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# **Educational Psychology: Developments and Contestations**

Katie Wright and Emma Buchanan

## **Abstract**

Educational psychology is a multifaceted and contested domain of knowledges and practices that resists simple definition. Its forms and foci have varied across time and place, and strands of knowledge and practice that have travelled under this disciplinary descriptor have been shaped by, and contributed to, shifting understandings of the problems and promises of education. Concepts of individual differences and forms of mental measurement are readily associated with the emergence of educational psychology. Yet, its history is broad in scope, including concerns with child development, adjustment, learning, and behavior. This chapter focuses on two major strands of historical studies of educational psychology: key figures and disciplinary developments; and critical analyses of its knowledges, practices, and impact. A concise overview of the history of educational psychology from the late nineteenth to the late twentieth century is provided. The chapter considers major strands of thought, contexts of emergence, and sites of development, as documented by historians. This includes exploration of foundational influences and examination of the role that various waves of psychological thought have played in shaping policy and in forming understandings about best practice in education, from compulsory schooling spaces to more informal educational sites such as child guidance clinics and preschools. Alongside this mapping of the historiography, central debates about the scope, promise, dangers, and effects of psychology as a foundational knowledge for education are outlined. Here, consideration is given to discussions in the past as well as more recent interpretations and critical angles.

## **Keywords**

Educational psychology, Scientific movement, Therapeutic turn, Developmental psychology, Cognitive constructionism, Critiques of educational psychology

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## **Introduction**

As a named field of knowledge and practice, educational psychology emerged during the late nineteenth to early twentieth century (Charles 1987). Its development was related to the transformation of psychology from a subfield of philosophy to an independent discipline (Wooldridge 2006), a general shift toward specialization, and a “scientification” of knowledge (Klein 1990), as well as a wider movement of “progressive” educational ideas and social reforming practices, particularly in North America, Great Britain, and continental Europe (Charles 1987). Pre-nineteenth-century antecedents – from Ancient Greek philosophers like Aristotle to Renaissance and Enlightenment thinkers such as Bacon, Rousseau, and Descartes – are acknowledged as important to the development of the discipline of psychology in general and to educational psychology in particular (Charles 1976; Evans 1969). The overview presented in this chapter, however, focuses primarily on the period from the late nineteenth century when educational psychology became a specialized field with increasingly formalized applications to schooling.

The study of individual differences, forms of mental measurement, and understandings of child development are readily associated with the history of educational psychology (Glover and Ronning 1987; Wooldridge 2006). Yet, as with the nature of the discipline in the present, the history of educational psychology is broad

in scope, encompassing not only concerns with development, differences, and psychometrics but a long-standing focus on learning as well as interests in social behavior and concepts of adjustment (Glover and Ronning 1987). Educational psychology may be usefully understood, then, as an umbrella term encapsulating a variety of research and theoretical perspectives that have the common aim of applying psychological knowledge to educational practices (Walberg and Haertel 1992). Topics explored, and, according to some scholars, *produced*, by educational psychology (e.g., Burman 2017; Rose 1990), have included the growth and maturation of children and young people, the constituents of “intelligence” and “ability,” and the means by which such elements can be measured and optimized (Glover and Ronning 1987; Wooldridge 2006).

In this chapter we use the general term *educational psychology* but emphasize that this is a shorthand and convenience descriptor, one that potentially obscures the multifaceted forms of inquiry, knowledge, and practices often grouped under this term. As Glover and Ronning (1987, p. 4) note, finalized definitions of educational psychology are, and indeed have always been, elusive: “since at least 1898... scholars have been debating the nature of the field, its definition, and its unique features.” Nevertheless, there are generally agreed upon sets of knowledges and practices that are recognized as constituting the domain of educational psychology, and it is the narratives and contours of its history, as well as critiques of its influence, which inform the focus of this chapter.

The chapter provides an overview of how the origins,

foundations, and some of the key contributions of educational psychology have been understood by historians concerned with its formation as a distinct field of knowledge. It first summarizes established narratives about the emergence of educational psychology as a named though contested discipline. This is followed by examination of some key strands and waves of influence shaping the field from the early to late twentieth century. Major figures and the conceptual advances they are credited with are considered, focusing on powerful bodies of knowledge developed in the west but which travelled globally and zooming in upon some major developments: behaviorism, mental measurement, developmental theories, and the embrace of cognitive and constructivist perspectives. Throughout, attention is drawn to areas of critique, both historical and from outside the discipline, and to contemporary debates.

The overview presented here is, inevitably, selective. Rather than an exhaustive and detailed examination, what is illuminated are some of the major strands that comprise the history of educational psychology alongside key tensions and debates about its purposes and effects. As noted, internal disputes about concepts and methods have been present within the field from the outset. However, in the late twentieth century, educational psychology and its varied applications also became increasingly subject to scrutiny from outside the discipline as scholarly critiques began to chart ways in which psychological approaches had undermined rather than advanced the interests of children. Key tenets of critiques advanced over the last three decades are summarized. The chapter concludes with a brief discussion of more recent debates about the so-called therapeutic turn

in education, the psychopathologizing of children in schools, and the value of positive psychology, which are suggestive of issues that are likely to become important foci of historical studies of educational psychology in the future.

### **Nineteenth-Century Origins: From Philosophy to Psychology**

Historical accounts of the development of educational psychology as a disciplinary specialization point to its emergence during the late nineteenth century from the nascent field of psychology, the period during which psychology itself was establishing an identity distinct from philosophy and physiology (Charles 1987; Hilgard 1996a). According to Walberg and Haertel (1992, pp. 6–7), early nineteenth-century experiments on topics such as “optics” and “reflex action,” as well as increased theorizing about the location “of the mind in the brain,” were important precursors to what by the late nineteenth century was termed the “new psychology.” Long-standing philosophical reflections, such as the “problem of mind and knowing,” are identified as important antecedents to a more modern and “scientific” approach to such matters, which included the study of individual differences and consideration of the practical implications of such questions, for example, as they pertained to the education of young people.

A number of figures are identified as contributing to the conceptual and practical spaces that were opened up for psychological research, which in turn came to inform various facets of education. In the early nineteenth century, German philosopher and psychologist, Johann Herbart, proposed a theory of learning – that it was motivated

by interest – and related pedagogical steps that emphasized *apperception*, that is, that learning depends on the making of connections with ideas already existing in memory (Charles 1987; Hilgard 1996a). Translations of Herbart's texts, *Psychology as a Science* (1824), for example, inspired British works such as *The Herbartian Psychology Applied to Education* (Adams 1897) and were in circulation into the twentieth century in the USA (Wooldridge 2006, p. 63; Charles 1987).

Herbart's concept of the learning process anticipated the twentieth-century emphasis on the child's interest and experiences rather than simple adherence to formal subject learning as the basis for educative processes, a view espoused by progressive educators and curriculum reformers, such as John Dewey (Hilgard 1996a; Wooldridge 2006). Another German philosopher, Wilhelm Wundt, founded an experimental laboratory in Leipzig in 1879 (Leadbetter and Arnold 2013). He sought to establish psychology as a new and distinct domain of science through the study of elements such as human sensation, perception, attention, feeling, and association. Wundt's laboratory was the site for considerable knowledge exchange, and influential figures in early twentieth-century educational psychology studied with or visited Wundt, inspired to pursue a science of the mind (Charles 1987; Walberg and Haertel 1992).

Other early influences identified as antecedents to educational psychology include the work of Francis Galton, a Briton, who was informed by Charles Darwin's evolutionary ideas. In *Hereditary Genius* (1869), Galton argued that intelligence has an important

“hereditary component” (Walberg and Haertel 1992, p. 7). His text, although now considered deeply problematic, is credited with sparking ongoing debate about “nature or nurture” (Charles 1987, p. 20). It also informed research about psychological traits, a topic that became a focus of educational research throughout the early to mid-twentieth century. In addition, Galton’s work is recognized as an important precursor to research on individual differences, ability, and mental measurement (Walberg and Haertel 1992).

But educational psychology did not simply emerge from the work of prominent researchers who in more hagiographical, and often gendered, accounts are termed *founding fathers*. Perspectives from cultural and transnational history suggest that in order to make sense of the rise of educational psychology as a new form of expertise, consideration is needed both of international forms of knowledge exchange and a range of cultural and historical factors (McLeod and Wright 2013). For instance, during the nineteenth century, there was a growing understanding of childhood as a distinct period in the lifespan with its own qualities and needs. Romantic literature played a role in such notions (Thomson 2006), as did progressive pedagogical initiatives, such as the Froebelian Kindergarten movement. It emphasized children’s play as the vehicle for healthy growth in garden like settings, beginning in Germany but soon spreading to other national contexts (Davidson and Benjamin 1987).

As Davidson and Benjamin (1987) have noted, a growing attention to childhood was often coupled with the idea that it provided a unique opportunity to intervene to improve the adult population and



indeed reform society in general (Thomson 2006). Liberal progressive ideas about the significance of childhood as a site for social reform coincided with and were bolstered by a growing interest in sciences of the mind, which emerged in the context of broader processes of “scientification” (Klein 1990, p. 21). This is evident, for example, in the nineteenth-century *child study* practices of observing children in what was considered a scientific manner (Varga 2011). Writing about psychology and education in early twentieth-century England, Thomson (2006, p. 118), for example, suggests that emerging pedagogical sciences gained traction in the context of an existing “lay energy that saw the future as lying in discovery of and fulfilment of the child’s potential” and in the expression by educational professionals of the promise of new psychological knowledge to remake both people and society.

As many historians of education have drawn attention to, the late nineteenth century saw increased numbers of children in primary schooling due to the introduction of compulsory state education in many jurisdictions. One consequence of this was the emergence of new concerns about how to manage what was understood to be a wider range of scholastic capacities. Other challenges were also identified, including how to best categorize children according to various skills, how placement in schools should be determined, and how progression through academic year levels should be managed (Leadbetter and Arnold 2013; Wooldridge 2006).

More broadly, the late nineteenth century was marked by increased urbanization and a rise in what has been described as

*population thinking* – an understanding that nations are made up of a population that is more or less “fit,” providing the basis for national wealth, strength, and progress or, conversely, societal degradation and weakness (Rose 1985; Walkerdine 1984). Wider eugenic concerns with social efficiency – reflected in anxieties about “feeble-mindedness,” “mental deficiency,” and “delinquency”– buttressed a growing appetite for the development of tools that could measure intelligence and other traits (Wooldridge 2006, p. 52, 81; Davidson and Benjamin 1987; Wright 2011). Increasing numbers of school pupils also offered access to a “cross section of the [child] population as a whole” to the emergent professionals of the new psychology (Thomson 2006, p. 110). This made possible large-scale projects which sought to study and quantify developmental norms of childhood. As Turmel (2008) has documented, this occurred first in relation to physical traits, such as height and weight as they corresponded to age. Concepts of “mental age” and forms of mental measurement then followed. These practices were integral to the growth of psychology in general and educational psychology in particular (Davidson and Benjamin 1987).

Since the late nineteenth century, those involved in marking out the terrain of empirical science had conducted systematic observations of very young children (Davidson and Benjamin 1987). Charles Darwin’s 1877 *Biographical Sketch of an Infant* is a seminal work. However, it is Granville Stanley Hall, an American who studied with Wundt for a time, who is credited with founding “child study” in America and who would become a key figure in this transnational movement (Wooldridge 2006). Inspired by German

studies of children beginning school (Davidson and Benjamin 1987), Hall facilitated large-scale, teacher-conducted questionnaires to gather data on “children’s knowledge of the world, their opinions and their physical attributes” (Walberg and Haertel 1992, p. 9).

For Hall, improved knowledge of children and childhood had an obvious practical application to the field of education (Davidson and Benjamin 1987, p. 48). In an 1894 article entitled, “The New Psychology as the Basis for Education,” he suggested that the psychological knowledge being produced by child study heralded “the science of human nature and the art of developing it to its fullest maturity” (cited in Davidson and Benjamin 1987, p. 48). As Charles (1987) has noted, the scientific approach of child study and psychology had wide appeal. It tapped into the optimism of the time that saw “science and technology of all kinds” as having “the capacity to alleviate or solve many of the problems of society and to improve nearly every aspect of life,” with the school being a particularly fruitful site for the application of such knowledge (Charles 1987, p. 35). However, some expressed concern. William James, for example, argued that teachers should not be co-opted as psychologists or scientists because collecting data on children was at odds with their pedagogical role (Berliner 1993).

Nevertheless, the child study movement flourished during the late nineteenth century, with swathes of research projects and publications describing children’s mental and physical attributes. This new knowledge was widely disseminated, for example, through summaries of results included in teacher training materials in the USA

(Walberg and Haertel 1992). Encompassing diverse goals and various forms of disciplinary expertise, child study was an important precursor to the focus on individual differences and the development of mental testing, which became central components of the new educational psychology (Davidson and Benjamin 1987; Wooldridge 2006).

### **Turn of the Century Foundations: Scientification and Behaviorism**

Writing on the history of educational psychology, Charles (1987, p. 17) notes: “Until the 1920s, at least, we simply had psychologists, some of whom, some of the time, paid particular attention to problems of an educational nature.” William James, for example, began delivering lectures to teachers on educational matters in the early 1890s. These were later published as *Talks to Teachers on Psychology and to Students on Some of Life’s Ideals* (James 1899). Yet when he was asked about “educational psychology,” the question was reportedly met with a bemused response. According to Charles Judd, Director of the School of Education at the University of Chicago (1909–1938), James responded, “Educational psychology? I think there are about six weeks of it” (Judd [1932] cited in Charles 1987, p. 25).

Former Dean of Teachers College, Columbia, James Russell, recalls foreseeing rather greater possibilities for the emergent sub-discipline. Reflecting on his 1899 decision to hire Edward Lee Thorndike, the figure most readily associated with the development of educational psychology, Russell stated, “At the time neither the term nor the subject of educational psychology had been created; but I had a

notion that a field of study so obviously fundamental to educational theory and practice should have both a name and a sponsor in the kind of teachers college I was planning” (Russell [1940], cited in Mayer 2003, p. 126).

While identifying exact points of origin is problematic (Charles 1987), there are nevertheless key markers for the establishment of educational psychology as a discrete field and sub-discipline. These include the publication in 1903 of Thorndike’s early work under the title *Educational Psychology*, which is credited with providing the first definitive explanation of the aim of educational psychology, namely, that it offered “knowledge of human nature to students of educational theory” (Thorndike [1903], cited in Glover and Ronning 1987, p. 5). Influenced by his teacher, William James, Thorndike insisted that educational psychology be a “highly empirical, theory-based approach to research,” which, as Glover and Ronning (1987, p. 5) note, was crucial in setting educational psychology apart from the child study movement. Thorndike rejected the child study approach of gathering data through questionnaires, arguing instead for the use of only “objective methods” (Charles 1987, p. 25).

Thorndike’s stature and importance to the emergent field is reflected in an invitation to write the lead article for the inaugural issue of the *Journal of Educational Psychology* in 1910. Entitled “The contribution of psychology to education,” it focused primarily on questions of learning, transfer, and individual differences (Mayer 2003). Unlike Hall’s interest in “genetic psychology” (Charles 1987, p. 23), Thorndike’s research was concerned with examining how the

environment could be harnessed to modify human abilities. Opening the first of the three volumes of what was an extended and updated version of his 1903 book, *Educational Psychology*, he asserted in the 1913 revised edition: “It is the province of educational psychology to give such knowledge of the original nature of man and the laws of modifiability or learning, in the case of intellect, character and skill” (Thorndike [1913], cited in Glover and Ronning 1987, p. 5).

During Thorndike’s fifty-year career at Teachers College, Columbia, he produced more than 500 publications drawing on a broad-ranging program of research (Sheehy 2004). In addition to foundational studies and the development of new understandings of learning, transfer, and individual differences, he produced curricular materials, such as arithmetic books, dictionaries suitable for school children, and various types of educational tests (Mayer 2003). His work was widely, although not universally, endorsed (Sheehy 2004) and was particularly influential in the USA in the first half of the twentieth century (Berliner and Calfee 1996). It inspired John B. Watson’s behaviorism and B. F. Skinner’s subsequent formulations (Charles 1976).

Thorndike is acknowledged as “one of the great pioneers in the scientific movement in education” (Moehlman [1944] cited in Mayer 2003, p. 143). His prominence is due in no small part to his emphasis on the importance of quantitative measurement. He was particularly interested in quantifying learning outcomes, which he saw as key to educational improvement (Mayer 2003). Thorndike’s position is nicely summed up by his phrase, “Whatever exists at all

exists in some amount. To know it thoroughly involves knowing its quantity as well as its quality” (Thorndike [1918], cited in Charles 1976, p. 83). This perspective was increasingly reflected in American psychology, as it was in the social sciences more generally (Charles 1976).

While Thorndike’s work often overshadows that of his contemporaries, others also played critical roles in the professionalization and maturation of the discipline (Charles 1976, 1987). Charles Judd, for example, made important contributions to the early development of educational psychology (Van Fleet 1976). He published *Genetic Psychology for Teachers* (1903) in the same year as Thorndike’s *Educational Psychology* (Hilgard 1996b). Judd was interested in the biological and psychological development of children and in the application of psychological knowledge to school subjects, including reading – particularly remedial reading – as well as writing and arithmetic (Charles 1976).

John Dewey was another key figure (Hilgard 1996b). As with Hall, he contributed to the fields of philosophy, psychology, and pedagogy (Berliner 1993). Dewey’s work has had an enduring influence, stimulating a progressive educational emphasis on curriculum – particularly in the early years – based on children’s own interests in order to promote “social skills for democratic living” (May 2009, p. 16). His belief in democracy and in the school as an institution through which social reform could be enacted both inspired and aligned with wider progressive aspirations for a full and transforming vision of education.

A key moment identified in the history of psychology, one regarded as also having a major influence on educational psychology, was the turn to behaviorism. In the USA, Watson's 1913 lecture at Columbia University, "Psychology as the Behaviourist Views It," is often cited as a turning point, with Watson widely considered the "father" of this intellectual development, with Skinner referring to him as the first behaviorist (Gross 2009). It would be an oversimplification to credit Watson's address and its subsequent publication as alone shaping the discipline. In Britain, for example, behaviorism was advanced through the work of C. Lloyd Morgan (Evans et al. 2008). Nevertheless, Watson's lecture is a useful marker of a shifting orientation.

By the first decade of the twentieth century, concerns with consciousness and the mind, which had preoccupied nineteenth-century thinkers, were diminishing. The new psychology was promoted as a branch of the sciences, with the analysis of behavior replacing introspection as the primary method. Central to the early conceptualization of a behaviorist approach was that psychology should only be concerned with that which can be empirically observed and measured (Gross 2009). The historiography of educational psychology, notably that addressing the USA, tends to characterize behaviorist theories of learning – inspired and espoused by Thorndike, Watson, and Skinner – as having eclipsed all other movements. The research programs and associated conceptions of learning, sometimes termed the "scientific movement in education" (Hilgard 1996a, p. 997), had considerable influence on the formation



of key concepts and fostered major developments in educational psychology (Walberg and Haertel 1992). However, behaviorism was not monolithic, nor did it go unchallenged. There were conflicting viewpoints, for example, Dewey's functionalism (Hilgard 1996a). The limits of the scientific movement in addressing wider aims of education were also acknowledged.

Frank N. Freeman, Head of the National Education Society, offered a reflection on the contributions of the scientific movement in 1938. While he praised it as making an "impressive showing," he remained skeptical. As he stated: "It is possible after examining these achievements, to view them as essentially superficial in character, as concerned with the husk rather than the kernel of the educational process. Science can, in this view, evaluate the means but not the ends, it can estimate the efficiency of the process but it cannot determine or even influence its direction. It has therefore, gone about as far as it can in improving education" (Freeman [1938], cited in Hilgard 1996a, p, 997).

Behaviorism constitutes an important strand in the history of educational psychology, with its influence felt long after its early twentieth-century foundations. Yet as Glover and Ronning (1987) note, research into child development, individual differences, and mental measurement also constitute important elements. Indeed, within and across numerous national contexts, significant research in those areas was also shaping the field.

## **Intelligence, Mental Measurement, and Individual Differences**

Groundbreaking work conducted by French researcher Alfred Binet, and his colleague Theodore Simon, produced in 1905 “the first scale for measuring the intellectual status of children” (Collins and Hartup 2013, p. 7). The instrument was developed in response to a mandate from the French government to improve education for children with learning difficulties (Beauvais 2016). What became known as the Binet-Simon Scale comprised a sizeable number of brief single-item “tests” that aimed to assess cognitive abilities – language, reasoning, memory, and judgment – through the performance of tasks using everyday items such as pencils, paper, blocks, and coins. Underpinning the development of tools to measure intelligence and other traits was a concern with understanding individual differences, a topic that has been central to educational psychology (Jensen 1987).

The Binet-Simon Scale had a major influence internationally, and adaptations were widely used in Europe, North America, and beyond (Boake 2002; Wooldridge 2006). In Australia, for example, Turtle (1987, p. 233) notes that the 1905 measure and its 1908 and 1911 revisions were “used almost immediately by staff of the Sydney Teachers College” (see also Wright 2011). While various forms of mental measurement were already under development in the late nineteenth century, notably Galton’s aptitude tests, as Blumentritt (2008, p. 781) observes, it was the scales devised by Binet and Simon that “ushered in the modern era of standardized testing.” Both through adaptations (e.g., the Stanford-Binet Scale, which became the dominant American test and is still in use) and in providing a model and sources of content, the early measures paved the way for future cognitive tests (Boake 2002). In related work, Binet developed

the concept of *mental age*, which was determined by the age at which the “average child” could solve a given problem (Thorndike-Christ and Thorndike 2008, p. 549).

Calculations of mental age for individual children could thus vary considerably from their chronological age. As with his earlier work measuring intelligence, the construct of mental age had considerable influence internationally (Beauvais 2016), and his research inspired work across Europe, North America, and Britain (Boake 2002). During the 1930s and 1940s, researchers refined testing protocols and developed techniques of factor analysis. Further psychometric measures were devised throughout the twentieth century. Measurement and testing were fundamental to the scientific promise of educational psychology and remain central to the discipline (Fletcher and Hattie 2011). Indeed, since the early twentieth century, psychometric testing in its various forms has been widely embraced as an important tool for generating information about the skills and capacities of young people and has been used extensively in school systems throughout the world.

Yet from the outset there was debate about how to conceptualize and measure children’s skills and attributes, particularly intelligence and, outside the discipline of psychology, the use of mental measurement has been the focus of much scholarly critique (e.g., Burman 2017; Rose 1990; for an overview, see Wooldridge 2006). Even strong proponents of present-day educational testing concede that it has a “dirty history” (Fletcher and Hattie 2011, p. 13). At the heart of the matter, as elaborated below, is the assertion

that tests are not objective measures of capacity but rather a sorting mechanism that entrenches socioeconomic disadvantage (McCulloch 2011, see esp. pp. 42–54).

Beyond questions of reliability and validity, which have long occupied internal disciplinary debate, an important reason that psychometric testing has been subject to intense critique is that it has shaped decisions of educators and policymakers about school selection and placement (Thorndike-Christ and Thorndike 2008). In addition, forms of mental measurement have long been used to identify “atypical” children deemed to require particular kinds of psychological and educational intervention (Wright 2011). This includes placement in so-called special classes, as well as assessments of vocational aptitude and mental capacity, with instruments to measure these used both in schools and in other settings, such as child guidance clinics (Jones 1999; Wright 2012).

In Britain, the work of controversial psychologist Cyril Burt is closely associated with the early period of mental testing. In the context of the rise of mass schooling, selection was a key issue – at both ends of the ability spectrum. Godfrey Thomson, a contemporary of Burt’s, noted that psychologists were charged with the responsibility of “how with most justice to select eleven-year-old children in the primary schools for the privilege of free secondary school education” (Thomson [1952], cited in Wooldridge 2006, p. 70). Psychologists were also required to differentiate between those merely “intellectually dull and backward” from “mentally defective” children (London County Council [1911], cited in Wooldridge 2006,

p. 82).

In 1913 Burt was appointed in a part-time role to the Education Department of the London County Council, which was, according to Wooldridge (2006, p. 11), the first appointment of this kind in the world. There he was responsible for psychological assessments of children in schools and for examination of individual children in order to report on delinquency, provide guidance, and identify “subnormality” and “giftedness” for the purposes of allocation to special classes (Hearnshaw [1971], cited in Fletcher 2017, p. 389). Both through the London County Council and his later appointment to University College London, he popularized mental testing and according to McKibbin (1998, p. 228) “achieved an unequalled prominence in the field.”

During the early twentieth century in Britain, the USA, and other western countries, intelligence testing and other forms of mental measurement shaped the structures of schooling. Psychometric testing was integral to both the egalitarian promise and meritocratic ideal that many advocates saw in educational psychology but which later became the subject of fervent critique. The extent to which these techniques were used varied both within and across nations (Faulkner and Jimerson 2017; Thomson 2006) and the early fervor eventually subsided (Wright 2011). Mental testing was, nevertheless, pivotal to the professionalization of educational psychology and its practical application in schools. More broadly, the theory of individual differences which underpinned such tests was, as Burman (2017) observes, the forerunner of another specialization:

*developmental* psychology.

### **Child Development and Constructivist Perspectives**

Alongside the growth of educational psychology, developmental psychology was also emerging as a distinct subfield. It contributed to the knowledge base that informed tests of intelligence and other abilities, as well as theories of learning and attendant pedagogical and curriculum approaches. As Collins and Hartup (2013) note, developmental psychology is itself an eclectic domain, with a range of approaches taken in the description and explanation of child development and individual differences.

In the first half of the twentieth century, a variety of theories that addressed aspects of children's physical, intellectual, social, and emotional growth and change was elaborated. Building on Hall's biological perspectives on development, and in contrast with Watson and other environmentalists, Arnold Gesell, for example, stressed the importance of inherited traits. He undertook observational studies of infants and children using innovative techniques, such as motion picture recording of children's behavior (Thompson et al. 2012). He argued that internal factors of maturation were the key drivers of development, with heredity being a primary factor. For Gesell, physical and psychological growth unfold in an orderly sequence, although the *rate* at which development occurs varies (Thompson et al. 2012). Gesell's central and enduring contribution, while often criticized for normativity, is to be found in the concept of *child readiness* and the notion of child-paced education, a key tenet of much progressive education.

In theorizing intellectual development, the work of Swiss psychologist Jean Piaget stands as preeminent. His most well-known contribution is a theory of cognitive development conceptualized as a set of stages through which the child passes. For Piaget, the child is active in their own development, building their own sense of the world using schemas – psychological or physical structures or patterns – which are the building blocks for growth. Piagetian theory holds that the ways in which children understand and learn vary across different stages of development (Oakley 2004).

Piaget's constructivist theories of learning and child development informed much progressive curriculum reform in the 1930s and 1940s, with an increasing educational focus on what British child psychologist, Susan Isaacs, described as the “principle of activity” (Isaacs [1938], cited in Giardiello 2014, p. 119). His work was particularly influential in primary and early years curriculum in the 1960s, and the popularity of Piagetian approaches lasted into the 1980s and beyond (Hilgard 1996a; May 2009). Piaget's concepts strongly informed arguments for child activity and new curriculum approaches. According to Berk (2013, p. 260): “He gave teachers new ways to observe, understand, and enhance young children's development and offered strong theoretical justification for child-oriented approaches to teaching.”

While a cognitive focus formed one strand of developmental psychology, in the first part of the twentieth century, much research and theorizing into social and emotional development was also

progressed (Collins and Hartup 2013). Here, the psychoanalytic theories of Freud were drawn upon. Freud explained development as the outcome of a series of psychosexual challenges, with a healthy personality the outcome of a series of successful adjustments to the demands of society and competing internal drives (Du Rocher Schudlich 2008). In Europe, for example, these were articulated in educational discourses by figures such as Anna Freud and Susan Isaacs. Their work informed progressive approaches of the 1930s, 1940s, and 1950s that emphasized the importance of self-expression through activities such as the “creative arts, dramatic, and social play” (May 2009, pp. 15–16).

Theorizing concerned with emotions and personality was also influential in shaping transnationally circulating progressive concerns with educating the “whole child” (Giardiello 2014, p. 134) and with promoting the development of happy and well-adjusted children as future citizens (McLeod and Wright 2013; Wright 2012). New ideas about the full health of the child, including in emotional terms, are recalled in New Zealand, for example, as informing a freeing up of kindergarten programs and as underpinning a growing emphasis on child-directed activity and choice (May 2009). Such curriculum and program transformations were not, however, universally embraced – and the balance between permissiveness and discipline was a subject of some debate (Thomson 2006).

Related to concerns about the welfare of children and the role of educational psychology in addressing this, another area that has been both explored and critiqued by historians of education is the



development from the 1920s onwards of various forms of child and adolescent guidance (Horn 1989; Jones 1999; Stewart 2016; Wright 2012). During the early to mid-twentieth century, psychological work informing concepts of the “well,” “normal,” “progressing,” or “troubled” child led to the burgeoning of child guidance practices (Wright 2012). Beginning during the interwar period, and extending beyond the Second World War, much research was concerned with understanding the factors affecting child welfare. Underpinned by concepts of emotional health and the “adjustment” of the child to their environment, remedial strategies were devised for children deemed socially “maladjusted,” which placed them at risk of becoming delinquent or mentally ill (Horn 1989).

Varied programs of psychological research continued to develop and contribute to education practices after the Second World War. Of particular note is the so-called cognitive revolution of the late 1960s (Hilgard 1996a, p. 999). This saw educational psychology shift away from a behaviorist focus on learning, where instructional techniques were based on the notion of stimulus and response (Walberg and Haertel 1992, p. 13). Instead, attention shifted to internal mental processes and structures of knowledge that were *built* by children and students during their interactions with environments (Resnick [1981], cited in Hilgard 1996a, p. 1001). The emergent emphasis on cognition also prompted a move away from the primarily hereditarian focus that had buttressed earlier theories of intelligence (May 2009).

Piaget’s constructivist theory of knowledge building is most

readily associated with the newfound attention to cognitive growth in educational psychology. Yet, like other conceptual developments, many researchers and theorists contributed (Hilgard 1996a). A variety of factors coalesced to inform the rise of cognitive constructivism. In the USA, for example, the *Sputnik* era is regarded as sharpening concerns about educational outcomes (Hilgard 1996a, p. 999). Growing concerns with inequality, often couched in the language of cultural deprivation, were also emerging as significant themes in many national contexts.

A constructivist perspective on the growth of knowledge, informed by an image of the child as a “little scientist,” offered hopes for educational improvement through the provision of stimulating learning environments (May 2009). Such hopes animated, for example, the *Project Head Start* preschool programs in the USA, established in 1965 as part of a nationwide “war on poverty.” Still in operation today, the program began with many thousands of preschool-aged children from so-called “deprived” homes attending summer camps and participating in ongoing programs offering “rich” environments to support their cognitive development and school readiness.

Primary school curriculum was especially marked by the constructivist emphasis on the learning environments and children’s need for exploration as the engine for intellectual growth. According to Walkerdine (1984), Piagetian theory dominated best practices in primary schooling for many decades. Yet, alongside the uptake of constructivist perspectives, critical and sociologically oriented

researchers – and some psychologists – were beginning to advance varied and sometimes strident critiques about the cultural and epistemological bias and assumptions embedded in much of the psychological theory shaping education (e.g., Rose 1985; Walkerdine 1984). An important dimension was growing attention to the cultural, social, and historical elements informing development, learning, and cognition. The work of Russian psychologist Lev Vygotsky, active in the 1930s and 1940s and first translated to English during the 1960s, was central to this shift (Berliner and Calfee 1996). Subsequent neo-Vygotskian and social constructivist theorists, such as Barbara Rogoff, continued to emphasize the role of language and culture in the processes of learning and making meaning, stressing that social and cultural interaction shapes development and learning (Walker and Debus 2002).

Theories of child development and cognitive processes provided important knowledge for the field of educational psychology through perspectives on how children learn and how they acquire knowledge and skills. Piaget's influence from the mid- to late-twentieth century shaped much research and classroom practice that was focused on the individual child as an active explorer. Vygotsky's sociocultural theories emphasized that learning is constructed within, and varies across, particular contexts. While the work of Vygotsky and Piaget are often viewed in opposition, Burman (2017) identifies an important connection – the influence of psychoanalysis in the development of the theories of both. She suggests that both theorists suppressed its influence, which in turn suppressed subsequent analysis of common threads in their work. While constructivism remains influential, other prominent theories of learning that have shaped

directions in educational psychology include social learning theory, developed by Albert Banduras, and concepts of experiential learning and multiple intelligences (see, e.g., Berliner and Calfee 1996; Berk 2013). Developmental and constructivist perspectives have provided important insights for educational psychology. However, as with other contributions to the field, they have not been without controversy.

### **Critiques of Psychological Expertise in and for Education**

Since its emergence, educational psychology has been the subject of considerable debate and contestation, both from within and outside the discipline. Its early history is marked by efforts to distinguish this new field of inquiry from other scientific endeavors, notably, child study. This involved criticism of the epistemology and methods of child study, from both educators and psychologists, but sometimes for different reasons. Thorndike, for example, objected to the recapitulation theory and biological basis of the child study movement and its lack of scientific rigor (Davidson and Benjamin 1987). By contrast, James was concerned about the co-option of teachers for non-pedagogical purposes.

A key area of contention was the extent to which psychology – educational or otherwise – should be scientific or humanistic. James resisted the project of scientification. In *Talks to Teachers*, he questioned psychology’s capacity to inform pedagogical practices, asserting, “Psychology is a science, and teaching is an art; and sciences never generate arts directly” (James [1899] cited in Berliner 1993, p. 50). He went further. As Berliner (1993, p. 50) has noted, James argued that laboratory studies of teachers could not adequately test

their capacity “because they did not treat the whole person in real contexts.” Similar views were advanced by Dewey, who regarded behaviorism as reductionist. As he argued: “When the result of laboratory experiments informs us, for example, that repetition is the chief factor influencing recall, we must bear in mind the result is obtained with nonsense material – i.e., by excluding the conditions of ordinary memory” (cited in Berliner 1993, p. 58).

At the same time, teachers were expressing concerns about the relevance of psychology to their work, and there was ongoing tension about the position of the discipline within teacher training programs at least up until the mid-twentieth century (Thomson 2006, p. 129). While Thorndike’s behavioral research was widely influential, Charles (1976) reports that concerns about the direction and momentum of the scientific movement in education were actively expressed by leading figures within the American Psychological Association. By the mid-twentieth century, there was also increasing concern about a lack of disciplinary coherence. Anxieties about the capacity of educational psychology to clearly stake out its own field of knowledge – amid the varied work that went under its name – were allayed to some extent by the fillip given to the field in the 1960s, with a boom in educational research funding, at least in the USA (Charles 1976). While debate within the discipline has persisted, by the late twentieth century, educational psychology had firmly established itself internationally as a specialization indispensable to modern educational systems (Berliner and Calfee 1996).

Educational psychology is, of course, not unusual in being

marked by internal debates and divisions about its nature, purposes, and the best ways to advance knowledge. What is more interesting is a strand of scholarship that questions psychology's suitability to address the varied functions of education and schooling and, importantly, the unintended consequence of the uptake of psychological knowledges and practices. Over the past several decades, approaches to interpreting the history of educational psychology have been marked by critical and cultural turns in the social sciences and humanities. Accounts of educational psychology as part of wider histories of schooling and education are many and varied. Yet some key trends are notable.

By the 1970s, in line with wider social, cultural, and epistemological shifts, debate about psychological expertise had taken on an overtly critical and reflexive quality. This included a new questioning of the forms, scope, and place of psychology in education as part of wider engagements with the politics of knowledge and expertise, particularly in relation to processes of social differentiation, equity, subjectivity, and schooling (e.g., Walkerdine 1984). An important line of analysis was critical sociological interpretations of education that focused on the uneven effects of access to schooling based on so-called "neutral" psychological knowledges (e.g., Burman 2017; Rose 1990).

For some critics, expertise purporting to describe normal child development was tied to ruling knowledge, within structural arrangements designed to produce certain norms of conduct and maintain social hierarchies (McCulloch 2011). Other influential

critiques drew on poststructural perspectives that interpret the expansion of “psy knowledges” as a form of social regulation, including the production of normative and gendered subjectivities (e.g., Burman 2017; Rose 1990; Walkerdine 1984). Such varied critiques were, however, advanced alongside the continued development and application of psychological theories as frameworks for educational policy and practice, evident, for example, in the application of constructivist theories as frameworks for learning.

An important body of historically grounded scholarship, which emerged in the 1980s and 1990s, critiqued the meritocratic ideal, selective school systems, concepts of intelligence, and the use of mental measurement. A key contribution was the Foucauldian readings developed by Nikolas Rose, in particular, those elaborated through two major texts, *The Psychological Complex* (1985) and *Governing the Soul* (1990). As Thomson observes, Rose’s work was important because it provided important new perspectives on the history of psychology – including educational psychology – not as a history of ideas but importantly as a field of practice. Indeed, examination of how psychological knowledge was *applied* opened up new ways of understanding its history and its effects.

Building on Foucault’s earlier genealogies, Rose positioned educational psychology as a field primarily concerned with individual differences, measurement, and normalization, and underscored its alliances with state imperatives of population management (Thomson 2006). According to Rose, theories of individual differences – which

were operationalized through testing techniques – became powerful discourses that purported to explain differences in achievement. He argued that rather than measuring innate capacities, the results of educational testing reflected socially produced inequalities. Psychometrics thus came to be understood by critical scholars as a mechanism that maintained and justified differences based on the disadvantages of social class.

In contrast to Rose's primarily theoretically driven analysis, other scholars, such as Thomson (2006) and Wooldridge (2006), developed more nuanced accounts of psychology's influence, in education and beyond. While still engaging in projects of critical history, their work may be understood as attempts to reorient and ground such critique in more complex analyses. Both seek to avoid conflating intent (of psychologists or schools or policy) with influence (how widespread practices such as testing were and what effects they had). In doing so they offer alternate readings of the impact of psychology and mental measurement based on detailed historical analysis rather than what they suggest are characterizations of the history of the field as simply reflecting new modes of government and regulation.

Of the diverse ideas and practices that comprise the history of educational psychology, mental testing has been the area subject to most criticism. As Wooldridge (2006, p. 5) has noted: "Few scientists have aroused as much hostility as the psychometrists." Since the 1970s there have been a multitude of texts chronicling and critiquing its history, methods, aims, and effects. Thomson (2006)



suggests that one reason why psychometrics has been the focus of such extensive analysis and critique is that it supports the notion of psychology as regulation. Wooldridge (2006, p. 5) seeks to offer a correction to the thesis of regulation through expertise, suggesting that accounts of educational psychology and testing have been dominated by “an undisguised bias against the subject.” Thomson (2006), similarly, suggests that the historical impact of psychometrics in education has been overstated.

While mental measurement has been a major focus of critiques, disquiet has also been expressed about more humanistic strands of psychological knowledge and the ways it has shaped educational reform through curriculum and pedagogical change (Thomson 2006). Child-centered curriculum based on children’s “active exploration” and “hands-on learning” in infant and primary school settings is understood to have been granted scientific authority by progressive advocates of the new psychological sciences. “Developmental curriculum” that followed children’s interests and allowed choice and expression was taken up in many educational settings internationally and seen as a beacon of more humanistic and tolerant approaches in education (e.g., May 2009; Thomson 2006).

Histories of education that engage with social and cultural theory have produced more critical interpretations of child-centered curriculum. The historical and cultural specificity of developmental knowledge and practices has been highlighted and the inequitable and normalizing effects of this explored (Baker 2001; Walkerdine

1984). Notions of child readiness have been subject to much critique, implicated in practices of “judging” children according to purportedly neutral psychological expertise and developmental norms (e.g., Cannella 1997). The foundational status of developmental theories in education during the twentieth century, Cannella (1997) argues, justified conditions of surveillance and intervention into the lives of children and families. She asserts that rather than being freeing or democratic, developmental norms have constructed children as “objects of control” (Cannella 1997, p. 36).

Late-twentieth-century analyses of psychology and its effects are connected to a longer history of critique of child-centered approaches, including those advanced early in the century, as progressive curriculum reforms were underway. For example, the move to interest-based curriculum, advanced by Dewey, was viewed by some critics as embracing a “‘soft’ pedagogy” (Hilgard 1996a, p. 995). There have been ongoing related concerns, which have waxed and waned over time, regarding the undermining of discipline-based knowledge. The shift away from traditional subject or discipline-based learning is interpreted by some as a sign of cultural degradation, reflecting the demise of the proper functions of schooling, that is, the transmission of culturally valued traditions, dispositions, and knowledge. Such disquiet is also evident in more recent critiques about the so-called therapeutic turn in education, which critics suggest privileges emotional well-being and psychological health above traditional forms of knowledge acquisition (Ecclestone and Brunila 2015; Wright and McLeod 2015).

As with warnings about the risks of progressive and permissive education, the encroachment of therapeutic activities into classrooms is argued to have detrimental effects for young people. The adoption of popular notions from “therapy” in education, a process Ecclestone and Brunila (2015) call “therapeutization,” is seen as undermining resilience and displacing the powerful subject-based knowledge needed to overcome socioeconomic disadvantage. A related set of concerns has also been expressed with regard to the psychopathologizing of children in schools through the embrace of diagnostic labels (Harwood and Allan 2014), while another strand of critique questions the value of curriculum, pedagogical, and school program approaches drawing on positive psychology and concepts of well-being (Wright and McLeod 2015).

These more recent lines of analysis share some common concerns with earlier critiques of mental measurement, including what might be overly alarmist assessments about the therapeutic turn in education (e.g., Ecclestone and Hayes 2009). Yet other appraisals fall more in line with the interpretations developed by Thomson (2006) and Wooldridge (2006), that is, acknowledgment of educational psychology’s complex histories and contradictory effects (e.g., Wright 2012). Importantly, recent debates about psychologization have been advanced in parallel with other ongoing concerns and discussions within education about the importance of evidence-based approaches in teacher preparation and classroom practices. This is reflected, for example, in continued – and what some would argue is a growing emphasis on – testing and measurement, with key developments in this area including the elaboration of

frameworks for student assessment and motivation (Fletcher and Hattie 2011).

## **Conclusion and Future Directions**

Studies in the history of educational psychology reflect its wide-ranging foci and its heterogeneity as a field, one that encapsulates multifaceted concerns, varied research programs, manifold theories, and a wide range of overarching aims. Since its inception, and across its varied forms as a guide for practice and a rationale for reform, analyses and evaluation of its promises, achievements, and outcomes have been wide and varied. The forms of research and practice that constitute, or indeed should constitute, educational psychology have been debated from the outset, as have the knowledge claims and ideas about the appropriate reach of psychological research and theories for education.

The rise and shape of psychology's influence in education and schooling have transnational as well as national and locally distinct features, some of which have been drawn out above. A wide range of ideas and concepts, from the "laws of learning" to the psychology of individual differences, have been marshalled in the practical application of psychological knowledge to everyday problems of the classroom. The nascent educational psychology brought considerable ambition, namely, to examine "all those phases of the study of mental life which concern education" (Bagley et al., cited in Glover and Ronning 1987, p. 6). Importantly, this included the aim of "acquaint[ing] teachers with the scientific study of mental development" (Glover and Ronning 1987, p. 5). Such

knowledge of human nature, development, and learning was pursued through empiricist and positivist research, through theory building and philosophy, and through quantitative methods (Charles 1987; Walberg and Haertel 1992).

From the early to mid-twentieth century and into the present, psychological research and theory has influenced many aspects of education. It has shaped policymaking and processes of educational reform, from the scientification of knowledge in the early twentieth century that underpinned the development of psychometrics, through to ideas about individualized instruction and “progressive” schooling approaches, to the rise of positive psychology, discourses of well-being, and much else besides. Historical studies of educational psychology help make sense of this complex picture. Given its broad scope, most accounts concentrate on particular dimensions, such as notable figures, influential concepts, and major developments, and are concerned with debates and tensions within the field.

Since the late twentieth century, some of the most engaging scholarship on the history of educational psychology has emerged from other disciplinary perspectives, notably history and sociology, but also the distinct subfield of critical psychology. This work has made vitally important contributions to understanding the legacy and implications of psychological research and its influence on society, education, and young people, challenging taken-for-granted and dominant views of psychology as an impartial and neutral “science of the mind.”

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