The use of college students as analogue samples for depression research
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Abstract
The use of college students as samples for psychology research has been prominent over the years due to ease of access and convenience. For instance, college students have been used as an analogue sample for those experiencing clinical depression in the general population. However, the use of such samples has raised questions of validity, particularly in regards to its use as analogues for depression research, as psychologists begin to recognize the significant and noteworthy differences between the two groups. This paper addresses these differences including severity and symptomatology, along with generalizability and psychometric issues. Also, several methods for remediating some of the problems are suggested.

Empirical research is fundamental for advancing the field of clinical psychology; nevertheless, it is important to examine how and where this information is gathered. For instance, the use of analogue samples, specifically college students for depression research, has raised some concerns of validity among psychologists. In their analysis of published articles on depression, Endler and Parker revealed 75.5% used college students as their subjects (Endler & Park, [1991] as cited in Vredenburg, Flett, & Krames, 1993). Initially this was justified by evidence that indicated distressed college students and clinically depressed patients were similar and comparable. Consequently, findings from studies on students were used to make generalizations about clinical depression, a severe and often debilitating disorder. The use of distressed college students as analogues for depression research, however, is not sufficient in meaningfully advancing our current knowledge of depression and its treatment. Due to ease of access and convenience, the excessive reliance on this sample has made some researchers neglect crucial and noteworthy differences. This paper will address these critical differences including severity and symptomatology, issues of generalizability and problems with the psychometrics. Lastly, this paper will illustrate how research of college students as analogue samples does not need to be discontinued; rather, several suggestions to improve this research will be explored.

Currently, there are two views in the literature regarding depression: the continuity view which claims depression differs in degree (quantitative difference) and suggests using college samples is justified, and the discontinuity view which suggests depression differs in kind (qualitative difference) (Flett, Vredenburg, & Krames, 1997). Although some support for the discontinuity view exists (see Flett, Vredenburg, & Krames, 1997), most researchers currently accept that depression differs in degrees as stated by the continuity view. However, just as general unhappiness cannot be equated with pathology, studying distress in college students should not be used to make inferences about clinical depression. The experience of distress is not as severe as depression, and more importantly, it is transient (Coyne, 1994). Some researchers have suggested that students who experience this transient nature of mild distress are at a greater risk for developing depression later on; however, this claim has yet to be proven (Coyne, 1994). The stressors that can spiral an individual into depression are differ-
ent for students and patients who have already been diagnosed with the disorder. Being a student in an unfamiliar environment with new-found freedom and strict expectations can be daunting; nonetheless, these stressors are generally mild and last for a brief period of time (Coyne, 1994).

For instance, take into account interpersonal experiences such as a breakup (Coyne, 1994). Contrary to people in the general population, students do not experience similar stressors that accompany the loss of a relationship, such as economic instability or the burden of raising young children. This implies that college students are not entirely dependent on such close ties. One may argue the two groups are similar because the basic emotions that are experienced after the dissolution of a close relationship are the same. However, when the environment is examined, it becomes clear that the college environment acts as a buffer and often protects students from becoming depressed because of its interactive and social nature (Coyne, 1994). In fact, they are part of a large group of same aged and single students in an environment that encourages social interaction; therefore, they are not heavily reliant on this one specific relationship. Considering this, using students as an analogue can be problematic, since research suggests marriage dissolution is a strong facilitator of depression (Coyne, 1994).

Moreover, it becomes difficult to make comparisons to the overall population, as college samples are non-representative of the general population. For instance, on average, depressed individuals who experience their first episode of depression are older than the students being studied (Coyne, 1994). Students are a select group and this makes it difficult to generalize the results since they often come from better socioeconomic backgrounds and are relatively more intelligent and verbal. Even the students themselves recognize that they are different from the general population, as they consider themselves to be the happier, better adjusted and skilful group (Coyne, 1994). Another important finding is the lack of gender differences found when using measures of depression among college students. In the general population, there is a significant gender difference for the disorder, specifically, more females are diagnosed than males. This difference, however, is not found in the Beck Depression Inventory scores with students (Coyne, 1994). Goodman and Koenig (1992) attribute this finding to female college students having greater social support, less negative life events, and being exposed to a more egalitarian environment. Also, it has been established that minorities are underrepresented in college populations, and the minority students that are included in the samples do not accurately reflect the minority groups in the general population (Coyne, 1994). These significant differences in demographic factors indicate problems with generalizability.

In addition to demographic factors, differences in symptomatology between distress and depression create problems when using college students as an analogue sample. A primary symptom of depression is anhedonia or marked loss of interest or pleasure in almost all activities (Coyne, 1994). However, when symptoms between college students and clinically depressed individuals were examined, it was found that the most significant difference in symptomatology between the two groups was for anhedonia, in which the college sample reported significantly lower levels (Cox, Enns, Borger, & Parker, 1999). This is a cause for concern, especially in regards to treatment development. Researchers could expend great resources developing a treatment based on an analogue sample such as college students, only to discover it is ineffective for the clinically depressed because the students do not suffer from anhedonia at the same level as the clinical group. Further, Cox et al. (1999) captured another crucial distinction: the analogue sample (particularly those with higher BDI scores) reported significantly higher levels of alcohol use compared to the clinical sample. Considering students experience reduced anhedonia and increased amounts of alcohol, it may be that the depression-like symptoms in this
group were caused by alternate factors such as alcohol use. Without accounting for such alternate factors, it becomes difficult to make any sound conclusions with college students as analogue samples.

Along with anhedonia, depressed individuals often experience several debilitating somatic symptoms such as fatigue, insomnia or hypersomnia, agitation or psychomotor retardation (Coyne, 1994). However, the Somatic Disturbance Factor, which is an indication of clinical depression, was not found in the student group (Vredenburg, Flett, & Krames, 1993). Since it is possible for people to feel distressed without having such necessary somatic complaints, it raises questions about comparability between the two groups. By studying a group that does not capture the true nature of a disorder, and developing treatments based on comparable data, psychologists are only treating a select group of mildly depressed individuals and neglecting the more severely ill patients. Therefore, by using distressed college students as analogues for depression, researchers are undermining the significant personal and social costs of depression.

There are also several psychometric issues, particularly with self report measures. According to Coyne (1994), distressed students do not present the symptom of anhedonia because simple self report measures do not accurately capture this symptom. The most commonly used self report measure of distress is the BDI, a measure that was initially developed with the clinical population in mind. Notably, researchers have yet to validate its use for college students. Using the BDI to measure distress in college students raises many concerns of validity, and Beck et al. indicate “high scores on the BDI for university students should not be interpreted as indicative of depression” (Coyne, 1994). For instance, one study revealed that out of 34 students with high BDI scores, only 5 could be identified as having definite or probable major depression (Hammen, 1980). The cut off scores used for diagnosing clinical patients have not been justified for college samples, and factor analyses on the BDI indicate student results cannot be compared to patient results (Beck, Rush, Shaw, & Emery, 1979). Another problem with using the BDI is that obtaining a greater number of false positives. In order to overcome the transient nature of distress, some researchers have recommended taking measures at separate times and selecting subjects who maintain stability in their scores (Sacco, 1981). Even so, there are other factors that could account for this effect of elevated scores such as high negative affectivity or neuroticism. Due to issues in self report measures, it becomes difficult to advance our knowledge of depression based on analogue samples.

Scores on self-reports of depression such as the BDI may also be correlated to other measures of psychopathology, such as anxiety (Vredenburg, Flett, & Krames, 1993). Many of the items on the State-Trait Anxiety inventory, a frequently used anxiety measure, confounds with the items on scales of depression such as the BDI. Therefore, it becomes difficult to distinguish students who are experiencing symptoms of anxiety from those who may be genuinely depressed. Proponents of analogue samples argue that the use of college students is justified, as this strong association between anxiety and depression is also found in clinical patients. However, this is problematic for developing treatments specifically for depression as it becomes difficult to determine for which disorder the treatment is effective for the analogue sample. Moreover, relapse is a major concern with depression, and by using treatments developed through this method, it becomes difficult for clinicians to determine which disorder is the predominant cause of the relapse. Once again, problems with generalizability come into effect. In addition, there is a lack of consensus on a definition of subthreshold conditions which is used to identify potential subjects (Flett, Vredenburg, & Krames, 1997). If researchers use different criteria for each study, then issues with comparability across studies arise. As a result of these methodological issues, using college students as analogue samples has become challenging.

However, these methodological flaws should
not be viewed as constraints, as they can be overcome with more rigorous experimental designs. At this point, some potential adjustments and suggestions for improvement are examined. For instance, the various problems associated with using self reports can be overcome by replacing them with clinical interviews. This may be more time consuming and difficult to implement with large samples, but would allow researchers to obtain a more accurate sample. The problems associated with anxiety and depression confounding can be solved. Ingram, Kendall, Smith, Donnell, & Rpmam (1987) demonstrated that pure cases of depression and anxiety can be identified with the use of extensive procedures such as clinical interviews. Therefore, by implementing more resources and using extensive procedures, it is possible for researchers to gain more reliable information from student analogue samples. Additionally, reaching a consensus on subthreshold criteria can make comparisons, between findings, from various studies more feasible. In order to deal with generalizability issues, it may be beneficial to examine and conduct collaborative research within community and clinical samples, and compare the findings to student samples to gain a better understanding of the disorder.

Although student analogue samples do provide some insightful knowledge on depression, the results should be interpreted with caution because evidence indicates there are qualitative differences between the two groups. Some of the earliest studies conducted in the field suggest college students can be used as analogues for clinical depression, as both groups are similar. However, as this paper has argued, there are several problems with using such a sample. Firstly, it is important to recognize distressed and clinically depressed groups differ in terms of severity and symptomatology. As Coyne (1994) points out, by studying distressed college students, researchers are not taking into account some of the serious effects of the disorder and are simply examining variables associated with mild and transient distress. Likewise, college students differ from the general population because they compose a highly concentrated group consisting of intelligent, highly verbal individuals who are more likely to come from advantageous socioeconomic backgrounds. Consequently, this has raised concerns of generalizability. Finally, there are significant problems with the psychometrics as they use less than ideal methods for measuring depression, and this leads to conflicts when comparing different studies. On the other hand, it is possible to overcome some of the methodological flaws, if researchers are willing to expend the time and resources. It may be that more valuable knowledge on depression is attained from one extensive and thorough study than from hundreds of small studies conducted out of convenience.

References


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