STUDIES

Trends in Air-to-Air Combat: Implications for Future Air Superiority

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Resources: Future Warfare & Concepts

In this study, Dr. John Stillion conducts a historical analysis of air-to-air combat, drawing on a database of over 1,450 air-to-air victories from multiple conflicts from 1965 to the present. Using this data, Stillion assesses how advances in sensor, weapons, and communication technologies have changed air combat and the implications of these trends for future combat aircraft designs and operational concepts. Stillion concludes that these advances may have fundamentally transformed the nature of air combat. This transformation may be steadily reducing the utility of some attributes traditionally associated with fighter aircraft (e.g., extreme speed and maneuverability) while increasing the value of attributes not usually associated with fighter aircraft (e.g., sensor and weapon payload as well as range). As a result, an effective sixth-generation "fighter" may look similar to a future "bomber" and may even be a modified version of a bomber airframe or the same aircraft with its payload optimized for the air-to-air mission, Stillion argues. If this is correct, then the United States may be in a position to save tens of billions of dollars in nonrecurring development costs by combining Air Force and Navy future fighter development programs with each service's long range ISR/strike programs.