The effect of course integrated mindfulness and resilience training on students’ level of psychological well-being

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Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying subject to the provisions of the Copyright Act 1968.

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Structured Abstract

Scope: Previous research has found university students report elevated levels of psychological distress indicating potentially high rates of mental illness. The level of distress reported by students is above estimates of same aged peers in the general public. Evidence for the factors influencing students’ level of distress is inconsistent and one factor that has received limited research is personality. Research has also found university students to have lower rates of help seeking than estimates for the general public. Due to this finding, and the high levels of distress reported, there is a need to consider population level interventions, with interventions embedded within university teaching activities being a possibility. The curriculum of a first year psychology subject included teaching techniques related to mindfulness and counselling psychology. We hypothesised that this material could function as an embedded intervention and reduce the severity of psychological distress reported by the students.

Purpose: First, to replicate previous research on the levels of psychological distress in university students and to extend this research by also investigating psychological well-being and resilience. Second, to investigate the relationship between personality and psychological functioning in students. Third, to determine if the material presented in the subject functioned as an intervention.

Methodology: A pre-test post-test design was used with students from the above mentioned subject being compared against students from another first year psychology subject that did not include the teaching of such techniques. Students from both subjects were assessed on a battery of measures of psychological distress, resilience, psychological well-being and personality at two times during the semester.
Results: Students reported significantly higher rates of psychological distress than would be expected from relevant norms, the level of distress was also stable across the two sampling times. Psychological well-being and resilience were also lower than expected at pre-test from relevant norms, however resilience improved over time. The personality trait of resilience vs. emotional liability, related to the domain of neuroticism, was the only consistent predictor of positive and negative functioning. High trait resilience was related to low psychological distress, high psychological well-being and high resilience as measured as the ability to bounce back from adversity. There was no effect of the material taught.

Conclusions and Implications: University students as a population consistently report elevated levels of psychological distress and are likely to have higher rates of mental illness. A preliminary finding of the current research was that resilience as measured as ability to bounce back increased over time while psychological distress remained stable. This raises the possibility that aspects of positive psychological functioning can improve irrespective of stability in experience of distress. There is a continued need to develop and investigate population level interventions to support students with the current research suggesting that unintended but relevant course material is insufficient to function as an intervention. Investigation of the relationship between personality traits and student's experience at university is another avenue of research suggested by the current research as certain personality traits may be related to a vulnerability to experiencing psychological distress within the university context.
# Table of Contents

Declaration ...................................................................................................................... I

Acknowledgements ........................................................................................................ II

Structured Abstract....................................................................................................... III

Review of the Literature on University Students’ Levels of Psychological Distress ............................................................................................................................ 1

- Psychological Distress, What Is It? ..................................................................... 1
- Psychological Distress Reported By University Students .................................. 2
- University Students Compared to Same Age Peers ........................................... 6
- Psychological Distress, Diagnosed Mental Illness? .......................................... 6
- Positive functioning ............................................................................................ 8
- Risk and Protective Factors ............................................................................... 9
- Personality as a Factor ....................................................................................... 10
- Impact on Students ........................................................................................... 11
- Help Seeking .................................................................................................... 12
- Interventions for Students ............................................................................... 12
- Implications ...................................................................................................... 13
- Can Course Material Function as an Intervention to Help Students? ............ 13

Manuscript .................................................................................................................. 15

- Title Page ........................................................................................................ 15
- Abstract ........................................................................................................... 16
- Introduction ...................................................................................................... 17
  - The Current Study ......................................................................................... 22
- Method ............................................................................................................. 23
  - Participants .................................................................................................. 23
Review of the Literature on University Students' Levels of Psychological Distress

The current research was undertaken to determine if course material on counselling psychology taught in a first year psychology subject could also function as an embedded intervention for improving the students’ level of psychological distress. The rationale for the research was based on three main points. First, that there is a growing body of research demonstrating that university students report higher levels of psychological distress than the general public. Second, this elevated distress suggests an elevated rate of mental illness in students and is related to students experiencing significant disability. Lastly, that research suggests that university students have poorer rates of help seeking than the general public. Therefore, it was considered that there is a need to investigate population level interventions such as interventions embedded in normal university activities such as lectures and tutorials in an attempt to reach and hopefully assist students in need who would not normally seek help.

Psychological distress, what is it?

Psychological distress is the experience of a range of cognitive, behavioural, emotional and psychophysiological symptoms associated with various mental illnesses, however, not specific to any particular disorder (Kessler et al., 2002). It is often termed non-specific psychological distress and in some ways is a construction of psychometric research on screening tools for mental illness, as it was found that despite the heterogeneous nature of the symptoms used in screening measures there was a high loading on a single primary factor (Kessler et al). This primary factor is what we now term psychological distress and it has been found that high levels of psychological distress are common across people with a wide array of mental illness. In this way accurate and psychometrically rigorous tools that measure psychological distress have
been developed as screening measures for mental illness, such as the K10 (Kessler et al.) and General Health Questionnaire (GHQ-12; Goldberg et al., 1997). These measures have been widely used in large epidemiological studies with elevated distress on these measures being highly associated with 12 month prevalence of mental illness. For example Australian Bureau of Statistics (ABS) data suggests that 82-85% of people who report very high levels of distress on the K10 will have met criteria for a DSM-IV or ICD-10 mental illness in the last 12 months (Gavin Andrews & Slade, 2001). Therefore the elevated psychological distress reported by students is concerning as it is potentially indicative of elevated rates of mental illness.

**Psychological distress reported by university students**

Three recent studies with large samples by Stallman (2010), Nerdrum, Rustøen, & Rønnestad. (2006) and Adlaf, Gliskman, Demers, & Newton-Taylor (2001) give an idea of the general finding of high levels of psychological distress in university student populations. Adlaf et al. used data from the first national survey of undergraduate university students’ alcohol and drug use and mental health status in Canada. The sample was from 16 separate universities, with 1000 randomly selected students from each university being approached via mail to complete the survey. The usable sample was 7622 undergraduate students representing around 442000 Canadian university students. The survey included the GHQ-12 and 34% of the sample reported high levels of psychological distress, based on an internationally validated procedure for calculating a threshold based on sample properties (Goldberg, Oldehinkel, & Ormel, 1998). Although not able to compare their sample to a national estimate on the GHQ-12, Adlaf et al. were able to obtain estimates for a general population sample (n = 2436) from one region of Canada allowing for comparisons between university students from the same
region \((n = 1251)\). It was reported that nearly three times as many university students reported high levels of distress than the general public sample.

Nerdrum et al. (2006) collected data from 1750 Norwegian students in their first year at university (the exact means of contacting them and whether the sample was from multiple universities was not reported). The GHQ-12 was used and the same threshold as Adlaf et al. (2001) was used to allow for direct comparison. Nerdrum et al. found that 21% of their total sample reported high psychological distress, significantly less than the 34% reported in the Canadian study. Nerdrum et al. commented that their research suggested that Norwegian students may experience lower levels of psychological distress than students from other nations. This comment is not supported however in the current author’s opinion because of two limitations in their study. Firstly, there was no comparison of Norwegian students to Norwegian general public allowing for a determination of proportion of students reporting a high level of distress relative to the general public. Secondly, Nerdrum et al. did not follow the procedure for selecting an accurate threshold suggested by Goldberg et al. (1998). This last point is critical as there is significant evidence of large national differences on GHQ-12 scores and hence the most accurate threshold to use. If the recommendations had been followed a lower threshold should have been selected based on the lower sample mean in the Norwegian sample and therefore a higher proportion of students would have been categorised as reporting high levels of psychological distress. Therefore it is hard to accurately interpret the results of this study.

Stallman (2008; 2010) and Stallman and Shochet (2009) have undertaken a series of studies on students at Australian Universities. The largest sample (Stallman, 2010) was from an email based survey open to all students at two separate universities and resulted in a sample of 6479 students. The survey included the K10 and allowed for
comparisons between the students and Australian general public data. This study was also supported by two earlier studies by Stallman (2008; n = 384) from a single university and Stallman and Shochet (n = 1168) from three universities with both studies sampling students accessing university health services and both using the K10. From these studies it was reported that between 10% and 19.2% of students report very high levels of psychological distress on the K10, compared to estimates of 4% for the Australian general population.

These three larger studies are supported by consistent findings from smaller studies of students. Firth (1986) in an earlier study demonstrated that approximately 30% of a sample of 318 British medical students reported high levels of distress on the GHQ-12, compared to approximately 10% of an aged match sample of non-students. Bayram and Bilgel (2008) collected a sample of 1617 Turkish university students and reported that 8.1% reported severe or very severe depression, 20.8% reported severe or very severe anxiety and 6.9 % reported severe or very severe stress. For their study they used the Turkish translation of the Depression Anxiety Stress Scale (Lovibond & Lovibond, 1995) however they made no comparisons to Turkish general public rates for this measures nor did they report if the Turkish students' mean scores were significantly different from norms making interpreting their results difficult. Bore, Ashley-Brown, Gallagher and Powis (2008) reported data for a sample of 100 first year psychology student and 73 first year medical students with the Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983). They reported that both groups of students’ scores were significantly higher than adult non-patient norms and that 25% of the psychology students and 31% of the medical students scores were above that of the adult inpatient norms. Monk (2004) sampled 210 British students and found that 52% reported high levels of psychological distress on the GHQ-30 and compared this to estimates of 30%
for the British general population. Cooke et al. (2006) focused on measuring change in students' psychological well-being (a broader construct than psychological distress however their measure included depressive, anxiety and physical symptoms, meaning that is its likely to be correlated with psychological distress) over their first year at university. Data was collected from a sample of 4699 students from a single university prior to commencing university and at three times during their first year. Their measure was negatively scored (low scores equal better well-being) and their reported profile was of an inverted U distribution with the students reporting the lowest well-being at the end of their first semester. Importantly, well-being was significantly lower across all three times during university than at baseline suggesting that attending university is related to an increase in the experience of depressive, anxiety and physical symptoms and therefore psychological distress.

While there are specific methodological issues with the past research (some of which have been highlighted above) a more general criticism has been made by Cooke et al. (2006). They argue that even though the larger studies such as that of Adlaf et al. (2001) and Stallman (2010) have samples in the thousands, their samples are taken across multiple sites meaning that the sample per university may only be in the hundreds and is therefore unrepresentative of the range of students’ responses. This criticism goes in hand with the general methodological weakness in such survey studies that they rely upon volunteer participants, as the population of students who volunteer may not be representative of all students, in particular, those who do not volunteer. This criticism is of course valid and larger scale studies of students that include elements such as pre-university baselines and multiple sample times would add greater confidence to the findings of past research. However, the continued replication of similar findings across a variety of countries using a variety of measures would tend to
suggest that the above research is at least indicative of the experience of a meaningful proportion of university students. Secondly, epidemiological studies of general population generally rely upon volunteer participants, meaning that that past research is comparing volunteer students to volunteer people in the general public, which would presumably limit differences in response styles.

*University students compared to same age peers*

When considering the above research one immediate factor that must be considered is that such findings may be related to the general age cohort of university students. The majority of university students are in the 18-34 age range (ABS, 2007) and it is known that this age group report elevated rates of distress compared to other age cohorts (ABS, 2008). However, Stallman (2010, 2008) found that students across all age groups report higher level of distress compared to age matched data from an ABS sample. Stallman’s findings were such that two to six times as many students reported very high levels of distress, depending on the age group and gender, than same age peer data from the general public. Adlaf et al. (2001) were also able to split their general population sample into a subsample of young adults aged 19-25 years of age (n = 233) and reported that nearly twice as many students reported high levels of distress on the GHQ-12 compared to the young adult subsample. Firth (1986) reported his findings in terms of a comparison of students to aged matched non-students and reported twice as many students with high levels of distress than non-students. These findings, while not conclusive, suggest that the elevated psychological distress reported by students is not a cohort age effect.

*Psychological distress, diagnosed mental illness?*

As described above elevated psychological distress is associated with higher rates of mental illness and therefore university students would appear to be a population
at risk of higher rates of mental illness. Unfortunately there appears to be limited research which attempts to determine if the correspondence between high psychological distress and mental illness is similar in student populations as it is in the general population. Svanum and Zody (2001) investigated the relationship between mental illness as assessed by structured clinical interview for DSM-III disorders and academic performance. From their sample of 412 American university students they reported approximately 40% met criteria for at least one Diagnostic and Statistical Manual 3rd edition revised (DSM-III-R; American Psychiatric Association, 1987) mental illness (time frame not specified). Svanum and Zody did not analyse their findings in regards to general population data however Nerdrum et al. (2006) commented on their findings stating that it was elevated compared to estimates of 20% of the American general public using DSM-III-R criteria. This of course is weak evidence based mainly on inference to support the relationship of high psychological distress and high rates of mental illness in student populations. However it is still consistent.

It is of course possible that the elevated psychological distress reported by university students, either by a sampling bias in studies or response bias common to students as a cohort, is not indicative of increased occurrence of mental illness in student populations. It is the current author's opinion that this however is unlikely to be the case due to the fact that the difference in correspondence between psychological distress and mental illness in students and similar non-age peers would have to be quite large to not result in students having high rates of mental illness given that two to six times as many students report high levels of distress compared their same age peers. Also, it is not unreasonable to theorise that university with its competitive assessment focused environment could be a stressor above and beyond that experienced by similar aged peers not at university.
Positive functioning

Although there is a wealth of research into students’ experience of psychological distress, there is a noticeable lack of research into aspects of positive functioning such as well-being and resilience. Psychological well-being can be considered a persons’ affective and psychological functioning that promotes life satisfaction, pleasurable experiences and meaningful relationships (Stewart-Brown & Janmohamed, 2008). Research into psychological well-being has mainly been based on the two perspectives of hedonism and eudaimonism (Ryan & Deci, 2001). Hedonism is the perspective that well-being is related to the experience of positive affect and pleasurable experiences while eudaimonism is the perspective that well-being is related to the experience of realising ones potential. Current research tends to now focus on a combined model that measures both aspects of eudaimonism (e.g. self-realisation, good relationships, self-development and autonomy) and hedonism (e.g. positive affect and pleasure). There is a need to investigate psychological well-being in university students as it is considered to be more than the absences of psychological symptoms (Ryan & Deci) and it has been argued that psychological distress and psychological well-being are separate unipolar dimensions (Keyes, 2005). Therefore to gain a complete picture of student’s experience, both dimensions need to be investigated. Another concept of potential interest is that of resilience. Resilience is defined in several ways around ideas of coping or functioning during times of stress or returning to normal functioning after stress (Smith Dalen, Wiggins, Tooley, Christopher & Bernard, 2008). Therefore an understanding of students’ levels of resilience could give greater detail to an understanding of how students’ cope with the distress they report.
Risk and protective factors

Previous research has identified several potential factors that may influence students’ level of psychological distress, however the findings are inconsistent. General population trends of females reporting higher distress than males have consistently been reported (Adlaf et al., 2001; Nerdrum et al., 2006; Stallman, 2010). The trend of older students reporting lower distress, as would be expected from general population data, has been reported by some (Stallman) but not by others (Nerdrum et al.). Difficulties coping with academic load (Cooke et al. 2006; Monk, 2004), orientation towards wanting to succeed academically (Adlaf et al.) and lower academic performance (Stallman) have been associated with higher psychological distress, suggesting that the academic pressure of university may be a factor. The direction of relationship is currently ambiguous as poor academic performance could be the result of psychological distress or the cause of it. Some research has found students in later years of study report lower distress (Adlaf et al.; Bayram & Bilgel, 2008; Bore et al., 2008) while others have not found this relationship (Stallman). Even if there is a decrease in distress as students progress through their studies it is unclear if it represents an improvement in ability to cope with the demands of university or is caused by attrition of those experiencing the most distress (Bore et al.). Full time students have been reported to present higher levels of distress than part time students (Stallman, 2010). Financial stress is perhaps the most consistent factor and has been reported to be associated with greater psychological distress (Cooke et al.; Roberts, Golding, & Towell, 1998; Stallman; Stewart-Brown et al., 2000) and may be an important factor as estimates are that the majority of students report some level of financial stress (Roberts et al., 1998; Stallman; Stewart-Brown, et al.).
A protective factor that has been identified in some studies is social support or connectedness. Students living in more supportive situations such as with family and University residencies report less distress than those living alone or in share housing (Stallman, 2010). Being in a committed relationship has also been found to be a protective factor as has level of social engagement (Adlaf et al., 2001; Nerdrum et al., 2006). However the results are not consistent for these factors as Adlaf et al. did not find living situation to be an influence of level of distress reported and Stallman did not find marital status to be a factor after controlling for age.

**Personality as a factor**

One possible factor that may influence students' reported psychological distress that has received limited investigation is personality. There is a well-documented association between the personality profile of high neuroticism, low extraversion, low contentiousness and low agreeableness with the experience of mental illness symptoms (Malouff, Thorsteinsson, & Schutte, 2002). Previous research by Bore et al. (2008) demonstrated a similar personality profile of high neuroticism, low extraversion, low contentiousness and low self-control (related to conscientiousness), in students reporting elevated psychological distress. Related research by Munro, Bore and Powis (2011) suggests that the personality profile of high self-control, high resilience (low neuroticism) and high involvement with others (related to agreeableness) is related to better performance in medical students from which it may be inferred that this profile would be associated with lower psychological distress. Therefore there is relevant research to suggest that personality plays a part in student’s experience of psychological distress. Investigation of the influence of personality on students' levels of psychological distress is important as students with particular personality traits may be more vulnerable to experiencing psychological distress within the university context.
Impact on students

There is evidence that the high levels of psychological distress experienced by university students is causing disability as measured by a negative impact on their ability to work, study, perform day to day activities (Stallman, 2008, 2010; Stallman & Shochet, 2009) and decreased academic achievement (Cotton, Dollard, & de Jonge, 2002; Vaez & Laflmme, 2008). Stallman (2010) reported that students experiencing very high levels of distress on the K10 reported an average of 3.78 days out of role and 6.54 days of reduced activity in the last four weeks due to their psychological distress, compared to .16 days out of role and .67 of reduced activities for students reporting low distress. Stallman also reported students as a group experiencing greater disability than ABS samples of the general population, as measured as days out of role.

Although Stallman (2010) did not investigate the impact of this experience of disability on academic performance, her reported results did demonstrate that higher psychological distress was associated with lower Grade Point Average (GPA). Cotton et al. (2002) did investigate students’ academic performance using theories from paid worker occupational performance, and found that psychological distress was a significant factor in academic performance. They reported however that the relationship between students’ psychological distress as measured with the GHQ-12 and academic performance (GPA) was fully mediated by students’ reported satisfaction. This suggests that the elevated level of distress reported by students may be negatively affecting their satisfaction with university, with low satisfaction being associated with lower academic performance. This research is still developing and there are issues of lack of consistency in what and how variables are measured, however the current research is consistent in suggesting that students experience a noticeable negative impact that they attribute to their experience of psychological distress.
Help seeking

In spite of the high levels of distress they experience and the disability this distress causes them, research suggests that university students have lower rates of help seeking behaviour than the general public. Research on the general population has led to estimates that around 35-38% of people experiencing a mental illness seek formal assistance in a 12 month period (ABS, 2008; Andrews, Hall, Teesson, & Henderson, 1999). Estimates for University students’ help-seeking rates are lower ranging with around 12-35% (Eisenberg et al.; Stallman, 2010) of students identified as likely to have a mental illness (i.e. Very High level of distress on the K10) reporting using a service in the last 12 months. There is also some evidence of help-negation in young adults where those that are in the most distressed report lower willingness to seek help (Deane, Wilson, & Ciarrochi, 2001). This trend of poor help-seeking in university students is in spite of the fact that students generally have better access to services due to free university health services.

Interventions for Students

Therefore the overall picture is that university students experience high levels of psychological distress and associated negative impacts while being less likely to seek assistance. This leads to the need to consider alternative interventions, particularly population level interventions. The argument for a population level approach is strong giving the high proportion of students that could benefit and the need to reach those who would not normally seek assistance. Stallman (2011) piloted a resilience based intervention that conformed to a university lecture format and found positive preliminary evidence supporting acceptability to students of the format and students’ self-reported usefulness of the intervention; however no pre-post measure of psychological distress was used to determine efficacy of the intervention. In another
preliminary study Ryan, Schochet and Stallman (2010) investigate if an internet based intervention for University students could be used to reach students that would not normally seek formal help. They found that students reporting higher levels of psychological distress reported being more willing to use an online intervention than students reporting lower distress. Therefore these two studies suggest that alternate population based interventions for students could be acceptable to students and may reach those who would not normally seek help, however they did not investigate the efficacy of such interventions.

Implications

There is a body of evidence demonstrating university students to be a population reporting elevated levels of psychological distress with estimates that two to six times as many students report high levels of distress than same aged peers in the general public. These high rates suggest that university student populations may have higher rates of mental illness than non-student populations. University students’ also report experiencing high levels of disability due to their distress and low rates of help seeking implying that there is a significant unmet need in the population. Lastly, preliminary research suggests that interventions embedded within university lectures and tutorials could be a potential mode of intervention given the above points.

Can course material function as an intervention to help students?

As part of the curriculum of a particular first year psychology subject, enrolled students are taught mindfulness skills along with other techniques fundamental to counselling psychology. This material is presented due to its educational relevance to the subjects’ academic purpose however the current research, reported in the next section of this thesis, was undertaken to determine if the material also functioned as an embedded intervention for improving the students’ psychological well-being. The
reason it was considered that the material could function as an intervention was based primarily on two points. First, mindfulness techniques are currently a focus in various evidence supported clinical interventions such as Acceptance and Commitment Therapy and Dialectical Behaviour Therapy. A recent review by Davis and Hayes (2011) reported that mindfulness techniques are related to increased emotional regulation, increased positive affect and decreased negative affect. Davis and Hayes also described how there is some evidence that even brief interventions of 8 weeks can alter emotional regulation. Therefore it was considered that as mindfulness can increase emotional regulation and positive affect it could be related to a decrease in psychological distress or an increase in psychological well-being. Second, the activities that were selected to demonstrate counselling psychology techniques were all adapted to assist university students and all were taught experientially. The activities related to improving resilience and developing various self-management skills and the students in the subject were guided through each activity in regards to their own experience of commencing university studies. It was therefore considered that the activities could be related to an increased ability to manage the demands of university and hence a decrease in psychological distress or an increase in psychological well-being.
The effect of course integrated mindfulness and resilience training on students’ level of psychological well-being

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Abstract

Previous research has found university students to report elevated levels of psychological distress indicating potentially high rates of mental illness. The current research investigated if material presented in a typical university teaching format could function as an intervention. The curriculum of a first year psychology subject included teaching techniques related to counselling psychology and mindfulness techniques. We hypothesised that engaging in this material would reduce the severity of psychological distress. First year students from this subject and another first year psychology subject completed measures of psychological distress, resilience, psychological well-being and selected personality traits at two separate times during semester. The results were consistent with previous research in finding that students reported high levels of psychological distress and low levels of psychological well-being and resilience. While an increase in resilience over the semester was found the mindfulness material was found to not function as an intervention. The personality trait of resilience vs. emotional liability, related to the domain of neuroticism, was the only consistent predictor of positive and negative functioning. High trait resilience was related to low psychological distress, high psychological well-being and high resilience as measured as ability to bounce back from adversity. The implications of the current research are that there is still a need to develop population level interventions to decrease students' level of psychological and that personality may be an important factor in understanding students psychological functioning.

Key words: Embedded intervention, psychological distress, university students