

Publications Work Unit Prof. Dr. Karen Zentgraf

(as at October 2025)

(peer-reviewed manuscripts and peer-reviewed book chapters only; h-index 28; on October 14, 2025: 3343 citations)

Hacker, S., Reichert, L., Lenz, C., Henne, S., David, F., Heilmann-Heimbach, S., **Zentgraf, K.**, & Krüger, K. (under review). Genetic and environmental determinants of Vitamin D status: A polygenic score analysis in elite athletes.

Prosch, Y., **Zentgraf, K.**, & Wieland, B. (under review). Gender-specifics in volleyball spike technique, upper-body strength, and shoulder mobility.

Will, L., Musculus, L., **Zentgraf, K.**, de Haan, H., Redlich, D., & Raab, M. (under review). A critical examination of the usefulness of taxonomies for comparing cognitive functions across sports.

Reichert, L., Carl, F., Hacker, S., Krüger, K., & **Zentgraf, K.** (under review). The role of genetic information in a trans- and multidisciplinary project in elite sports: A narrative review.

Lenz, C., Seel, W., Dombrowski, T., Hacker, S., Simon, M.-C., **Zentgraf, K.**, Dawczynski, C., & Krüger, K. (under review). Adaptive signatures in gut microbiome of German elite athletes: Insights from a matched-pair analysis.

De Haan, H., Musculus, L., Will, L., Roffler, A., **Zentgraf, K.**, Laborde, S., & Raab, M. (under revision). Cognitive functions across the menstrual cycle in eumenorrhic women: A meta-analytic review.

Meyer, V., Wiese, L., Al-Ghezi, A., Raab, M., Krueger, K., & **Zentgraf, K.** (accepted). A clustering-driven performance analysis webapp for sports and activity data. *Lecture Notes in Business Information Processing*.

2025

Wiedenbrüg, K., Roffler, A., Reichert, L., Mutz, M., **Zentgraf, K.**, & Krüger, K. (2025).

Multifactorial patterns of low performance development in German elite athletes. *Translational Sports Medicine*, 8421509. <https://doi.org/10.1155/tsm2/8421509>

Hilpisch, C., **Zentgraf, K.**, & Mutz, M. (2025). Smartphone use and mental health – Findings from a 30-day longitudinal study among young talented volleyball players. *International Journal of Sport and Exercise Psychology*, 1-21. <https://doi.org/10.1080/1612197X.2025.2563317>

Siebert, L., Reichert, L., Musculus, L., Will, L., Al-Ghezi, A., Raab, M., & **Zentgraf, K.** (2025). Fast-and-frugal trees: A decision tool for elite sports. *PLoS One*, 20, 8, e0329395. <https://doi.org/10.1371/journal.pone.0329395>

Carr, G. & Fleddermann, M.-T. (2025). The influence of menstrual cycle phases on postconcussion outcomes and symptom reporting: A scoping review. *Scandinavian Journal of Medicine & Science in Sports*, 35, e70093. <https://doi.org/10.1111/sms.70093>

Niederdraeing, L. & **Zentgraf, K.** (2025). Force-velocity profiling among different maturational stages in young Soccer players: A cross-sectional study. *International Journal of Strength and Conditioning*, 5, 1. <https://doi.org/10.47206/ijsc.v5i1.366>

Fleddermann, M.-T. & **Zentgraf, K.** (2025). Biologische Grundlagen motorischer Entwicklung über die Lebensspanne. In C. Niessner, A. Conzelmann und K. Bös (Hrsg.), *Handbuch motorische Entwicklung*, X-X, Hoffmann: Schorndorf.

Blessing, J., Hilpisch, C., Krüger, K., Raab, M., Wiese, L., **Zentgraf, K.**, & Mutz, M. (2025). Too much effort, too little reward? Dropout considerations of German elite athletes. *German Journal of Exercise and Sport Research*, 55, 443-453. <https://doi.org/10.1007/s12662-024-01013-w>

Hacker, S., Lenz, C., Reichert, L., Ringseis, R., **Zentgraf, K.**, & Krüger, K. (2025). Vitamin D status and its determinants in elite German athletes. *European Journal of Applied Physiology*, 125, 1549-1561. <https://doi.org/10.1007/s00421-024-05699-6>

Reichert, L., Hacker, S., Krüger, K., Mutz, M., & **Zentgraf, K.** (2025). How much can the genotype predict phenotypical power performance in elite male and female athletes? *Journal of Human Kinetics*, 95, 95-109. <https://doi.org/10.5114/jhk/190679>

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Cermak, N., Wittenbrink, P., Rosenkötter, M., & **Zentgraf, K.** (2024). Predictors for national junior squad selection in the German Volleyball Federation. *German Journal of Exercise and Sport Research*, 55, 431-442. <https://doi.org/10.1007/s12662-024-01007-8>

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Zentgraf, K., Musculus, L., Reichert, L., Will, L., Roffler, A., Hacker, S., Hilpisch, C., Wiedenbrüg, K., Cermak, N., Lenz, C., de Haan, H., Mutz, M., Wiese, L., Al-Ghezi, A., Raab, M., & Krüger, K. (2024). Advocating individual-based profiles of elite athletes to capture the multifactorial nature of elite sports performance. *Scientific Reports*, 14, 26351. <https://doi.org/10.1038/s41598-024-76977-8>

Wiedenbrüg, K., Will, L., Reichert, L., Hacker, S., Lenz, C., **Zentgraf, K.**, Raab, M., & Krüger, K. (2024). Inflammation and cognitive performance in elite athletes: A cross-sectional study. *Brain, Behavior and Immunity - Health*, 42, 100872. <https://doi.org/10.1016/j.bbih.2024.100872>

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- Schmitz, T., Fleddermann, M.-T., & **Zentgraf, K.** (2024). Talent selection in 3x3 Basketball: Role of anthropometrics, maturation, and motor performance. *Frontiers in Sports and Active Living - Elite Sports and Performance Enhancement*, 6, 1459103. <https://doi.org/10.3389/fspor.2024.1459103>
- Wellm, D., Jäger, J., & **Zentgraf, K.** (2024). Dismissing the idea that Basketball is a "contactless" sport: Quantifying contacts during professional gameplay. *Frontiers in Sports and Active Living - Elite Sports and Performance Enhancement*, 6, 1419088. <https://doi.org/10.3389/fspor.2024.1419088>
- Brinkbäumer, M., Kupper, C., Reichert, L., & **Zentgraf, K.** (2024). Dual-task costs in speed tasks in elite Ice Hockey athletes. *Frontiers in Psychology - Movement Science*, 15, 1357312. <https://doi.org/10.3389/fpsyg.2024.1357312>
- Roffler, A., Fleddermann, M.-T., de Haan, H., Krüger, K., & **Zentgraf, K.** (2024). Menstrual cycle tracking in professional Volleyball athletes. *Frontiers in Sports and Active Living - Women in Sport*, 6, 1408711. <https://doi.org/10.3389/fspor.2024.1408711>
- Hilpisch, C., Krüger, K., Raab, M., Wiese, L., **Zentgraf, K.**, & Mutz, M. (2024). Burnout symptoms in elite athletes: Assessing the role of effort-reward imbalance, support and emotions. *International Review for the Sociology of Sport*, 59, 1054-1074. <https://doi.org/10.1177/10126902241248767>

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- Nolte, S., Krüger, K., Lenz, C., & **Zentgraf, K.** (2023). Optimizing the gut microbiome for individualized performance enhancement in elite athletes. *Biology*, 12, 1491. <https://doi.org/10.3390/biology12121491>
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- Zentgraf, K.** & Raab, M. (2023). Excellence and expert performance in sports: What do we know and where are we going? *International Journal of Sport and Exercise Psychology*, 21, 5, 1-21. <https://doi.org/10.1080/1612197X.2023.2229362>
- Wellm, D., Willberg, C., & **Zentgraf, K.** (2023). Differences in player load of professional Basketball players as a function of distance to the game day during a competitive season. *International Journal of Strength and Conditioning*, 3, 1. <https://doi.org/10.47206/ijsc.v3i1.219>
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