

Temperament

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Temperament

Primary Disciplinary Field(s): Developmental Psychology, Personality Psychology, Behavioral Genetics

1. Core Definition

Temperament is fundamentally defined as the set of constitutionally based, biological individual differences in reactivity and self-regulation. These characteristics represent the earliest observable manifestation of personality, present virtually from birth. As highlighted in foundational psychological studies, temperament is considered both **innate**--meaning individuals are born with these specific dispositional tendencies--and **enduring**, suggesting a relative stability across the lifespan, although its expression may change with age and environmental interaction.

A crucial distinction of temperament, often noted when differentiating it from broader personality traits, is its deep relationship to **emotionality**. Temperament dictates the characteristic intensity, threshold, and quality of an individual's emotional responses, such as whether a person tends toward being calm, anxious, or nervous. For instance, an infant displaying high levels of distress or withdrawal in novel situations is likely to carry similar dispositional tendencies, such as nervousness or high neuroticism, into adulthood, thus demonstrating its predictive power regarding later psychological profiles.

2. Etymology and Historical Development

The philosophical consideration of innate human disposition dates back to antiquity. The term "temperament" itself derives from the Latin *temperamentum*, meaning a 'mixture' or 'balance'. The most influential ancient framework was provided by Galen, who built upon Hippocrates' humoral theory, positing that the balance of four bodily fluids (humors) determined distinct temperaments (sanguine, phlegmatic, choleric, melancholic). While scientifically obsolete, this model established the enduring idea that biological factors influence disposition.

The modern, empirical study of temperament began in earnest with the longitudinal research led by Alexander Thomas and Stella Chess in the 1950s. Their landmark work, the New York Longitudinal Study (NYLS), defined temperament based on observable behaviors rather than purely biological mechanisms. Their findings were instrumental in shifting psychological focus toward understanding how biological predispositions interact with environmental factors from early infancy. Subsequent influential models, such as those proposed by Jerome Kagan (focusing on inhibited vs. uninhibited types) and Mary Rothbart (focusing on dimensions like effortful control and negative affectivity), further refined measurement and neurobiological underpinnings.

3. Key Characteristics and Dimensions

Modern temperament research generally utilizes dimensional models, recognizing that individuals vary along several independent continua. These dimensions help researchers categorize the stylistic aspects of behavior and reaction.

Activity Level: Refers to the tempo and frequency of gross motor behavior. A high activity level indicates constant movement, while a low activity level suggests calmness and stillness.

Emotionality (Affect): Encompasses the intensity and prevalence of an individual's emotional responses. This dimension directly addresses the inherent tendency toward specific emotional states, such as high positive affect (joy, enthusiasm) or high negative affect (fear, anxiety, distress), linking directly to the inherent emotional tone identified in the core definition.

Attention/Persistence: The capacity of the child to remain focused on a task or stimulus despite distraction, reflecting early aspects of executive function and regulation.

Sociability (Approach/Withdrawal): The characteristic response to new stimuli, people, or situations. An 'approach' style indicates curiosity and interest, while 'withdrawal' signifies caution, hesitation, or initial anxiety.

4. The Thomas and Chess Categorization

Based on their nine dimensions (including those listed above, plus rhythmicity, threshold of responsiveness, intensity of reaction, quality of mood, and distractibility), Thomas and Chess categorized infants into three broad temperamental types, providing a practical framework for clinical and developmental applications.

The Easy Child: Characterized by a generally positive mood, regular biological functions (sleeping, eating), low or moderate intensity of reactions, and high adaptability to new situations or change. Approximately 40% of the NYLS sample fell into this category.

The Difficult Child: Defined by irregular biological rhythms, intense and frequently negative moods, and slow acceptance of novelty. These children often withdraw from new stimuli and react intensely to frustration. This group comprised roughly 10% of the sample.

The Slow-to-Warm-Up Child: Distinguished by low activity level, initial withdrawal and negative mood upon encountering new stimuli, but with eventual, cautious adaptation after repeated exposure. This category accounted for about 15% of the sample, with the remaining 35% being mixtures of these primary types.

5. Biological and Genetic Basis

The classification of temperament as constitutionally based implies a robust link to underlying physiological and biological mechanisms, often mediated by genetics and neurobiology. Behavioral genetics research, primarily conducted through twin and adoption studies, consistently supports the strong heritability of most temperament dimensions, often accounting for 40% to 60% of the variance observed in specific traits like negative emotionality and activity level.

Neurobiological studies further identify specific brain structures and systems involved. For example, high levels of reactivity and inhibition (a type of temperament studied by Kagan) are associated with heightened activity in the **amygdala** when exposed to novel or threatening stimuli. Similarly, differences in the efficiency and development of the **prefrontal cortex** are linked to variations in effortful control and attention persistence, underscoring the physiological reality of temperamental differences.

6. Significance and Impact

Temperament serves as the critical bridge between nature and nurture, profoundly influencing how individuals interact with and are shaped by their environment. It influences the selection of environments (niche-picking) and dictates how external stimuli are perceived and processed. Its significance is perhaps most powerfully illustrated by the concept of **Goodness-of-Fit**.

The goodness-of-fit model posits that optimal development occurs when the child's temperamental style is congruent with the demands, expectations, and resources provided by the surrounding environment, particularly the parenting style. For instance, a highly active child thrives best in an environment that allows for physical expression, while a highly sensitive, withdrawing child requires patient, low-pressure introduction to novelty. When there is a mismatch (poor fit), stress, conflict, and negative developmental outcomes, including behavioral problems, are more likely. Thus, understanding a child's temperament allows parents and educators to tailor their approaches for better adjustment and relational harmony.

7. Debates and Criticisms

Despite its explanatory power, the study of temperament is subject to ongoing theoretical and methodological debates. A central criticism revolves around the definition of boundaries. Psychologists struggle to definitively draw the line between innate temperament and the complex, learned, and conscious personality traits that emerge later in life. While temperament is seen as the raw, biological substrate, defining precisely when environmental influence transforms temperament into personality remains elusive.

Methodological concerns often focus on measurement. Many widely used tools rely on parental

reports, which are susceptible to significant bias--parents may inflate or minimize certain characteristics based on their own expectations or stressors. Furthermore, the concept of **stability** is continually tested. While temperament is broadly enduring, significant developmental transitions (such as adolescence) or profound environmental shifts can lead to changes in the expression or even the underlying characteristics of temperament, challenging the notion of fixed, lifelong traits.

Further Reading

[Temperament \(Wikipedia\)](#)

[Alexander Thomas and Stella Chess \(NYLS\)](#)

[Jerome Kagan's Research on Inhibition](#)

[Galen and the Humoral Theory](#)

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