

A Five-Year Review of Basic Psychological Need Satisfaction, Family Harmony, Social Networking Sites Usage and Psychological Distress among University Students

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Abstract

Globally, in the last 5 years, studies conducted on different samples of university students have identified a moderate to high prevalence of psychological distress (PD) such as depression, anxiety and stress. Family harmony (FH) and social networking sites (SNS) usage also become the important risk and protective factors for PD through students' basic psychological needs satisfaction (BPNS). The aims of the present review were (i) to determine the prevalence of PD among university students and (ii) to elucidate the relationship between PD, BPNS, FH, and SNS. The findings demonstrated the heterogeneity of the PD observed in university students in the aftermath of COVID-19. Results suggest that Satisfaction of basic psychological needs (BPNS) can protect university students against PD, while family harmony (FH) and usage of social networking sites (SNS) are their common important influencing factors which can have serious detrimental effects on their health and well-being. While most of the studies consider a range of negative effects from family and internet use as risk factors, there are fewer research which investigate FH and SNS usage as protective factors. Future research could explore how family harmony, social networking site usage, and basic psychological needs satisfaction operate across diverse cultural and contextual backgrounds, as these factors may have varying effects on psychological distress depending on cultural norms, values, and family dynamics. Such research could contribute to developing targeted, contextually relevant interventions that foster resilience and promote well-being among university students globally, addressing the nuanced needs of different student populations.

Keywords: Psychological Distress, Basic Psychological Needs Satisfaction, Family Harmony, Social Networking Sites Usage, University Students

Introduction

Psychological distress (PD) is a set of painful mental and physical symptoms that are associated with normal fluctuations of mood in most people. Research have begun to investigate the negative consequences of PD to enhance mental health (Harris, 2019), and improve screening, assessment, definition, and treatment of the distress (Mboya et al., 2020). However, a closer look at the scientific literature shows that the concept of PD is relatively vague, and there are differences in its measurement dimensions in empirical studies. It can be divided into two branches, one is to measure depressive symptoms and anxiety; Second, it measures depression, anxiety and stress. Although both measures have reported good internal consistency and high reliability and validity in their respective studies, the second measure is more likely to be adopted by many countries in the implementation of PD research in recent years (Al-Dwaikat et al., 2020; Kaynakçı & Güneri, 2023; Ramón-Arbués et al., 2020).

Previous studies on PD among college students mostly focused on medical students (Pereira-Morales et al., 2019; Song et al., 2023). However, recent studies have shown that the overall PD level of young people, especially college students, has increased significantly since the COVID-19 pandemic (Fernandez et al., 2020; Wang et al., 2020). PD has a significant positive predictive effect on suicide, self-harm and suicide intention (Necho et al., 2021; Kaynakçı & Güneri, 2023) and is also one of the most important influences on mental health and well-being. Research findings show that basic psychological need satisfaction (BPNS) and frustration are significantly correlated with anxiety and depressions symptoms (Pietrek et al., 2022). This is in line with the assumption of basic psychological need theory that satisfying an individual's BPN is the basis for achieving optimal health and happiness. On the other hand, compared with non-depressed adults, patients with major depression are less satisfied with BPN (Zhang et al., 2022). In addition, some studies in the past five years have emphasized that anxiety, depressive symptoms, and stress can occur simultaneously as aggregates of PD (Ramón-Arbués et al., 2020).

Continuous studies have shown that family-related factors (e.g. parental attachment, parenting style, family function, parental control and support) have been revealed to be closely related to individuals' BPNS (Cao et al., 2020; Costa et al., 2019). However, most of the past reviewed quantitative studies have focused on the family risk effect (Lim et al., 2014; Boyes et al., 2023). Family harmony is an integrated concept of the family (Rozgonjuk et al., 2022), which considers multiple beneficial components of a good family. A scoping review published in 2023 investigated the development of FH theory in the Western and Eastern societies (Fauziah et al., 2023), and several quantitative studies were conducted on the development and application of the FH scale. These primarily assessed the reverse effect of FH on problem behavior (Mohd-Zaharim et al., 2023; Dinçer & Tunç, 2023; Kaya & Cenkseven Önder, 2023). No studies have examined the positive predictive effect of FH on BPNS among university students and the direct or indirect relationship with PD.

Meanwhile, in modern popular culture, young people, especially college students, use the Internet, social networking sites and smart phones very widely (Erfani et al., 2021). Indeed, the online teaching and other related measures implemented by universities in various countries during the COVID-19 pandemic are also one of the important objective factors reinforcing this phenomenon. A considerable number of studies have focused on the

relationship between problematic SNS use and college students' externalizing and internalizing behaviors. However, college students use SNS not only for entertainment and escape problems (overuse, disorderly use, addiction, etc.), but also for academic use and information use. The diversified usage of SNS is also a manifestation of individual differentiation in BPNS (Barberis et al., 2022), while other study has considered the non-recreational use of SNS that have a uniquely differentiated impact on PD (Ang, 2020). However, the possible mediating role of BPNS on the relationship between SNS use and PD has not been comprehensively considered by existing studies.

The studies on PD among university students support the benefits of targeted treatment and intervention after judging its comprehensive factors (Wang et al., 2020). Therefore, it is important to conduct a review highlighting existing research findings on PD, FH, SNS, and BPNS. The primary goal of the present study was to review empirical research, providing up-to-date information that considers the influence of some protective predictors on PD, and to make recommendations for future research. More specifically, the aims of the present review were:

- (i) to determine the prevalence of PD among university students, and
- (ii) to elucidate the relationship between psychological distress (PD), basic psychological needs satisfaction (BPNS), family harmony (FH), and social networking sites (SNS) usages.

Methods

A narrative review was employed in this paper to examine psychological distress among university students. While people have attributed anxiety, depressive symptoms, stress, etc., as the signs of psychological distress, only previous studies that explicitly assessed psychological distress were included in the review. The inclusion criteria for the present review were as follows: (i) empirical studies containing primary data, (ii) studies that assessed the potential "basic psychological needs satisfaction", "family harmony" and "social networking sites usage" within the university students' psychological distress literature; (iii) studies published in peer reviewed journals, (iv) written in English, and (v) published within the past 5 years. The following databases were searched i.e. *ProQuest*, *Scopus*, *Science Direct*, *PsychARTICLES*, *PsychINFO*, *Scopus*, *ScienceDirect*, and *MEDLINE*. A total of 328 papers were identified in the initial search. After removing the duplicates, screened the titles and abstracts were made based on the inclusion criteria, only a total of 14 papers, were eligible for further review.

Results and Discussion

The 14 papers that met the inclusion criteria assessed the level of psychological distress among university students in the last 5 years and explored potential risk and/or protective factors associated with it. Each of these papers featured validated psychometric measures, and investigated specific relationships between PD and mechanisms which may contribute to the understanding of the development, remission and intervention of PD.

Prevalence of PD and Predictive Role of BPNS in University Students

Of the seven (7) studies that investigated prevalence, six studies examined university students' populations in different countries, and one study examined general adults. Prevalence was investigated in five geographical locations, including in Spain ($n = 2$) (Ramón-Arbués, et al., 2020; March-Amengual et al., 2022), Canada ($n = 2$) (Gilbert et al., 2023; Levine

et al., 2022), Argentina (n = 1) (Fernández et al., 2020), Turkey (n = 1) (Turan, 2022), China (n = 1) (Liu et al., 2022). Sample sizes ranged from 223 to 4408 participants. The type of surveyed populations has been consciously narrowed to university students, with one of the studies focusing on the first-year undergraduate (n = 1). While the participants of Argentine study (n = 1) involved general adults (ages 18 to 92) which also included college students.

Ramón-Arбуés et al (2020), determined the overall level of PD by measuring symptoms of depression, anxiety, and stress among Spanish college students (n = 1074). Their findings showed that the prevalence of PD in the college students sample reached moderate level, with symptoms of stress (34.5%), anxiety (23.6%) and depression (18.4%). It was found that female students were having a higher prevalence of PD than male students. This study particularly emphasized that anxiety, depression and stress do not appear in isolation and should be considered as integrated factors in research and measurement. In addition, March Amengual et al (2022), when investigated the prevalence rate of PD on Spanish first-year university students, with different majors (n = 506), the overall prevalence was 27.1%, thus inferring that this population may be at higher risk for clinical depression and anxiety.

The literature on the relationship between basic psychological needs satisfaction (BPNS) and psychological distress (PD) reflects a range of results on the prevalence of PD and its potential risk factors. The study of Gilbert et al (2023), in Canada and the investigation of Fernandez et al (2020), in Argentine samples both present a series of heterogeneous epidemic development changes in PD during the COVID-19 pandemic. In a sample of college students in Canada (n = 1053), Gilbert et al (2023), reported that a significant proportion of students were likely to experience some degree of PD, especially in the wake of the COVID-19 pandemic, with an increased incidence. Similar findings were found in a larger Argentine online survey, in which participants were the general adult population (n = 4,408), including college students. The COVID-19 isolation was associated with the onset and/or exacerbation of the level of PD (Fernández et al., 2020). In their study, three latent classes defined by symptom severity level were identified. Majority individuals were classified in the mild (40.9%) and severe classes (41.0%), with moderate (18.1%) being the least. The increase in the prevalence of PD among college students after the COVID-19 pandemic is related to a decrease in BPNS due to isolation measures or fear of the virus, and this risk factor may have a long-term impact on the mental health of this group (Brooks et al., 2020; Holmes et al., 2020).

Turan's (2022), survey of 223 Turkish university students revealed a moderately positive correlation between frustration of basic psychological needs and PD. Levine et al (2022), also demonstrated that basic psychological need frustration (autonomy, competence and relatedness) can lead to PD, and after alleviating the frustration of psychological needs, the psychological distress of Canadian college students (n = 231) can also be effectively reduced. The results suggested that the frustration of basic psychological needs has a unique negative or positive contribution to PD (depression, anxiety), respectively. In a study by Liu et al (2022), on Chinese engineering college students (n = 254), the PD was relatively common and at a medium level. It also supported previous research that the satisfaction of basic psychological needs was negatively correlated with psychological distress and significantly positively correlated with well-being and mental health (Broeck et al., 2014). They suggest that

appropriate interventions for basic psychological needs may help reduce anxiety and thus improve mental health.

Overall, although structural inconsistencies in PD measurements across studies may limit the accuracy of the comprehensive comparison of PD prevalence results (only anxiety and depression overlap in common), the proportions and trends are generally consistent with the results of more extensive existing studies. Moreover, these findings are similar in calling for more attention to the evaluation of PD among non-medical students and in the worry about the higher prevalence of PD among students. With regards to the basic psychological need, previous studies have considered the important potential risk prediction effect of high level of basic psychological need frustration (BPNF) on PD. The research findings have demonstrated the varying degrees of BPNS that were negatively correlated with PD. These can play a protective role in mental health and a broader influence, helping university students against PD.

Direct and Indirect Effects of Family Harmony (FH) on PD

Four out of the fourteen eligible studies explored the underlying mechanisms that FH may contribute to the prevalence of PD, the level of BPNS, and possible etiological pathways. These papers also have diverse geographical locations, including Colombia ($n = 1$) (Pereira-Morales et al., 2019), China ($n = 2$) (Zhan et al., 2021; Zhan et al., 2022), and South Africa ($n = 1$) (Basson et al., 2018). Over the years, it has been seen in the literature that researchers, clinicians, and laypeople have used wildly different terms to describe families that are doing well in life (Fauziah, et al., 2023). Regardless of the terminologies used, the core theme that the researchers wanted to convey and describe was consistent — the families believed they were functioning well in life and were satisfied with their relationships with each other (Fauziah, 2020). In the studies, FH was significantly positively correlated with mental health, and negatively correlated with psychological distress, depression, anxiety, etc. Pereira-Morales et al. (2019) surveyed 467 undergraduate medical students in Colombia, found that the prevalence of PD, depressive symptoms and anxiety symptoms were 65.9%, 75.3% and 50.5%, respectively. This is consistent with the previous research that the mental health status of medical undergraduates is generally poor. However, they also provide new findings i.e. family functioning, a subdomain of FH, is an important explanatory factor affecting PD.

Zhan et al (2021), developed an instrument to measure college students' experience of FH based on literature analysis and a series of assessments of Chinese college students ($n = 1258$). The questionnaire had a Cronbach's alpha (α) coefficient of 0.97. The half-reliability of the whole questionnaire was 0.92, and the retest reliability was 0.75. The total score of the questionnaire was significantly positively correlated with the total score of family function, family cohesion, family adaptability and happiness ($r = 0.73, 0.71, 0.75, 0.51$, respectively, $p < 0.01$), and was significantly negatively associated with loneliness ($r = -0.56, p < 0.01$). The findings suggest that FH is a protective factor for psychological problems (Zhan et al., 2021). Zhan et al (2022), extended their use of the College Students' Experience of Family Harmony Questionnaire (CSEFHQ) by conducting a study on family interactions and psychological health among college students during the COVID-19 pandemic. The findings suggested that after the outbreak of COVID-19, college students' experience of FH significantly deteriorated, especially in the dimensions of getting along, conflict, sharing, self-isolation, seeking help, avoidance, and providing support. However, the researchers pointed out that high levels of

FH still present an important protective function (Zhan et al., 2022), which was consistent with their previous findings.

In a sample of 779 South African pharmacy university students (aged 17 to 38 years), Basson et al (2018), assessed the relationship between basic psychological needs satisfaction (autonomy, competence and relatedness) and family, peers, lecturers, and workload. They found that family factors are closely related to psychological needs satisfaction, and even made the greatest contribution to the satisfaction of relatedness needs than peers. These findings can provide useful reference for the etiology analysis and intervention treatment of university students' psychological problems.

Direct and Indirect Effects of Social Networking Sites (SNS) Usage on PD Prevalence

There were three studies that use the relatively integrated structure of SNS usage (academic, socialization, entertainment, informativeness) of university students as predictors to investigate the possible differentiated results and development trend of PD, and the impact of SNS usage on the satisfaction of basic psychological needs. Two of the three studies examined the university student population, and the other study was about at the teen population (13-18 years of age). The geographical locations also vary, with the papers from India (n = 1) (Gupta & Bashir, 2018), Jordan (n = 1) (Al-Dwaikat et al., 2020), Malaysia (n = 1) (Ang, 2020).

Gupta et al. (2018) investigated 420 college students using a questionnaire on SNS usage with four dimensions (academic, socialization, entertainment, and informativeness) i.e. Social Network Usage Questionnaire (SNUQ). The study emphasized that college students were the main users of SNS and argued that in addition to the negative mental health effects that SNS use may cause, there should also be some potential protective effects. Then, Al-Dwaikat et al. (2020), used the questionnaire to investigate the relationship between the usage of SNS in academic, socialization, entertainment and informativeness aspects and the prevalence of PD among Jordanian college students (n = 456). The research results preliminarily supported the results by Gupta et al (2018), i.e. the usage of academic aspects was significantly negatively correlated with PD among college students. In addition, entertainment usage was associated with an increase in PD, which was also consistent with past findings.

In a large-scale survey in Malaysia (n = 1572), Ang et al (2020), found that individuals with a higher sense of loneliness have a more positive attitude towards establishing network relationships through SNS and may obtain higher psychological needs satisfaction. Moreover, the findings highlight the important role that socialization plays in meeting adolescents' basic psychological needs, regardless of whether they are formed through the Internet or face-to-face. Network relationship is also an important source of BPNS (autonomy, competence and relatedness), which has a complex influence on individuals' mental health.

PD was quite common among university students in various countries, and the development of its prevalence show some regularity. Among factors that were closely related to PD, were university students' majors and grades, basic psychological needs satisfaction, family harmony and social networking sites usage. Thus, the results of this review contribute to the understanding and early design of strategies for the identification of psychological distress,

as well as supplement ideas for effective interventions that can support the development of mental health and improve well-being in university students.

Conclusion and Recommendations

Although the current review identified several important predictors of psychological distress among college students, it still has some limitations. Firstly, the method used in this paper was a descriptive and did not synthesize the data quantitatively. It ensured the breadth of the literature, but not its depth. Secondly, the current study has excluded the non-peer-reviewed literature, limited the inclusion criteria to English language papers, and limited by fixed databases and search terms. Thirdly, the process of screening and retaining documents was a process mixed with subjectivity and therefore can be biased. Fourthly, as the instruments used to measure indicators of psychological distress (e.g. anxiety and depression) were not the same across all studies, current review only included studies that used standardized and validated instruments to measure psychological distress, which minimizes the possibility of bias. Finally, only relevant papers published in the past five years were reviewed, which may contribute less to the prevalence of psychological distress and related predictors of university students.

The published literature showed that although more attention has been given to the topic of PD, which had a huge impact on individual development, the ambiguity of PD measurement criteria limits statistical comparison between data and the establishment of scientifically consistent structures or measuring instruments is necessary for the development of the field. In addition, as the population of university students in the worst-hit areas of PD, the overall sample size is insufficient, the population range in previous studies is also narrow, mostly concentrated on medical students, and the countries where the research is conducted are also unevenly distributed. More research is needed to provide strong evidence for the possible differential impact of different regions and cultures on university students' PD.

Most of the literature reviewed to investigate the relationship between BPNS and PD does not go beyond the assessment of correlation, and due to the lack of relevant evidence from longitudinal studies, future studies can widely consider their predictive relationship in the time dimension. As for the relationship between FH, SNS usage and PD, only a few research results show that both may have a direct impact on PD and BPNS, and the changed of BPNS may continue to be closely related to the psychological health of university students. Due to the differences of cultures, the verification of the hypotheses of the above relationships and their differences between different groups in a cross-cultural context can be further studied in the future.

The evidence in this review suggested that there has been an increase in research on psychological distress among university students and the predictors that may contribute to it. At present, the number of studies corresponding to the medium prevalence of the overall university student population in the last five years remains disproportionately small and inadequate. Some research results indicated that university students' low satisfaction of basic psychological needs was positively correlated with psychological distress and was a potential risk factor for psychological distress. There was also evidence that if university students' basic psychological needs are satisfied by certain means, their psychological distress can be

effectively reduced, and their mental health level can be improved. This provides impetus for exploring potential protective factors that can alleviate psychological distress.

Additionally, various studies reviewed a range of negative influences of family and social networking site addiction as risk factors for the occurrence and development of psychological distress. Accordingly, family harmony may be a positive predictor of both psychological distress and satisfaction of basic psychological needs. However, after redefining the structure and scope of social networking sites usage and assessing it from a more comprehensive and integrated perspective, the results showed an interesting differential predictive function. Social networking sites usage when associated with academic use has reduced the psychological distress, while its usage for socialization purpose has positively associated with the satisfaction of basic psychological needs. Therefore, it is still uncertain how well these potential predictors will play among university students from different geographical and cultural backgrounds. Thus, the combined consideration of multiple factors may be beneficial for early identification and prevention of psychological distress and beneficial for a later intervention and treatment.

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