

Accommodations, The Divide Between
Research and Practice: Focus on Extra Time
and on Students with Mental Health Disabilities

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Outline of this session

- Extended Time:
 - Operationalized
 - Influencing factors
 - Suggested approach to determining equitable amount
 - Students with mental illness

Operationalizing Extended Time for Tests and Examinations (Postsecondary)

- Alterations to standard test administration procedures that are made to compensate for an individual's functional impairments and assist with test and examination accessibility (Sireci et al., 2005; Kettler, 2012).
- **Symptoms** – behavioural expressions associated with disorder (Barkley et al., 2006)
- **Functional Impairment** – consequences that ensue for the individual as a result of these behaviours (Barkley et al., 2006)
- **Symptoms** of a disability and **functional impairment** ensuing from disability - separable dimensions (Gordon et al., 2006)

Operationalizing Extended Time for Tests and Examinations (Postsecondary)

- Accommodations such as extended time are provided to address construct irrelevant variance or students' functional impairment associated with timed tests or examinations (Lovett, 2010).
- Extended time is provided to compensate and therefore mitigate functional impairment related to timed test and examination taking - student knowledge of content is exhibited as opposed to disability limitations (Lovett, 2010).

Operationalizing Extended Time for Tests and Examinations (Postsecondary)

Accessibility Example for Extended Time on Tests/Examinations (Kettler, 2012)

Processing deficits (symptoms) – selective attention, auditory working memory, RAN, letter recognition



Functional impairment – reading fluency



Extended time mitigates construct irrelevant variance (reading fluency) and levels test accessibility to non-disabled peers.

Operationalizing Extended Time for Tests and Examinations

Differences between elementary/secondary school and postsecondary settings:

Elementary and Secondary School Settings –based on ongoing IEP (assessment + student/parent and teacher input) which contains accommodations “needed to help the student **achieve** his or her learning expectations”

Postsecondary Settings – based on student self-identifies, provides documentation (assessment + student/parent documentation and educational records) which clarifies functional impact of disability, and accommodations needed to **access** program expectations, DSOs determine if request for accommodation is reasonable.

Prevalence of Extended Time for Tests and Examinations (Postsecondary)

- For students with learning disabilities (LD) and mental illnesses (MI), extended time on tests and examinations is the most frequently requested and granted accommodation in colleges and universities (LD - Gregg, 2009; Gregg & Nelson, 2012; Ofiesh et al., 2004; MI – Brockelman, 2011; Salzer et al., 2008).
- Testing agencies report significant increase in students with LD requesting the accommodation of extended time for the SAT, GRE, GMAT, LSAT, MCAT examinations (Gregg & Nelson, 2012).

Rationale for Providing Extended Time for Postsecondary Students with Disabilities (LD)

Students with Learning Disabilities:

- Students with LD struggle with the academic skills (e.g., reading fluency) that are essential for success on reading based timed tests and exams (Aaron et al., 1999; Lewandowski & Lovett, 2014; Savage, 2004; Shanahan et al., 2006).
- Parilla et al. (2007) – cognitive processes that promote automaticity and fluency in reading comprehension are very difficult to remediate.
- Students with LD compared to students with no LD, take longer to complete timed reading tasks including taking tests (Ofiesh & Hughes, 2002).

How Much Extended Time

Ramifications of giving different amount of time to complete tests (Lovett et al., 2016):

- May lead to unfair score comparisons – high stakes testing (e.g. postsecondary entrance exams).
- May lead to overestimating a student's skill levels - difficulty in measuring fluency/automaticity of skill.

How Much Extended Time

- Process of deciding how far to extend the time limit of a test is not clearly defined (Ofiesh & Hughes, 2002).
- No clear guidelines have been developed for translating specific diagnostic test scores into precise amounts of needed additional time (Lovett et al., 2016).
- Studies indicate variability in amount of extended time used on tests/examinations for students with LD – standard time to double time (Ofiesh & Hughes, 2002).

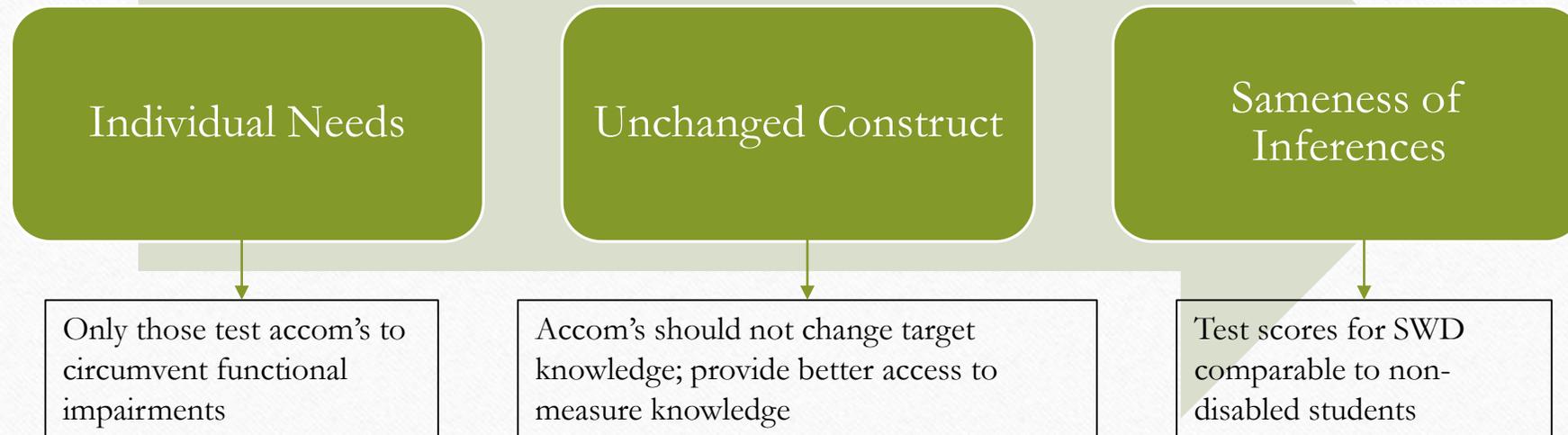
How Much Extended Time

Literature:

- 50-100% extended time – standard options on applications for tests such as the SAT, ACT, and GRE (Lewandowski et al., 2013).
- Ofiesh & Hughes (2002) suggest DSAs consider a range of 50-100% extended time on tests/examinations as a general rule/general starting point
- Performance based studies (i.e., SAT, NDRT) suggest 25% extended time would be appropriate for students with LD (Cahala-Laitusis et al., 2006; Lewandowski et al., 2013).

Factors Associated with Extended Time on Tests/Examinations

Accommodations Model (Kettler, 2012): Proper consideration of individual needs increases likelihood of differential boost



Factors Associated with Extended Time on Tests/Examinations

Case Scenario

A university student with a 6th grade reading fluency level must complete a timed political science examination. The student thinks and works as quickly as most other students on non-reading tasks but has a functional impairment in reading fluency.

- Individual Need – TTS – mitigates reading fluency impairment – construct being measured is same for non-disabled student as reading fluency limitation does not affect performance – same performance inferences.
- Individual Need – Time and a Half – has 15 mins to answer each short answer question as opposed to 10 mins for non-disabled students – more working memory time, different answering strategies – bigger leap of faith that the same inferences can be drawn.

Suggestions for Providing Extended Time – Focus on Individual Needs

1. Cognitive Processes

- assessment data
- clinical observations
- history of accommodation use

2. Testing Context

- construct of test
- test format

Extended time accommodation = decision based on characteristics of an individual's cognitive profile and specifics of test/examination

Providing Extended Time – Individual Cognitive Processes

Steps to determine Individual Cognitive Processes for Extended Time:

1. Determination of functional (academic) impairment – e.g., reading, writing, math.
 - **Broad scale information – answers the “what” questions pertaining to functional impairment.**
2. Elaboration of functional impairment – e.g., reading impairment = reading fluency, reading comprehension or both.
 - **Narrow based information - provides the “why” and “when” of ET accommodation – critical for DSAs for dynamic ET planning.**

Providing Extended Time – Individual Cognitive Processes

3. Determination of the severity of the functional impairment - assessed via a combination of psychometric data and clinical judgment.
 - **Informs DSAs on “how” much ET time is needed.**

4. Evaluate other sources of student information and previous use of extended time accommodations.
 - **How much ET accorded in past and how much used; comorbidities; medication effects – refine how much ET is needed.**

Providing Extended Time – Individual Cognitive Processes

Key Points for Psychological Service Providers:

- Does the student have a functional impairment in an area that is an access skill (i.e., skill necessary to demonstrate test content knowledge in a time setting) for the test.
- Reading Fluency = attention, working memory, word recognition (Kettler, 2012).

Providing Extended Time – Individual Cognitive Processes

Key Points for Disability Service Providers:

- Shaw et al., (1997) DSAs have a variety of professional backgrounds.
- Wolforth & Harrison, 2008 – approximately half of surveyed DSAs reported some level of discomfort with interpreting test scores and implementation of test results.
- Do DSAs have knowledge of psychometric principles for dynamic accommodation planning – especially when recommendations are too general or sparse.

Providing Extended Time – Testing Context

Additional assessment of the impact of the functional impairment requires consideration of test/examination construct and format.

Test/Examination Construct Considerations:

- Power based (knowledge based – instructor is interested in student responses to all questions).
- Speed based – completion of test/examination within a specific time limit – instructor is interested in the rate or speed of knowledge expression.

Providing Extended Time – Testing Context

Test/Examination Format Considerations:

- Method of presentation – paper/pencil, demonstration based, computerized graphics, etc.
- Program of study – informational content (i.e., reading based, math based etc....).
- Response format – forced choice, constructed response, demonstration based.
- Student use of AT for compensation outside of test/exam setting.

Providing Extended Time – Testing Context

Holmes, Silvestri, & Rahemtulla (manuscript in preparation)

Ex post facto study of time used (not performance based) on test/examinations for postsecondary students with LD

- 93 postsecondary students with LD only – examined test proctoring forms for 928 test/examinations during 2012 and 2013 academic years – Northern Ontario postsecondary setting.
- Varying program of studies, time and a half extended time was accorded for 90.2% of all tests/examinations.
- AT was utilized for 35% of all test/examinations – TTS and word prediction accounted for 95.1% of AT used.

Providing Extended Time – Testing Context

Holmes, Silvestri, & Rahemtulla (manuscript in preparation)

- Power vs Speed (without AT)
 - On power based (120 minute tests)*, approximately 75% of students completed within standard time
 - On speed based (60, 90 minute tests)*, slightly more than 50% finished within standard time
- Projections from this data, using ETS guidelines, suggest that 25% extended time would suffice for power based evaluations while 50% extended time would be adequate for shorter, speed based evaluations

Providing Extended Time – Testing Context

Holmes, Silvestri, & Rahemtulla (manuscript in preparation)

Power (with AT)

- The mean completion time on 120 minute tests/examinations showed that:
 - The mean time using word prediction software on these tests was 64% longer than when using TTS.

Providing Extended Time – Testing Context

Holmes, Silvestri, & Rahemtulla (manuscript in preparation)

Power and Response Format (w/o AT):

- Short answer test/examinations took approximately 20% longer to complete than multiple choice based test/examinations

Power and Program of study/Response Format (w/o AT):

- business test/examinations (constructed response format) took approximately 40% and 27% longer to complete than human services and health/medical test examinations (primarily forced choice evaluations) respectively

Extended Time for Students with Mental Illnesses – Background Information

- Number of students with mental illnesses registered at DSOs in Ontario (colleges + universities) increased by 67% between 2006-2011 (Condra et al., 2015).
- Same period – overall number of students with disabilities increased by 31.5% (Condra et al., 2015).
- 86% of students with mental illnesses withdraw from postsecondary schooling before completing their degree compared to a 37% withdrawal rate for the general student population (Salzer et al., 2008).

Extended Time for Students with Mental Illnesses - Legislation

- Landmark OHRC decision – *Dhanota v. York University* - students with mental illnesses will not have to identify specifics of their illness to get disability services assistance.
- DSOs still require documentation from a regulated health provider confirming that there is a disability.
- Focus is now on the functional impairment rather than specifics of diagnosis.

Extended Time for Students with Mental Illnesses - Legislation

Ontario Human Rights Code (1990)

- Focuses on the need to accommodate based on functional impairment
- Students are entitled to receive accommodations if their disability results in a functional impairment that impacts their ability to participate in academics regardless of whether the disability is permanent or temporary.

Extended Time for Students with Mental Illnesses – Efficacy of Extended Time

Literature Search (extended time or accommodations)

- No specific articles found on the efficacy of extended time for students with mental illness or psychiatric disabilities.
- Articles found were primarily based on survey findings and provided descriptive statistics on the prevalence of different accommodations for this population.

Extended Time for Students with Mental Illnesses – Descriptive Studies

Becker et al., 2002:

- 315 faculty at one U.S. university providing self-report information on accommodations for students with mental illnesses.
- Most frequent accommodations for students were extending deadlines and giving extra time to complete an exam.

Extended Time for Students with Mental Illnesses – Descriptive Studies

Glenmaye & Bolin, 2007

- Postsecondary Social Work faculty at U.S. postsecondary institutions - provided information on accommodations offered to students with psychiatric disabilities in social work programs.
- Most frequently reported accommodations involved test taking, followed by reduced course load, and accommodations related to course assignments.

Extended Time for Students with Mental Illnesses – Descriptive Studies

Salzer et al., 2008:

- Total of 520 current and former U.S postsecondary students with a psychiatric disability from 357 colleges and universities - student self-report information on accommodations received.
- Primarily students with bipolar, major depression, and anxiety disorders.
- Most frequent examination or grading accommodations: provision of a grade of incomplete rather than fail, extended time, and exam in a quiet, non distracting room.

Extended Time for Students with Mental Illnesses – Descriptive Studies

Brockleman, 2011:

- Faculty self-report on accommodations for students with psychiatric disabilities - 107 faculty at one university.
- The most prevalent accommodations (also deemed to be most effective for students with psychiatric disabilities) were: extending deadlines for students and extended time for tests/exams.

Extended Time for Students with Mental Illnesses – Theoretical Foundation

Theoretical Framework for Cognitive Deficits in Depression and Anxiety Disorders:

Anxiety Disorders – Eysenck's Processing Efficiency Theory (Eysenck & Calvo, 1992) and Attentional Control Theory (Eysenck et al., 2007)

- Efficiency of the central executive and associated memory systems deteriorate in periods of stress or increased processing such as experienced in tests/examinations.

Extended Time for Students with Mental Illnesses – Theoretical Foundation

Theoretical Framework for Cognitive Deficits in Depression and Anxiety Disorders:

Depressive Disorders (Ellis & Ashbrook, 1989)

- Depressed mood reduces ability to allocate attentional resources commensurate with task demands – proximal deficit is attention, specifically alerting attention or vigilance (Weiland-Fiedler et al., 2004).

Extended Time for Students with Mental Illnesses

Holmes and Silvestri, 2015

- Disability and counselling service providers provided information on students accessing services pertaining to prevalence of student mental illnesses and academic impairments related to mental illnesses – 15 of 24 Ontario colleges participated with information on 1,964 students (2009-2010 academic year).
- Most prevalent mental illnesses were mood disorder followed by anxiety disorder; most prevalent comorbid disorder – mood/anxiety disorder.

Extended Time for Students with Mental Illnesses

Holmes and Silvestri, 2015

Academic Impairments:

- Survey was designed to measure attention/alertness, EFs/memory, and peer relationship academic impairments reported in sessions.
- Comorbid students were found to have a greater frequency of reported academic impairments than single diagnosed students who then had more impairments than non-diagnosed students.
 - (i.o.w., as the number of diagnoses increases, so do the academic impairments)

Extended Time for Students with Mental Illnesses

Holmes and Silvestri, 2015

Specificity of academic impairments:

- Disassociation of impairments - students with mood disorders were more likely to have alertness/attention academic impairments compared to students with anxiety disorders.
- Students with anxiety disorders were more likely to have EFs/memory academic impairments compared to students with mood disorders.

Extended Time for Students with Mental Illnesses

Holmes and Silvestri, 2015

Ramifications:

- Psychological practitioners – measure attention/alertness and EFs/memory processes in students with mood and anxiety disorders respectively.
- Academic service providers – accommodations may be more critical for students with mood disorders (i.e., ET for exams – fluency issues related to attention/vigilance access skills) while coaching and strategies may be more optimal for students with anxiety disorders.

Extended Time for Students with Mental Illnesses – Faculty Effect

Faculty knowledge and support is critical for students with mental illnesses to access accommodations and succeed in postsecondary settings (Decker et al., 2002)

Holmes & Silvestri (manuscript in preparation)

- 146 faculty at a university and college in Northern Ontario.
- Surveyed faculty on their **knowledge** of student mental illnesses and disability legislation, **beliefs** and **comfort** working with these students, and **fairness** of test/examination accommodations for students with mental illnesses.

Extended Time for Students with Mental Illnesses – Faculty Effect

Holmes & Silvestri (manuscript in preparation)

- Half of all faculty reported being “not at all”/”slightly” familiar with disability legislation as it pertains to students with mental illnesses.
- Faculty reported being “familiar” with the more overt characteristics of mental illnesses (aggression, anger, disjointed thoughts) but “not familiar” with the more subtle signs of anxiety and mood disorders (fatigue, absences, somatic complaints).

Extended Time for Students with Mental Illnesses – Faculty Effect

Holmes & Silvestri (manuscript in preparation)

- Similar to U.S results, writing exams at DSOs and provision of extra time on exams were accommodations that were rated by faculty as most “fair” for students with mental illnesses.
- Reported that allowing students with mental illnesses to take alternate forms of exams and exempting students for tests/exams were accommodations they would not deem equitable.

Extended Time for Students with Mental Illnesses - Suggestions

Suggestions for Clinicians and DSAs:

- Clinicians should examine attentional/vigilance and EFs/memory cognitive domains in students with mood and anxiety disorders respectively.
- DSAs should be alerted to the fact that students with comorbid mental illness are likely to have more academic impairments as compared to students with a single MI diagnosis.

Extended Time for Students with Mental Illnesses - Suggestions

Suggestions for Clinicians and DSAs:

- Strategies and academic coaching might substantially improve performance on tests/exams for students with anxiety disorders – alleviate need for ET.
- Conversely, extended time might be an effective accommodation for students with mood disorders – no parameters on how much extended time is needed.
- DSAs would benefit from educating faculty on disability legislation, symptoms of anxiety and depression and range of accommodations for these students.

Extended Time for Students with Mental Illnesses - Suggestions

Suggestions for Clinicians and DSAs:

- Much research remains to be done to determine if students with specific mental illnesses have specific cognitive deficits and how they relate to academic impairments. Until then it is difficult to ensure that chosen accommodations are providing accessibility to tests/examinations and not a performance advantage.

Thank you

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