian ini adalah kuantitatif dengan pendekatan analisis jalur. Populasi dalam penelitian ini adalah seluruh siswa yang mengikuti kegiatan pengembangan diri bolavoli yang berjumlah 29 orang. Sampel di ambil dengan teknik *Purposive Sampling*, sehingga sampel berjumlah 18 orang. Instrument daya tahan kekuatan otot lengan menggunakan tes *Push Up*, koordinasi mata tangan menggunakan tes lempar tangkap bola tenis, kecepatan reaksi menggunakan tes *Whole Body Reaction*, dan keterampilan teknik dasar bolavoli terdiri dari tes servis bawah, *Passing* atas dan *Passing* bawah. Data dianalisis dengan analisis jalur melalui pengujian model struktural.

Hasil pengujian hipotesis menunjukkan, (1) terdapat pengaruh langsung daya tahan kekuatan otot lengan terhadap keterampilan teknik dasar bolavoli ( $p_{y1} = 0,271$  dengan pengaruh sebesar 7,34%), (2) terdapat pengaruh langsung koordinasi mata tangan terhadap keterampilan teknik dasar bolavoli ( $p_{y2} = 0,244$  dengan pengaruh sebesar 5,95%), (3) terdapat pengaruh langsung kecepatan reaksi terhadap keterampilan teknik dasar bolavoli ( $p_{y3} = 0,580$  dengan pengaruh sebesar 33,64%), (4) terdapat pengaruh tidak langsung daya tahan kekuatan otot lengan melalui kecepatan reaksi terhadap keterampilan teknik dasar bolavoli ( $p_{31.p_{y3}} = 0,293 > p_{y1} = 0,271$  dengan pengaruh total sebesar 31,86%), (5) terdapat pengaruh tidak langsung koordinasi mata tangan melalui kecepatan reaksi terhadap keterampilan teknik dasar bolavoli ( $p_{32.p_{y3}} = 0,249 > p_{y1} = 0,244$  dengan pengaruh total sebesar 24,29%), dan (6) terdapat pengaruh daya tahan kekuatan otot lengan, koordinasi mata tangan dan kecepatan reaksi secara simultan terhadap keterampilan teknik dasar bolavoli ( $R_{square} = 0,904$  atau sebesar 90,40%).

**Kata Kunci : Daya Tahan Kekuatan Otot Lengan, Koordinasi Mata Tangan, Kecepatan Reaksi, Teknik Dasar Bolavoli.**