the current instructions (see Chapters 5 through 7) were not specifically directed to distinguish subliminal, preconscious and conscious perception from each other, but were predominantly developed based on prior observations with the off-center paradigm. It may be burdensome however to create instructions and manipulations that fully direct attention to or away from the area of the two sides of the goal (i.e., presumably the stimulus of interest), also because participants may, in principle, gain equivalent information by focusing on the goalkeeper’s position instead of making a direct comparison between the goal sides directly. In fact, it is still unclear what specific information participants need and use to select kicking direction and whether this would differ for subliminal and preconscious perception, and hence, it is not completely transparent where penalty takers should and do direct their attention toward. Possibly, a more detailed spatio-temporal analysis of gaze may help interpretation in this respect.

A final theme for research would be to find out in which other situations the off-center effect may occur. In principle – if the off-center effect is caused by differences in the accuracy of conscious and unconscious perception – there should be a variety of situations in which perception of the position of another person (or other task-relevant environmental properties) can affect an observer’s decision and behavior without getting access to conscious awareness. That is, though the current thesis mainly concerns penalty kicking in soccer – and a little bit of beach volleyball – the findings are possibly relevant for a myriad of other (sports-) situations that people commonly encounter.

9. References


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10. Summary

In recent years a number of different factors have been identified that influence the behavior and success of soccer penalty taking. These include, among others, mental factors such as the coping strategy adopted by penalty takers, the perceptual behaviors of penalty takers (including gaze), and the strategies a penalty taker can employ. This thesis scrutinizes the theoretical and practical consequences of two factors in more detail. First, it addresses how the way a penalty taker approaches a penalty kick situation strategically (i.e., keeper independent and keeper dependent) influences kicking behaviors and success. Second, it examines how goalkeepers can influence the kicking behavior and success of a penalty taker, without the kicker being aware (i.e., the off-center effect). To this end, six studies were carried out, two of which addressed the effectiveness and risks of the two penalty kick strategies, while four studies aimed to shed light on the origin and pervasiveness of the off-center effect.

The first study examined whether the gaze behaviors differ between the keeper dependent and keeper independent strategies, and if so, to what extent these gaze characteristics relate to differences in the effectiveness and risks that are associated with either strategy (e.g., in terms of kicking accuracy), both in high and low anxiety situations. Penalty takers were equipped with a portable gaze-tracker and instructed to adopt their preferred penalty kick strategy – that is, in the case of a keeper dependent strategy, to wait for