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Gender Differences in Factor Scores of Anxiety and Depression among Australian University Students: Implications for Counselling Interventions

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ABSTRACT

Anxiety and depression inventory scores from 200 male and female university students attending a private university in Australia were examined for their factor structure. Once established, the two sets of factors were tested for gender-based differences, revealing that females were more likely than males to report symptomatology associated with pain and fatigue, sleeping and digestive problems, psychomotor agitation, confusion, and pessimism. Implications for counsellors are discussed.

RÉSUMÉ

Les scores d'un inventaire d'anxiété et de dépression de 200 étudiants et étudiantes inscrits à une université privée en Australie ont été examiné afin de déterminer la structure des facteurs [*factor structure*]. Une fois les deux ensembles de facteurs établis, ils ont été testés en vue d'analyser les différences selon les sexes, les étudiantes s'avérant plus susceptibles que les étudiants de signaler la symptomatologie associée à la douleur, la fatigue, les problèmes d'insomnie et de digestion, la perturbation psychomotrice, la confusion, et le pessimisme. Les implications pour les conseillers sont traitées dans cet article.

Anxiety and depression cause difficulties across social, occupational, and everyday functioning (Castle, Kulkarni, & Abel, 2006) and have been linked with physical disease, relationship difficulties, and reduced concentration (Nutt, 2004), thus significantly contributing to decrements in sufferers' performance. These negative effects are important when considering counselling services and treatments because anxiety disorders are the most common mental illness (World Health Organization [WHO], 2000) and may therefore be expected to occur in a large proportion of people who present for counselling.

For example, 31% of the population of the USA experience one form of anxiety disorder sometime in their lives (Kessler, Bergland, Borges, Nock, & Wang, 2005). As well as having its own negative sequelae, anxiety may be a risk factor for later development of depression (Marra, 2004), which also has damaging consequences for many aspects of functioning. The Global Burden of Disease

data set (Ustun, Ayuso-Mateos, Chatterji, Mathers, & Murray, 2004) indicated that depression was the fourth largest contributor to disease burden globally, but that there were wide variations in the contribution depression made to total disease burden between low-income (e.g., Africa = 1.2%) and high-income (e.g., USA = 8.9%) nations. European data collected in 2001 indicated that 14% of respondents had experienced an anxiety disorder and 13% had had major depression (Alonso et al., 2004). The WHO (2000) and some authors have predicted that depression will become the second leading cause of mental illness by 2020 (Murray & Lopez, 1997).

These data indicate that anxiety and depression (a) are relatively common; (b) make a major contribution to total disease burden (at least in high-income nations); and (c) have damaging effects upon the working performance of those who suffer from these disorders, as well as adversely influencing their personal lives. For counsellors, the relatively high incidence of anxiety and depression imply that these will be common presenting problems in clients who seek treatment.

Anxiety and depression have several causes, and one of the strongest is stress (Mirescu & Gould, 2006). While stress can occur at any age, there are data that suggest that young adulthood is a period of particular vulnerability for anxiety and depression, perhaps due to the demands faced by that age group (Korten & Henderson, 2000). In support of this hypothesis, anxiety and depression were reported as higher among younger people (18–24 years) than older adults in three areas of the USA in 1980–1982 (Myers et al., 1984). Estimates of the prevalence of anxiety and depression before age 40 were set at 7% for anxiety and 18% for depression on the basis of data collected from 11 nations over the period 1982–1997 (Bland, 1997). WHO (2000) data showed that the incidence of mood disorders (including depression) in Europe was greatest among people aged 18–20 (6.1%) compared to other age groups. A national survey of mental health in Australia generally supported this finding (Korten & Henderson, 2000).

A major identifiable and relatively common stressor experienced by about 1 in every 5.5 young adults in Australia is that of adjusting to university study. Some of the challenges they face include academic pressure, finances, social and sexual issues, and sleep deprivation (Jones, Papadakis, Hogan, & Strauman, 2009; Papadakis, Prince, Jones, & Strauman, 2006; Scott & O'Hara, 1993). Law (2007) reported that the demands of university study made students more fatigued than nine other occupational groups, including teachers, police, and medical practitioners. While fatigue occurs in a minority of young Australian adults, its potential to contribute to effects of anxiety and depression in this population cannot be underestimated.

Anxiety and depression among students has also been shown to adversely influence their academic performance and contribute to learning difficulties (Dyrbye, Thomas, & Shanafelt, 2006), thereby potentially compounding the stress experienced. Kitzrow (2003) noted that 28% of first-year students reported being overwhelmed and 8% were depressed, and also commented that these mental health problems could affect the interpersonal relationships and academic performance of the distressed student.

With 18% of Australian young adults attending university (Organisation for Economic Co-operation and Development, 2001), it may be that the demands mentioned above constitute a major contributing factor in the development of depression among this group of young adults. McLennan (1992) reported that Australian university students have higher levels of anxiety and depression than the general community, and Tanaka and Huba (1987) noted that the pressures of university study are at least partially responsible for this. Recent data from a national survey showed that Australian young adults of university age (15–29 years) had the second highest incidence of major (8%) and "other" (9%) depression among the 15 to 70+ year age groups (Hawthorne, Goldney, & Taylor, 2008), although separate data for university students versus non-students were not reported.

In a recent study of the incidence of depression among university students in the USA, Alloy et al. (2006) reported rates of up to 16% for major depression and 45% for minor depression during the first three years of study among students who had no prior history of depression. Tjia, Givens, and Shea (2005) found that over 15% of students surveyed in a medical school were depressed and 20% reported suicidal ideation. Up to 85% of university counselling centre directors have noted that about 16% of their clients had "severe" psychological problems (Gallagher, Gill, & Sysko, 2000), although these may not all have been anxiety or depression. These data may explain the increase that university counsellors have reported in demand for individual counselling for more serious emotional and mental health difficulties during the last 30 years (DeStefano, Mellott, & Petersen, 2001).

While these data alert university counsellors to the likelihood of clients presenting with anxiety and depression, there are also findings that imply gender differences in the *incidence* of anxiety and both disorders. For example, Bland's (1997) review of data pertaining to 11 nations showed a general lifetime prevalence ratio for major depression as 1.5:1 for female-to-male comparisons. Similarly, data from the Global Burden of Disease showed that depression ranked as the fourth leading cause of disease burden for women but only the seventh for men (Ustun et al., 2004).

Hawthorne et al. (2008) reported that major depression among Australian females aged 15–29 years was 10% in 1998 and 14% in 2004, compared to 3% and 2% for males of the same age; other depression incidence was 13% in 1998 and 11% in 2004 for females and 10% and 7% for males, respectively. With specific reference to university students, a recent general survey of the mental health needs of 939 students from a large Midwestern university found that 18% of females and 9% of males reported being depressed and similar female:male ratios existed for anxiety ($F = 7\%$, $M = 4\%$) (Soet & Sevig, 2006). These data suggest that while the overall frequency of anxiety and depression among university students has increased during the last decades, about twice as many females as males present with these disorders.

However, while these data are informative of the kind of gender balance that counsellors might expect in terms of the relative *frequency* of male versus female presentation with anxiety and depression, they do not inform counsellors about any differences in how males and females *experience* anxiety and depression. That

is, simply because more females than males present with these disorders does not necessarily imply that the differences between the genders are only in terms of the proportion of sufferers. If this were the case, then counsellors would simply need to be aware of the different presentation rates across genders. However, there may also be differences in the kinds of symptoms that females experience compared to males, how they deal with those symptoms, and how counsellors ought to focus their treatment options to assist the different genders to cope with anxiety and depression.

Collection and analysis of data on the different symptom weightings of male and female university students could provide university counsellors with a more informed guide to therapy for these clients and their disorders. One method of doing this is by comparing the relative loadings that males and females have on the factor structures of standardized tests of anxiety and depression.

Consequently, the present study was designed to explore the differences in symptom presentation of anxiety and depression between male and female university students by investigating their relative weightings on the underlying factor structures of anxiety and depression from two well-established inventories. These data could then provide some guidance to university counsellors on how treatments might be varied to best focus upon the kinds of symptoms experienced by male and female students who present with anxiety or depression.

METHOD

Participants

Two hundred undergraduate students from an Australian university volunteered to participate in the study (age range = 17–54 years, $M = 23.6$, $SD = 7.24$; 104 females and 96 males). Participants represented all faculties of the university (Humanities/Social Sciences/Education = 55%, Law = 12%, Health & Medicine = 5%, Business and IT = 28%).

Measures

Background data on age, gender, and degree studied were obtained via brief questions. Anxiety was assessed by the *Zung Self-Rating Anxiety Scale* (SAS) (Zung, 1971) and depression was measured by the *Zung Self-Rating Depression Scale* (SDS) (Zung, 1965). The Zung SAS is a 20-item, self-report questionnaire that measures the presence and magnitude of anxiety-based symptoms. The SAS was constructed according to the *DSM-II* (American Psychiatric Association [APA], 1968) criteria for anxiety and still contains the criteria listed in *DSM-IV-TR* (APA, 2000), giving it good content and face validity.

The SAS contains items that assess both physiological (e.g., muscle tremors, physical pain, urinary frequency, sweating, face flushing, insomnia) and psychological (e.g., nervousness, fear, mental disintegration, panic, apprehension, restlessness, nightmares) symptoms commonly associated with anxiety. Each item is scored on a 4-point scale in relation to whether the person has experienced each specific symptom *none or a little of the time* (rating = 1), *some of the time* (2), *a good*

part of the time (3), or *most or all of the time* (4) during the last two weeks. There are positively and negatively worded items to reduce response bias and identify inconsistencies in responses. Raw scores sum to a total that ranges from 20 to 80, with higher total scores reflecting a more anxious individual than lower total scores.

The SAS correlates .75 with the *Hamilton Anxiety Scale* (Zung, 1971) and has been shown to significantly discriminate between a normal adult sample and patients with anxiety disorders (Zung, 1971). Reliability data are .71 (split half: Zung, 1971) and .77, .79, and .85 (coefficient alpha), the latter three data points being from three Australian samples of 552 and 197 participants, respectively (Sharpley & Christie, 2007a, 2007b; Sharpley & Rogers, 1985). Zung set a cutoff point raw score of 36, above which he described participants as having anxiety that "was clinically significant" (Zung, 1980, p. 18), although this does not equate to an Anxiety Disorder according to DSM criteria.

The Zung SDS (Zung, 1965, 1973) is also a brief, 20-item self-report questionnaire that measures the presence and magnitude of depressive symptoms. The SDS was constructed according to the *DSM-II* (APA, 1968) criteria for depression and still contains the criteria listed in the *DSM-IV-TR* (APA, 2000), giving it high content and face validity.

The SDS assesses psychological (e.g., sadness, crying, suicidal ideation, confusion, hopelessness, emptiness, irritability, indecisiveness, dissatisfaction, self-deprecation) and physiological (e.g., psychomotor agitation, insomnia, anorexia, weight loss, decreased libido, constipation, fatigueability) symptoms commonly associated with depression. The same 4-point scale as in the SAS is used, and there are positively and negatively worded items to reduce response bias and identify inconsistencies in responses. Raw scores range from 20 to 80, with higher scores reflecting a more depressed individual. Zung (1973) set a cut-off score of 40, above which participants were experiencing clinically significant depression.

The SDS has high concurrent validity (Zung, 1965), and Schaefer et al. (1985) showed that the SDS was superior to the *Beck Depression Inventory* and the *Minnesota Multiphasic Personality Inventory-Depression scale* in assessing depression in male psychiatric patients. The reliability of the SDS has been reported as between .73 (split half) and .90 (coefficient alpha) (Zung, 1965, 1973) and .84 with two recent Australian samples (Sharpley & Christie, 2007a, 2007b).

The decision to use the SAS and SDS was based upon their acceptable reliability, plus their face and construct validity in terms of the DSM series. As previously noted, the SAS and SDS were originally derived from criteria used to develop the DSM series' symptomatology and therefore are based on that source of diagnoses of anxiety and depression. In contrast, several other similar tests of anxiety and depression (*Beck Depression Inventory*: Beck, 1972; *Hospital Anxiety Scale*: Zigmond & Snaith, 1983; and the *Depression Anxiety Stress Scale* [DASS]: Lovibond & Lovibond, 1995) lack this clear basis in DSM-symptomatology because they focus upon selected aspects of anxiety and depression (e.g., cognitive aspects) rather than measuring the overall set of symptoms that are presented in the DSM nomenclature.

Procedure

Participants were recruited from a small private university in southeastern Queensland in Australia by soliciting during lectures and through informal advertisements. Participants completed the survey questionnaires either in class or privately in an office on university premises dedicated to this process. Once completed, the questionnaires were stored in a secure location before coding for subsequent data analysis. Although the combined anxiety-depression construct has been suggested as being of additional interest when diagnosing these disorders (APA, 2000; Zinbarg et al., 1994), this was not possible here because of the restrictions of sample size (n = 200). That is, applying the commonly-accepted case:item ratio of 10:1 (Tabachnick & Fidell, 1996), a total sample of 400 would have been required. Additionally, at this stage of the research program, the relative factorial structure of each of these two variables, rather than their combined structure, was the major focus. Ethical approval was obtained from the Bond University Human Research Ethics Committee.

RESULTS

Reliability coefficients (Cronbach's alpha) for the SAS and SDS were .85 and .84, respectively, allowing further exploration of these data. There were no significant correlations between SAS or SDS scores and age. MANOVA with the combined male and female sample to test for gender differences on the SAS and SDS total raw scores showed a significant main effect (F (2, 197) = 3.215, $p < .05$), with significant univariate effects for the SAS (females: M = 38.06, SD = 8.34; males: M = 35.16, SD = 7.68: F(1,198) = 6.461, p = .012) but not for the SDS at traditional α levels (females: M = 40.56, SD = 8.62; males: M = 38.19, SD = 8.40: F(1,198) = 3.829, p = .052). However, because of the significant main effects and because the difference between males' and females' SDS scores approached traditional levels of significance, further exploration of the gender differences in SAS and SDS responses was undertaken.

As mentioned earlier, total score differences on anxiety and/or depression according to gender only advise counsellors that males and females show different overall numbers of symptoms of these disorders. They do not inform counsellors as to how males and females experience anxiety and depression differently, nor how counsellors might need to respond differently to males and females when they present with these disorders. Therefore, in order to ascertain the underlying nature of gender differences in the experience of anxiety and depression, factor analyses of the SAS and SDS items were undertaken for the combined male and female data so as to obtain a common structure that could be compared across the two genders.

Exploratory principal component analysis on the SAS data provided a case:item ratio of 10:1, which is considered acceptable (Tabachnick & Fidell, 1996). In addition, over 30% of the item:item correlations were .3 or greater, indicating that the factorability of the correlation matrix was suitable for factor analysis (Pallant,

2007). The Kaisser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was .845 (exceeding the minimum recommended value of .6 [Kaiser, 1970]) and Bartlett's Test of Sphericity was significant (p = .000), thus supporting the factor analysis of these data. Principal component analysis with varimax rotation on the 20 SAS items and analysis of the screeplot produced a "1 major + 4 lesser" factor solution with eigenvalues greater than 1 that accounted for a total of 54.50% of the variance. Examination of the items that loaded on each factor suggested that factor 1 (28.18% of the variance) represented items forming a "Cognitive & emotional arousal" factor; factor 2 (8.65%) was labelled "Physiological arousal-1"; factor 3 (6.78%) was termed "Physiological arousal-2"; factor 4 (5.87%) was "Pain & fatigue"; and factor 5 (5.02%) was "Sleep/digestive problems."

The SDS was examined in the same manner, with 24% of item:item correlations being .3 or greater, the KMO Measure of Sampling Adequacy was .824, and Bartlett's Test of Sphericity was significant (p = .000), thus supporting this procedure. Principal component analysis, varimax rotation, and analysis of the screeplot produced a "1+5" factor solution that accounted for a total of 60.18% of the variance with eigenvalues greater than 1. (Although this is a relatively high proportion of the variance accounted for by the rotated solution, Tabachnick & Fidell [1996, p. 614] noted that rotation has the effect of "maximizing" the loadings.) Factor 1 (28.45% of the variance) was labelled "Fatigue, confusion, pessimism," factor 2 (8.62%) was "Psychomotor agitation," factor 3 (6.90%) was "Digestive issues," factor 4 (5.58%) was "Somatic depression," factor 5 (5.58%) was "Diurnal enjoyment," and factor 6 was labelled as "Positive" factor (5.05%) because it consisted of two inverse correlations with negatively worded items. Tables 1 and 2 show the SAS and SDS factor structures, respectively, plus items and their factor loadings.

Differences between males and females on these factor scores were examined via MANOVA. For the five-factor SAS solution, there was a significant main effect (F (5,194) = 2.890, p = .015) and significant univariate effects for factors 4 (p = .016) and 5 (p = .002). There was also a nonsignificant trend for factor 1 (p = .069), with only limited power (β = .444), suggesting that this difference might also be explored with caution. Females had higher scores than males on each of these three factors. While differences on factor 1 should properly be considered as not statistically significant, there are clear indications that females reported more pain and fatigue and sleeping and digestive problems than males in this sample. There was also a trend for females to report more cognitive and emotional arousal than males.

Differences in SDS factor scores across gender revealed a significant main effect (F (6, 193) = 2.466, p = .025), with significant univariate effects only for factor 2 ("Psychomotor agitation": p = .042, β = .530) and a nonsignificant trend for factor 1 ("Fatigue, confusion, pessimism": p = .050; β = .500). Females had higher scores on both of these factors than males, indicating that female students might experience more instances of rapid heartbeat and restlessness, as well as a trend toward more frequent feelings of fatigue, mental confusion, and pessimism about the future.

Table 1
Item Content and Loading of Factors Underlying Anxiety for Both Genders (Zung Self-Rating Anxiety Scale)

Factor	Item content in factor plus loadings	
1. Cognitive & emotional arousal	More nervous & anxious	(.733)
	Afraid for no reason	(.558)
	Easily upset, panicky	(.724)
	Falling apart	(.631)
	Pessimism	(.530)
	Rapid heart beat	(.507)
	Bladder pressure	(.412)
	Sleeping problems	(.498)
2. Physiological arousal-1	Arms & legs shake	(.673)
	Dizzy spells	(.712)
	Fainting	(.702)
	Numbness & tingling in fingers & toes	(.665)
3. Physiological arousal-2	Agitated and unable to sit still	(.617)
	Difficulty breathing	(.579)
	Sweaty hands	(.720)
4. Pain & fatigue	Headaches, neck and back pain	(.776)
	Feeling weak & easily tired	(.735)
5. Sleep/digestive problems	Stomach aches & indigestion	(.663)
	Nightmares	(.762)

Table 2
Item Content and Loading of Factors Underlying Depression for Both Genders (Zung Self-Rating Depression Scale)

Factor	Item content in factor plus loadings	
1. Fatigue, confusion, pessimism	Downhearted & blue	(.498)
	Sleeping difficulties	(.521)
	Tired for no reason	(.490)
	Mental confusion	(.441)
	Difficulty doing things as before	(.618)
	Pessimistic about the future	(.698)
	Irritable	(.566)
	Difficulty making decisions	(.652)
	Useless, not needed	(.688)
	Empty life	(.600)
	Don't enjoy things anymore	(.681)
2. Psychomotor agitation	Rapid heartbeat	(.570)
	Restless	(.430)
3. Digestive issues	Eating problems	(.497)
	Losing weight	(.709)
4. Somatic depression	Crying spells	(.503)
	Lack of enjoyment of sex	(.487)
5. Diurnal enjoyment	Feeling best in the morning	(.828)
6. "Positive" factor	Others would be better off if I were dead	(-.620)
	Constipation	(-.409)

DISCUSSION

While data mentioned earlier indicate a higher incidence of anxiety and depression among young females than males, those data did not explore the nature of differences in the ways that anxiety and depression are experienced across the genders. By contrast, the present findings suggest that females may be more likely than males to present to counselling with symptoms of anxiety that are more focussed upon pain and fatigue, plus difficulties with sleeping patterns and with digestive upsets. When experiencing depression, females are more likely to report physiological agitation than males. Taken together, these findings suggest that females are more likely than males to present with somatic rather than cognitive symptoms of anxiety and depression. However, these somatic symptoms may influence psychological state and are included in the DSM symptomatology for anxiety because of their relationship (and potential causal links) with psychological states; these potential pathways require attention from counsellors as well as clients. The nonsignificant trends for cognitive and emotional arousal and confusion and pessimism are also worth noting, but require further investigation before acceptance as gender-specific differences.

These differences in the ways that females and males experience anxiety and depression have implications for counsellors' approaches to the two genders. For example, females may be more likely to focus on their somatic symptoms of anxiety, perhaps because of a more intense experience of pain, fatigue, agitation, and digestion problems compared to males. That is, even though males may suffer from these somatic symptoms just as often as females, females focus upon these symptoms and therefore translate their concerns to their counsellors by way of describing these somatic symptoms, whereas males focus upon other symptoms (discussed below).

Consequently, counsellors of female university students might enquire more about their clients' somatic symptoms, and might then go past an immediate focus upon those symptoms to consideration of an underlying (but not openly reported by the female client) diagnosis of anxiety. Counsellors might also focus more upon females' evaluations of the self-perceived importance of these symptoms to their overall mental health and ability to cope with everyday stressors. This could lead counsellors to invite female clients to consider that these somatic symptoms are indicators of a specific psychological disturbance rather than a more generalized physiological state.

The data also suggest that females experience anxiety more through fatigue, digestive, and cognitive/emotional symptoms than males do, and counsellors might use these symptoms as bases for further exploration of females' underlying self-concept regarding their skills in coping with the challenges of university study and life as manifest through their physiology. That is, questions about the reasons *why* they find themselves fatigued, digestively upset, and emotionally labile could help counsellors open the female client to deeper self-reflection upon the possibly high levels of energy that she is exerting to balance the stressors she meets in university study.

In addition, depressed females' stronger (than males') emphasis upon the symptoms of psychomotor agitation, confusion, and pessimism about the future all provide an opportunity for counsellors to explain the physiological bases of both anxiety and depression as not necessarily implying psychiatric problems but rather perhaps representing physical "signals" that the person is under stress and not coping effectively with that adverse state. This kind of translation of physiological symptoms as healthy warning signs can help move the depressed client's focus away from failure images (particularly in term of mental health coping) and toward more effective coping styles. Although these overall suggestions apply equally well to both genders, the present findings suggest that counsellors need to prepare to follow this model with female clients more often than with males. This may suggest that therapies that emphasize the somatic aspects of anxiety or depression (e.g., Progressive Muscle Relaxation, Gestalt Therapy) might prove most effective with female clients who are anxious or depressed.

While these comments emphasize the greater attention that females paid to these somatic symptoms within the present study, they also hold implications for how counsellors might interact most effectively with males by keeping in mind the relative low weightings that males had upon these particular SAS and SDS factors. That is, males apparently placed less emphasis on the somatic aspects of anxiety and so might not respond as well to a counselling focus that dwelt upon these symptoms. They might react more positively to an emphasis on the cognitive aspects of anxiety, perhaps suggesting a therapy approach based upon Cognitive Behavioural models.

Similarly, males appeared to place less importance on the psychomotor agitation aspect of depression and so might not easily accept suggestions of muscle relaxation as a means to address their anxiety. Alternatively, this relatively lower attention by males to their somatic symptoms may be an aspect of the young male role of appearing able to tolerate physiological discomfort; as such, it may also represent denial of these symptoms by these male participants. In a counselling scenario, males may need greater exploration of these somatic aspects of their anxiety or depression so that they can accept these physiological responses to stressors and thus develop more effective coping strategies for the challenges that cause them to feel anxious or depressed.

Limitations

While the present study has been based upon sufficient participants to reliably undertake the various statistical procedures used here, it has some limitations that should be addressed in future research. One major limitation is that of culture—although Australian students are probably not vastly dissimilar to those from other Western societies, they are products of their own social environment, and extension of this study to other national student samples would be of value. These data were collected at a single point in time (near the end of a semester) when extra pressure may be being felt by students because of final assessments due in a few weeks. As with any single snapshot of behaviour, the generalizability

of these findings needs to be tested by sampling from a range of times during a typical semester. Recommendations regarding the maximum case:item ratio (10:1) (Tabachnick & Fidell, 1996) precluded factor analysis of the combined SAS and SDS 40 items here; further exploration of the ways in which males and females experience anxiety and depression via an examination of their differences across the common factor structure of a combined anxiety-depression construct would be possible with a larger sample.

Finally, while the data reported herein have been derived from traditional statistical analysis methodologies, they also need to be considered from the standpoint of clinical significance. For example, although females' mean SAS scores were statistically higher than males' mean SAS scores, the actual difference was less than 3 points on a scale that ranges from 20 to 80 points. In terms of client presentation, this could amount to differences in responses on the SAS of only (for example) 3 items (of the total 20) being rated as "A good part of the time" rather than "Some of the time."

In the case of the SDS mean scores, the difference was less than 2 points. When calculated as percentages of the total range (i.e., 60 points), these SAS and SDS mean score differences across genders are less than 5%. While epidemiological data referred to earlier in this paper also report similar differences and argue for them as being of note, in terms of individual client presentation, such differences would not be likely to alert counsellors to major clinical issues. These comments also apply to statistically significant differences between genders on the SAS and SDS factor scores, suggesting that it may be more prudent for counsellors to note these findings and consider the implications for clinical practice rather than assume that each female client will differ from each male client in the ways described above for the sample as a whole.

However, despite these caveats, these data hold some clinical significance for counsellors. Females in this sample did experience anxiety and depression differently from males, according to accepted tests of statistical significance. This finding highlights the need for counsellors to recognize the potential for such differences in presentation to occur in the clinical environment. This acknowledgement of gender-based differences remains relevant in order to meet equity requirements as well as to adhere to clinical precepts that focus on individualized and person-centred treatment for psychological disorders, such as anxiety and depression. That is, although the disorders may be the "same" in definition, each client's experience of these adverse states (and the specific symptoms underlying them) requires identification by counsellors and adjustment of treatment options to meet each client's specific needs.

These findings suggest a need to reflect upon how best to differentially respond to the presence of gender-based different experiences of anxiety and depression symptoms within university student clients. While further exploration of the statistically significant results and trends noted herein is required before firm conclusions can be drawn and recommendations made, these data raise an important issue regarding provision of counselling services to university students. Gender

equality is an accepted foundation of responsible caring, but there may also be a need to recognize that gender-based differences may occur in the ways that males and females experience anxiety and depression, at least within the university student population.

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