# The Cognitive Development of Collegiate Students: A Brief Literature Review

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How do college students, namely young adults between the ages 18 to 22, develop cognitively? What transformation occurs in the way students think and observe the world around them during this period? What influencing agents are most prevalent in directing college students in how they make decisions concerning right from wrong, fact from fiction, an ethical *must* from a moral *never*? Which role models have the greatest authority in aiding these worldview choices: professors, parents, roommates, social gatherings such as fraternities and sororities, or spiritual leaders? Could it be that a large majority of college students travel this developmental journey alone with no help from anyone? Undoubtedly, when young adults complete their college years, they will have formed a new foundation of intellectual, moral and ethical bearings which will ultimately inform their choices in the years to come.

The cognitive development of the late adolescent years and the campus environment itself offers young adults a time of insurmountable discovery and examination. No other phase in the human lifespan does the combination of (1) academic rigor, (2) intellectual exploration, (3) moral investigation, and (4) physical maturation provide such a remarkable time of personal development. Numerous studies have shown that the college years are fertile ground for the rapid expansion of cognitive processes and development in young adults.

It is the intention of this brief literature review to examine the works of two primary sources in collegiate cognitive development. These two sources have provided sound research which will summarize the cognitive,

intellectual, and moral development of collegiate students. The first source is by researcher William Graves Perry, Jr., Perry's work commands a large portion of this review for when he published *Forms of Intellectual and Ethical Development in the College Years: A Scheme* in 1968, he became one of the most noted voices on the subject of cognitive, ethical, and intellectual development in college students. Therefore, his work will be thoroughly examined and discussed.

The second primary source is the research of Mary Belenky, Blythe Clinchy, Nancy Goldberger, and Jill Tarule.[1] These four researchers differed from Perry in that their work was focused entirely on women, whereas Perry studied only men. In comparing and contrasting these two sources and their findings, one will be able to examine the cognitive development of both genders.

Personally, as an educator, advisor and spiritual guide to numerous college students, these sources have been instrumental in understanding what is happening in the heads and hearts of my students. These two sources will challenge any college educator's personal philosophy of teaching, their understanding of late adolescent development, and lead them to view these years of collegiate study as watershed moments in the lives of their students. The educator's role becomes vital in walking alongside their students and aiding them in their cognitive transformation.

## The Beginning Point: The Work of William G. Perry, Jr.

Without question, remarkable changes occur during the college years. Researchers and educators have known this fact for centuries. Yet it was the findings of one particular researcher at Harvard University that provided a verifiable grounding to this claim and created an opportunity for modern researchers to quantify this phenomenon. What began as a simple inquiry into the development of collegiate

students became the foundational study for what young adults experience as they pass through institutions of higher learning.

William Graves Perry, Jr. and his associates conducted a longitudinal study based on 464 open-ended, completely unstructured interviews with male students at Harvard University during the years of 1954-1967. Perry attempted to interview students once a year for four consecutive years, corresponding to their freshman, sophomore, junior and senior status. Eighty-four students completed all four interviews, while hundreds of others completed one or two sessions. Perry's intention was not to quantify or empirically prove his study; he had no desire to analyze data, survey variables, or crunch numbers.[2] He instead wanted to gather free-form responses to questions concerning ethics, morality, relativism, and acceptance of other traditions and cultures. He wanted real answers to how these students gathered meaning from their world.[3] The book which ensued, *Forms of Intellectual and Ethical Development in the College Years: A Scheme*, is a collection of actual interview responses organized into what Perry formed as the three major cognitive stages of college students. Each stage has three underlying layers or *positions*. The three major stages are: Dualism or Multiplicity (Positions 1-3), Relativism (Positions 4-6), and Commitment (Positions 7-9). Perry gives a general overview of his conclusions:

> "In Positions 1, 2, and 3, a person modifies an absolutist right-wrong outlook to make room, in some minimal way, for that simple pluralism we have called Multiplicity. In Positions 4, 5, and 6, a person accords the diversity of human outlook with its full problematic stature, next transmutes the simple pluralism of Multiplicity into contextual Relativism, and then comes to foresee the necessity of personal Commitment

> in a relativistic world. Positions 7, 8, and 9 then trace the development of Commitments in the person's actual experience."[4]

To more clearly summarize and illustrate Perry's findings, consider a college student who begins his freshman year with a dualistic outlook on life. He holds certain values, traditions, and ways of thinking to be personal and satisfying in his world. The opposite of his views or *otherness* is observed in numerous collegiate environments (i.e., classroom, dormitory, social groupings).[5] Nevertheless the student chooses to delineate himself from other perspectives, choosing instead to keep his previously possessed outlook on life.

As the student moves through his sophomore and junior year, this dualism, or as Perry would call it *multiplicity,* is regularly challenged. Perry believed the confrontation with a pluralistic society and exposure to a wide range of values and norms was inescapable for the student. This would not only occur in his academic courses, but in his daily life with peers.[6] The outcome of these confrontations is the student begins to accept a level of relativism and pluralism. The student learns to accept other outlooks on life, differing from his own, as being valid and valuable, potentially ones he could possess. He still sees two pictures of life, but the separation is becoming less and less confrontational in his mind. Ultimately, the student will become largely relativistic and open to any idea, value or belief that is present in his personal surroundings.[7]

Perry called the final stage Personal Commitment. Once the student has explored and evaluated various dimensions of ethics, values, and belief, he must choose for himself a set of personal commitments.[8] The student will determine which beliefs, values, and norms he will possess and commit to those for the rest of his life. These commitments are adaptable in years to come, but have rooted

themselves deep within the personality and psyche of the student.

Perry noted that certain students showed signs of relapse or *deflection*.[9] He used three terms to identify these pauses, or abrupt stops, in collegiate cognitive development: (1) temporizing, (2) escape, and (3) retreat. He writes:

> "[The student] may pause for a year or more, often quite aware of the step that lies ahead of him, as if waiting or gathering his forces (*temporizing*). He may entrench himself, in anger and hatred of 'otherness', in the me-they or we-other dualism of the early positions (*retreat*). Or he may settle for exploiting the detachment offered by some middle positions… in the deeper avoidance of personal responsibility known as alienation (e*scape*)."[10]

These deflections could be righted in the course of time or if unaddressed could cause developmental issues.

**Responses to Perry's Work**

When *Forms* appeared in the academic world, the study was immediately heralded as brilliant and timely. The findings of the study made perfect sense with what most observed as the cognitive development of collegiate students. The single most damaging critique of Perry's work in the academic world was his complete lack of empirical data. Furthermore, the academy had no ability to reproduce Perry's study because his findings were a collection of interview responses, not verifiable evidence and numeric factors.

More recent critiques of Perry's work have been equally damaging. George Fago called Perry's findings a success and highly accurate of the college student experience,

yet without data, difficult to believe.[11] Gordon Brooks agreed with Fago's assessment and added that Perry's lack of further writing on the subject left many to believe his study was error-laden and inconclusive.[12] Love and Guthrie harshly criticized Perry's methodology, although they affirmed his conclusions as being right and centered on developmental truth for collegiate students.[13]

Several researchers have attempted to reformulate Perry's study with empirical analysis and proper research methodology. T. D. Erwin was one of these.[14] Erwin used a Likert scale instead of open-ended interviews and free-form questioning. His findings supported Perry's conclusions and gave the scientific world data to extrapolate and synthesize. Erwin's study was repeated five consecutives times (1983, 1986, 1990, 1993, 1995), each corroborating with the previous study's findings. The data was conclusive; Perry and his associates were on to something back in 1968.

Overall, Erwin's conclusions were two-fold. First, he independently confirmed Perry's scheme by two conceptually similar instruments, however different in actual content, which provided powerful evidence for the convergent validity of the Perry scale itself. Secondly, Erwin performed his study decades later with quite similar results.[15] Perry's scheme has "good temporal stability…and is not limited to a particular generation of students and their experiences."[16] The cognitive development of young adults in the 60's and 70's did not change course in the 80's and 90's. The developmental paths were the same.

Several other notable researchers have reproduced Perry's scheme with comparable studies all finding similar results and outcomes concerning the cognitive development of young adults.[17] Brooks provides a concise estimation of Perry's work:

> "Essentially the theory [or scheme] describes how students move from a simple, categorical view of the world to a more

> relativistic view, which acknowledges a more contingent nature of knowledge and values and recognizes the necessity of making personal commitments."[18]

In regard to research methodology and qualitative analysis, Perry's study was a failure of instrumentation, standardization, and assessment. Still no one doubts the truth he proclaimed concerning the cognitive development of college students.

Another particularly difficult critique which has plagued Perry's scheme is the fact that his sample lacked inclusiveness. Perry's theory focused on Caucasian, upwardly-mobile, socially-elite students from a prestigious Ivy League institution that is known for admitting only America's best and brightest. Most students attending Harvard University are considered more advanced intellectually and cognitively than other college freshman. They have endured years of academic rigors in middle and high school preparatory institutions. A large majority of the students interviewed by Perry were well advanced in their cognitive development simply because of their socio-economic privilege and opportunities afforded to them because of their wealth.[19]

Despite the criticisms, Perry's theory deserves considerable mention. His work influenced Belenky, Clinchy, Goldberg, and Tarule's 1986 research study on women (discussed at length in the next section), Baxter's 1992 examination of the cognitive development of both men and women in the college setting, and King and Kitchener's 1994 study of the development of the Reflective Judgment Model, among many others.[20]

**Women's Ways of Knowing:**
**The Work of Belenky, Clinchy, Goldberg, and Tarule**

When Perry's scheme was released in 1968 it was received with high marks among developmentalists. Most credited Perry with correctly unraveling the mystery of collegiate students' shift in worldviews from one year to the next. Even with the fanfare, one primary criticism of Perry's work kept returning to the forefront: the dominant interviews and responses from male subjects. Perry interviewed female students in the early days of his work, yet none of their responses aided his scheme so he omitted them in his book. A pertinent question must then be asked, "Would female college students, if studied, produce different findings?" Do they differ in cognitive development as compared to their male counterparts?

These questions were precisely the aim for researchers Mary Belenky, Blythe Clinchy, Nancy Goldberger, and Jill Tarule.[21] They believed the cognitive development of women took a unique path during the college years; a path that moved women through several key developmental stages. Belenky et al. used Perry's positions, interview methodology and schematic framework as the basis for their study of women. Their findings, however, proved women did not move through Perry's scheme in the same fashion as men. The end result was the creation of a new scheme designed solely for women describing their particular developmental path.

It should be noted that Belenky's interviews were conducted on both collegiate women and those not presently enrolled in an academic institution. Unlike Perry's study, some of the women interviewed were high school graduates who had never attended college. The researchers wanted other experiences of life (e.g., single motherhood, early career, newly married, struggling to survive, etc.) to be part of their findings.[22] In total, 135 women were interviewed for the

study, 90 women (66%) were either presently enrolled or college graduates.

Belenky et al. organized their new scheme into seven stages, each categorized by a woman's handling of knowledge. The researchers found that women often begin in a period of *silence* (Position 1). This silence encompasses their feelings, understanding of life, and own personality and wants. The silence is produced by years of being overlooked or skirted by educators, coaches, even their own parents.[23] Younger women have difficulty learning how to speak up, speak out, or speak their mind in social interactions, especially in the classroom. When they arrive on the college campus, women must work to develop the use of modern language and public speaking to be able to voice their questions and thoughts. This process necessitates time and opportunities for advancement. During the interim, women remain silent constantly developing the voice that will come in the future.

Belenky et al. called a woman's development of language *received knowledge*. A woman enters this stage by listening to the voices of others (Position 2). In this position, women begin absorbing large amounts of knowledge, ideas, and concepts. They listen intently to the dialogue in the classroom between the instructor and other students. They listen to friends and professionals on subjects very new to their experience. They seek social interactions and relationships that will further engage their minds and perceptions of the world. They become *knowers* for the first time in their lives.[24]

This position is closely followed by a stage of gathering *subjective knowledge*. In Position 3, a woman begins to develop an inner voice, a personal statement about what is the meaning of her world. She develops the ability to internalize and construe a systematic worldview. She may not be able to communicate this worldview publicly, yet the foundation is being set.[25] In Perry's scheme, this is represented in the shift out of dualism to a more relativistic mindset. Belenky et al. noted similarities in the two positions

but contended that for women this shift takes much longer to complete.[26] Belenky et al. concluded that women must first accept the fact that they have *a right* to an opinion before they can begin to have their *own* opinion.[27]

Multiplicity for Perry followed immediately after the student realized a dualism existed between two points of view. Belenky's study showed that women are slower in determining that they too can have a side in the discussion. They are far more apt to wait for someone to assign them a position. Given the right time and environment women will form an internal voice and participate in the dialogue.

Once the inner voice is determined, a woman begins a quest for self (Position 4). She has recognized that she is a knower and capable of interacting in a male-dominated world. She is equipped with an inner voice and the language skills to articulate her worldview so she begins exploring. All avenues of belief, tradition, values, understanding, and meanings of life are at her disposal. Nothing is excluded. Every significant topic is available for her personal exploration and consideration.

Belenky et al. describes Position 4 in this way:

> "In many ways, these women are like the youths in fairy tales…who set out from the family homestead to make their way in the world, discovering themselves in the process. Our women set out on this developmental journey with a sense of power in their intuitive processes and a newfound energy and *openness to novelty*."[28]

An inward conflict soon arises in most women as they begin experimenting with all that is available to them. They soon remember their family, previous values, and commitments. They often become conflicted wanting a bit from both worlds. The sense of newness and novelty soon dies away and a sense of loyalty and responsibility returns. This leads

the women to Position 5: *procedural knowledge*, a voice of reason.

After rampant exploration, the women studied came to a developmental stage in which knowledge could be understood, processed, explored and applied. Position 5 signifies the woman's ability to sort through all the noise and make assertive and deliberate decisions on what is best for her. She wanted to find *her* path and *her* voice; finally she has the cognitive tools to do so. The result is she must begin making decisions and commitments about beliefs and values that will be hers for the rest of her life.[29] A similarity to Perry's scheme can be seen again in his account for personal commitments in the later stages. It is interesting that this period of exploration is much shorter for women than for men, lasting only months, not years.

The Belenky study's final two positions of *procedural knowledge*: separate and connected knowing (Position 6), and *constructed knowledge*: integrating the voices (Position 7), encapsulates the woman's interaction with the world at large. She separates positive from negative influencers in her environment. She delineates between voices that empower and encourage her from those that harm or reject her. She embraces her ability to grow as a knower and formulates a willingness to be an active participate in the world. She will never return to the silence that once ruled her life. Her intellectual and moral development has equipped her with a sense of self-actualization, determination and empowerment.[30]

## Educators Teaching Women

Three overarching conclusions can be made concerning collegiate women and those who educate them based on the Belenky study and findings. First, educators must understand that female students, particularly those early in their college experience, will appear quiet, withdrawn and

incapable of interacting at higher levels of critical thinking. Their years of silence will take time to burn away. This silence should not be viewed as ignorance or lack of preparation or interest. It is a period of cognitive transition that a majority of women experience.

Secondly, during the middle years of their education, female students will be forming new language skills, a personal inner voice, and begin a quest to find themselves. All of these advances will affect their studies and academic achievement, some positively (i.e., studying harder, pursuing academic excellence) and some negatively (i.e., too much social activity, excessive partying, skipping classes). Ideally, they will be looking for greater opportunities to gather proficient verbal skills in areas of writing, public speaking, classroom dialogue and questioning.

Finally, women in their final years of college will become viable participants in the classroom, quite capable of interacting and thinking at higher levels. They will be able to speak and argue with their peers and address political and ethical issues without fear or inhibition. Consequently, they will embrace personal commitments and values, many of which were previously held by their families and former support groups. All women will exit their college years with new found talents and permissions to be more engaged in the world. While some may choose to revert to the silence of their adolescents, most will have developed beyond such stages.

## Conclusion

Without question, collegiate students go through rampant change during their years on campus. They change intellectually: starting with dualism, shifting toward relativism, and end with making personal commitments. They change morally. Values, virtues and ethical bearings that have been instilled by parents and other authority figures are challenged,

and often disposed of, in exchange for more hedonistic and pluralistic ways of behaving and thinking. They change spiritually. Religion and religious adherence is exposed to a plethora of new ideas and beliefs, all with embedded value and a sense of novelty. Collegiate students must sort through all these new expressions and determine which they will commit to for the duration of their adult lives.

All these changes and avenues of exploration require those who work, educate and influence collegiate students to be very aware of the fragility of the student's cognitive development. Extra care and caution, much like that shown to a newborn baby, must be given to these students so to guide them into the newfound world they are about to enter. The journey of life is just beginning for them; where they land is entirely up to their choices and dreams.

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**Endnotes**

[1]Mary F. Belenky, Blythe M. Clinchy, Nancy R. Goldberger, and Jill M. Tarule, *Women's Ways of Knowing: The Development of Self, Voice, and Mind* (New York City: Basic Books, 1997), pp. 9-11.

[2]William G. Perry, Jr., *Forms of Intellectual and Ethical Development in the College Years: A Scheme* (New York City: Holt, Rinehart and Winston, 1968), pp. 7-9.

[3]Ibid., p. 4.

[4]Ibid., p. 57.

[5]Ibid., p. 71.

[6]Ibid., p. 6.

[7]Ibid., pp. 100-04.

[8]Ibid., pp. 134-39.

[9]Ibid., p. 77.

[10]Ibid., p. 177.

[11]George C. Fago, *A Scale of Cognitive Development: Validating Perry's Scheme*, A Paper presented to the faculty of Ursinus College (95, Fall 1995), 10pp.

[12]Gordon P. Brooks, *Perry: Fact, Fiction, and Outcomes Assessment*, A paper presented at the annual meeting of the Midwestern Educational Research Association, (Chicago, IL, October 1995), 13 pp.

[13]Patrick G. Love and Victoria L. Guthrie, "Perry's Intellectual Scheme," *New Directions for Student Service*s 88:5-15, Winter 1999.

[14]T. Dary Erwin, "The Scale of Intellectual Development: Measuring Perry's Scheme," *Journal of College Student Personnel* 24:6-12, Spring 1983.

[15]Ibid., pp. 8-9.

[16]Fago, op. cit., p. 6.

[17] Studies include Mary M. Brabeck, "Longitudinal Studies of Intellectual Development during Adulthood: Theoretical and Research Models," *Journal of Research and Development in Education* 17:2-27, n3, 1984; Magolda Baxter, Marcia Porterfield, and William D. Porterfield, "A New Approach to Assess Intellectual Development on the Perry Scheme," *Journal of College Student Personnel* 26:343-51, Spring 1985; Karen S. Kitchener, 1984; Chickering and Reisser, 1993.

[18]Brooks, op. cit., p. 5.

[19]Nancy J. Evans, Deanna S. Forney and Florence Guido-DiBrito, *Student Development in College: Theory, Research and Practice* (San Francisco: Jossey-Bass Publishers, 1998), p. 143.

[20] Baxter, loc. cit.; Karen S. Kitchener, "Human Development and the College Campus," *New Directions for Student Services* 20:17-45, Spring 1982; Paul M. King, "William Perry's Theory of Intellectual and Ethical Development," *New Directions for Student Services* 4:35-51, Fall 1978.

[21]Belenky, op. cit.

[22]Ibid., p. 13.

[23]Ibid., pp. 24-25.

[24]Ibid., pp. 37-39.

[25]Ibid., pp. 57-62.

[26]Ibid., p. 65.

[27]Ibid., pp. 67-68.

[28]Ibid., p. 77.

[29]Ibid., pp. 98-101.

[30]Ibid., pp. 105-42.