

# Learning Orientation and Stress in an Online Experience

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## INTRODUCTION

Stress impacts both quality and length of life according to several researchers (McEwen & Seeman, 2003). More studies need to discuss the relationship between stress and education. The lack of available information does not mean the issue is not important because stress is known to block learning (Zull, 2002; Sapolsky, 1998). Learning and life stressors are thought to negatively influence academic achievement and satisfaction levels. Stress also affects performance according to Akgun and Ciarrochi (2003) by decreasing memory and problem-solving abilities (McEwen, 1998a). The psychological outcomes of poor performance can further impact student academic retention (Shelton, 2003) and health (McEwen, 1998b). Recent research about learning emotion, intention, and social factors offers new insights into stress and achievement (Martinez, 2003).

## BACKGROUND

Stress is defined as a physiological change caused by aversive stimuli. The allostatic load theory suggests the body constantly produces chemicals to activate organs enabling the individual to “adapt” to aversive conditions (McEwen, 1998a). Over time, the beneficial changes may become detrimental to health.

Use of a holistic framework allows researchers to tease out the influence of each variable in context. The allostatic load model (McEwen, 1998b) describes how acute stress impacts the body in chronic situations. Since learning produces early stress reactions and is needed throughout the life cycle, study of how stress impacts learning and health is needed. Use of the learning allostatic model encourages the study of biophysical factors along with environmental, and instructional variables (Molinari, Dupler, & Lungstrom, 2004).

Although learning stress is not fully understood, a number of long-term physiological and performance complications are reported in the literature. Stress creates disease by reducing immune function and altering hormone levels. Studies indicate stress hormone levels can be predictive of relationship problems and chronic disease (Kiecolt-Glaser, McGuire, Robles, & Glaser, 2002). Reducing stress could avoid colds, flu, and mild depressive symptoms which complicate student relationships and achievements (Glaser, Robles, Malarkey, Sheridan, & Kiecolt-Glaser, 2004). Stress also blocks learning by limiting perceptions, thinking, and memory capabilities during performance, triggering higher levels of stress during later performance events (Sapolsky, 1998). The inability to think or remember concepts, procedures, and methods during patient encounters can threaten lives.

Research on the affects of stress on nursing students indicates problems in clinical situations

(Admi, 1997; Mahat, 1998), psychological outlook (Beck & Srivasta, 1991; Frazier & Schauben, 1994; Goldman & Wong, 1997;) and retention (Jeffreys, 1998; Shelton, 2003). Drop out reasons may be more psychological than cognitive (Lindop, 1991; Shelton, 2003). The diverse backgrounds of people entering nursing education today include life experiences producing stress (Jeffreys, 1998). Nursing educators seek methods to promote retention of quality students and student outcomes (Martinez, 2003). The answer may lie in addressing the student emotions and characteristics (Shelton, 2003).

Too high a stress level may interfere with a student's ability to commit to the education process (Deckro et al., 2002). Unresolved lifestyle stress may create a decreased ability to achieve (Thyer & Bazeley, 1993). External concerns such as obligations, employment, family, and finances constrain individuals and may interfere with academics (Goldman & Wong, 1997). Further study about how life stress affects commitment to learn is needed. Research about how stress relates to learning orientation is in the exploratory stage.

Recent educational research indicates learners' emotions and intentions may be more important than their cognitive abilities in accounting for achievement differences. Learning orientation is a theoretical approach to the emotional factors that influence learning: conative/affective, strategic planning/committed learning effort, and learning autonomy (Martinez & Bunderson, 1999). The learning orientation model defines "conative/affective" as intent, commitment, and passion towards learning. "Strategic planning" and "committed learning effort" addresses the persistence, focus, and self-direction of a learner. "Autonomy" describes learning independence, self-motivation, and responsibility in learning situations. The Learning Orientation Questionnaire results in four learning types: Transforming, Performing, Conforming or Resistant. Educators can use the learner types to design, implement, and evaluate achievement.

Learning orientation proved predictive of grades in Web-based courses (Jones & Martinez, 2001). Martinez (2002) recommends differentiated instructional design based upon learning orientation. Although online achievement and learning orientation are associated, no study reported associations with

stress. A recent study addressed the question: What is the relationship between learning orientation and stress in an online sample of nursing students at the beginning of their bachelor's of science in nursing program?

The purpose of the correlational study was to describe how nursing students' learning preferences were related to stress by identifying relationships between the Learning Orientation Questionnaire (LOQ) scores and those obtained from stress surveys. Since stress is related to achievement, grades from the online quiz were also analyzed. Eighty-seven students completed all survey instruments after signing a consent approved by the governing university's institutional review board. Junior-level students entered responses into a BlackBoard-based database while completing a two-hour tutorial about how to author a database using Microsoft ACCESS 2002. The results were transferred into an Excel file for analysis by statistical software. The student experience included surveys, an online learning module, and an online quiz to measure achievement.

Four self-report surveys were administered and analyzed. The first survey requested demographic data including personal health habits, characteristics, and information. The tool was designed by the primary investigator and was not used previously. The second survey, the Learning Orientation Questionnaire, consisted of 45 questions with three subscales titled conative/affective, learning effort, and autonomy. Cronbach alpha coefficient for internal consistency was reported as .88 with all three subscales reporting reliability (Martinez & Bunderson, 1999). The reliability coefficient found in this study was .80. The third survey measured proximal stress. The Stress and Arousal Checklist (SACL) contained 30 items arranged in two subscales. The "Stress" subscale was the perception of situations as unpleasant, and the "Arousal" subscale was defined as increased physiological activity (Corcoran & Fischer, 1987; Duckro, Korytnyk & Vandenberg, 1989). Internal reliability of the whole scale was .84, while the alpha for SACL/stress subscale was .89, and that for SACL/arousal was .86.

The fourth survey measured life event stress which was considered a background to the learning event. The Holmes and Rahe Social Readjustment Rating Scale (SRRS) is a hierarchical checklist of 43

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