Abstract

Introduction: Dissociative symptoms are common in people with trauma-related disorders and often co-occur with other psychiatric conditions. In particular, the relationships between dissociative symptoms, Schneiderian first-rank symptoms and borderline personality symptoms are still contentious, poorly understood and require more attention. **Objectives:** This preliminary study investigated these three symptom clusters in a non-clinical Chinese sample in Hong Kong. **Methods:** A total of 190 college students in Hong Kong completed the Dissociative Experiences Scale-Taxon (DES-T), the 5-item Somatoform Dissociation Questionnaire (SDQ-5) and some sections of the Dissociative Disorders Interview Schedule (DDIS). **Results:** Dissociative, Schneiderian and BPD symptoms were not rare in our non-clinical Chinese sample. About one-fourth of the participants (24.7%) screened positive for one symptom cluster, 12.1% were positive for two symptom clusters; and 5.26% were positive for all three symptom clusters. Preliminary analysis showed that the three symptom clusters were associated with distress/impairment. **Conclusion:** Dissociative, Schneiderian and borderline personality symptoms as measured in this study are not uncommon in this non-clinical Chinese sample. The data indicate that these three symptom clusters are highly related but are not the same constructs of psychopathology; the co-occurrence of these symptoms may require additional attention. The findings have significant implications for research and practice. Further studies are needed.

Keywords: Pathological dissociation; Schneiderian symptoms; Borderline personality disorder (BPD); Comorbidity; Chinese non-clinical population

Dissociative, Schneiderian and borderline personality symptoms in a non-clinical sample in Hong Kong: A preliminary report

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Introduction

Dissociation is characterized as the failure to integrate certain experiences (e.g., emotions, memories, motor control, identity) within one's personality system (American Psychiatric Association, 2013; Ross, 2007b; Van der Hart, Nijenhuis, & Steele, 2006). Examples of normal dissociative experiences include daydreaming and forgetfulness, and examples of pathological dissociative symptoms include post-traumatic amnesia, somatoform symptoms and hearing voices from a dissociated identity state (Dell, 2009; Steinberg & Schnall, 2000). The extreme form of pathological dissociation is DSM-5 dissociative identity disorder (DID), although individuals with other dissociative disorders (DDs) and trauma-related disorders (e.g., borderline personality disorder [BPD]) and posttraumatic stress disorder (PTSD) also suffer from dissociative symptoms (Dell, 2009; Steinberg & Schnall, 2000). Dissociative symptoms are associated with psychological trauma, stress and adverse life experiences (Brand et al., 2016; Dalenberg et al., 2012; Fung & Lao, 2017; Nijenhuis, Spinhoven, van Dyck, Van der Hart, & Vanderlinden, 1998), and are now understood as occurring cross-culturally in different societies (Ross et al., 2008; Şar, 2011), in both the present day and before the modern age (Fung, 2018; Van der Hart, Lierens, & Goodwin, 1996).

Dissociative symptoms could be associated with psychological distress (Levin & Spei, 2004). The relationships between dissociative symptoms and other psychiatric conditions are also widely documented. For example, Şar, Akyüz, Öztürk, and Alioğlu (2013) found that a considerable subgroup of women with major depression suffer from dissociative symptoms, and Sandberg and Lynn (1992) showed that dissociation is associated with psychopathology in female college students. In a recent meta-analysis, Lyssenko et al. (2018) reported that dissociation exists in different psychiatric conditions with different level of severity, being most frequent in DID, followed by other dissociative disorders, then PTSD and BPD. However, the relationships between dissociative symptoms, Schneiderian symptoms and borderline personality symptoms are still contentious and require more attention (see Şar & Ross, 2009).

Schneiderian first-rank symptoms refer to the eleven symptoms recognized by Kurt Schneider (1959) as characteristic of schizophrenia. These symptoms, including auditory hallucinations and delusions, are common among patients with schizophrenia. Although schizophrenia and DDs are currently under two entirely different diagnostic categories in DSM-5 (American Psychiatric Association, 2013), Schneiderian symptoms and dissociation

are more interrelated than is traditionally assumed. Ross and his colleagues showed that patients with severe pathological dissociation report even more Schneiderian symptoms than patients with schizophrenia (Ross et al., 1990) and that Schneiderian symptoms are highly related to dissociative symptoms (Ross & Joshi, 1992). The current consensus in the dissociation field is that Schneiderian and dissociative symptoms overlap and can have similar clinical presentations (Brand & Loewenstein, 2010; Dell, 2009; Ross, 2006). Some scholars suggest that many Schneiderian symptoms may be dissociative in nature (Moskowitz, Read, Farrelly, Rudegeair, & Williams, 2009).

There are nine BPD symptoms recognized in DSM-5. The relationship between BPD and dissociative symptoms has long been a concern in the field (see Zanarini & Jager-Hyman, 2009). Current literature suggests that the co-occurrence of DID and BPD is not uncommon, that both BPD and DDs are associated with childhood trauma, and that a considerable subgroup of BPD patients presents with pathological dissociation and at the same time a considerable subgroup of patients with DDs suffers from BPD (Korzekwa, Dell, & Pain, 2009; Mosquera, Gonzalez, & Van der Hart, 2011; Ross, 2007a; Ross, Ferrell, & Schroeder, 2014). In some cases, BPD may involve structural dissociation of the personality (Mosquera et al., 2011; Van der Hart et al., 2006); BPD and DDs may be two overlapping but partially distinct responses to traumatization (Şar, Akyuz, Kugu, Ozturk, & Ertem-Vehid, 2006).

The relationship between BPD and Schneiderian symptoms is also an area of concern in the field. Between 20% and 50% of BPD patients report hallucinations and/or delusions (Schroeder, Fisher, & Schäfer, 2013) and such symptoms in BPD and in schizophrenia may resemble each other phenomenologically too (Pearse, Dibben, Ziauddeen, Denman, & McKenna, 2014).

Such complicated relationships and overlap between dissociative, Schneiderian and BPD symptoms were mostly reported in Western regions. Although some work has been done separately in the Chinese context (Ross & Keyes, 2009; Wang et al., 2012; Yu et al., 2010), little is known about these three symptom clusters and their relationships with each other in Chinese populations, especially in Hong Kong. For example, the frequency of these symptoms in the Chinese context still require further investigations, and it is unclear to what extent dissociative symptoms are related to Schneiderian symptoms and borderline personality symptoms in Chinese cultures. Due to different racial, socio-economic, and cultural backgrounds, findings from other cultures may not reflect the situation in Chinese

cultures. Therefore, in this paper, we provided the first data regarding 1) the frequency of each of the three symptom clusters in a nonclinical Chinese sample in Hong Kong and 2) the relationship between these three symptom clusters in this nonclinical Chinese sample.

Methods

This study was approved by the Ethics Committee at the City University of Hong Kong (CityU). A total of N = 190 college students at the CityU completed a set of online self-report questionnaires. The participants were recruited from 25 different Gateway Education (GE) courses via either email invitations or flyers in Semester B and the Summer Semester in 2017. GE courses are part of the liberal or general studies that provide students with introductory multi-disciplinary learning experiences: regardless of their field of study, CityU students need to complete a number of GE courses before graduation. The questionnaires were set in a secured online survey system, that is the Qualtrics of the CityU. Formal informed consent was obtained from each participant during the online survey.

The ages of the participants ranged from 18 to 26 years (M = 20.2; SD = 1.77); 29.5% were male while 70.5% were female; 89.5% were Chinese-Cantonese speakers and 10% were Mandarin speakers; 96.8% were undergraduate while 3.2% were associate degree (or equivalent) students. The participants were from diverse fields of study: 36.0% were from the College of Science and Engineering; 30.0% from the College of Liberal Arts and Social Sciences; 21.6% from the College of Business; 8.9% from the School of Creative Media; 2.1% from the School of Law; and 0.5% from the School of Energy and Environment.

Participants were also asked about their health conditions: 3.2% of the participants reported having some kind of disability; 41.5% of the participants reported that they had suffered from emotional/psychological/psychiatric problems which resulted in significant distress and/or impairment for at least two weeks (hereinafter called "distress/impairment"); only 8.4% reported previous/current use of treatment for psychological problems; only 6.8% reported that they had seen a psychiatrist or a clinical psychologist; 3.7% reported they had been prescribed psychiatric medications; and 5.3% reported premature birth (fewer than 37 weeks). Thus, this sample is representative of the CityU students and is a reasonable non-clinical sample in Hong Kong.

The following measures were included among the online questionnaires.

The Dissociative Experiences Scale-Taxon (DES-T) is a measure of pathological dissociation. It is a subscale (items 3, 5, 7, 8, 12, 13, 22 and 27) of the original DES (Bernstein & Putnam, 1986; Ross, 1997; Waller, Putnam, & Carlson, 1996). The DES is a widely-used, reliable and valid self-report measure for psychoform dissociative experiences. Waller and Ross (1997) recommended that scores above 35 on the DES-T suggest strong evidence of pathological dissociation. The psychometric properties of the Hong Kong Chinese version of the DES-T (HKC-DES-T) were reported recently (Chan, Fung, Choi, & Ross, 2017; Fung, Choi, Chan, & Ross, 2018). The HKC-DES-T had excellent internal consistency ($\alpha = .871$) in the present study.

The Somatoform Dissociation Questionnaire (SDQ) is another commonly-used self-report dissociation measure with established reliability and validity. The SDQ has a 20-item version (SDQ-20) (Nijenhuis, Spinhoven, van Dyck, Van der Hart, & Vanderlinden, 1996) and a 5-item version (SDQ-5) (Nijenhuis, Spinhoven, van Dyck, Van der Hart, & Vanderlinden, 1997). The SDQ particularly assesses how often the participant has had a given somatoform dissociative experience/symptom in the past 12 months. Nijenhuis (2010) recommended that scores above 8 on the SDQ-5 indicate significant somatoform dissociation. The Chinese version of the SDQ-5 was found to have accurate reliability and validity in another study (Fung et al., 2018). The Chinese version of the SDQ-5 had good internal consistency ($\alpha = .645$) in the present study.

The Dissociative Disorders Interview Schedule (DDIS) (DSM-5 Version) is a structured interview for dissociative disorders (DDs) with good reliability and validity (Ross, 1997; Ross et al., 1989). The DDIS can be used to make DSM-5 diagnoses of somatic symptom disorder, major depressive disorder, BPD and DDs. In particular, the DDIS has 11 items for assessing Schneiderian symptoms, 9 items for assessing DSM-5 BPD symptoms and 16 items for assessing the secondary features of DID (hereinafter called "DID features"). Ross and Browning (2017) demonstrated that the self-report version of the DDIS (i.e., the SR-DDIS) can be readily used in clinical settings. The Chinese version of the DDIS could discriminate between participants with and without a clinical diagnosis of DD in a pilot study (Fung et al., 2018). Some of the SR-DDIS sections (e.g., the Schneiderian symptoms section, the BPD section and the DID features section) were used in the present study.

For the analysis in this paper, dissociative symptoms were operationalized as the DES-T total score, the SDQ-5 total score and the number of DID features. In particular, psychoform

pathological dissociation was measured with the DES-T while somatoform pathological dissociation was measured with the SDQ-5. The number of Schneiderian and BPD symptoms were calculated according to the SR-DDIS results. Participants who reported 3 or more DID features were regarded as positive for the "DID feature cluster", participants with 3 or more Schneiderian symptoms were regarded as positive for the "Schneiderian symptom cluster", and participants with 3 or more BPD symptoms were regarded as positive for the "BPD symptom cluster." Participants were regarded as having subjective distress and/or functional impairment if they endorsed the item of "distress/impairment" (*"Have you ever suffered from emotional, psychological or psychiatric problems which lasted at least 2 weeks and during this period of time, were you greatly affected in your life (e.g., social life, work or study) or did you feel very distressed?"*).

Results

Frequency of dissociative, Schneiderian and BPD symptoms

We first investigated the frequency of the three symptom clusters in this non-clinical sample in Hong Kong. Table 1 describes the frequency of the symptoms in our sample. The average number of DID features was 1.22 (SD = 1.83), the average number of Schneiderian symptoms was 1.61 (SD = 2.41), and the average number of BPD symptoms was 1.47 (SD = 2.00). In addition, the mean score of the DES-T was 14.8 (SD = 15.4) and the mean score of the SDQ-5 was 6.52 (SD = 1.87). No significant gender differences in dissociative, Schneiderian and BPD symptoms were found; additionally, these symptoms had no significant relationship with age. Participants who had any disability (n = 6) reported significantly more Schneiderian symptoms (M = 6.83; SD = 3.13 vs M = 1.38; SD = 2.09) than those without any disability (n = 179), t = 6.181, p < .001.

Table 2 reports the percentage of participants who were positive for each symptom in the three symptom clusters. Except for "affective lability," no single dissociative, Schneiderian or BPD symptom was endorsed by more than 26% of the sample.

Relationships between the three symptom clusters

The correlations between dissociative, Schneiderian and BPD symptoms are shown in Table 3. The three symptom clusters were highly intercorrelated in this non-clinical Chinese sample. Compared with psychoform dissociative symptoms as measured with the DES-T, somatoform dissociative symptoms as measured with the SDQ-5 was more correlated with Schneiderian and BPD symptoms.

As mentioned, a participant was regarded as being positive for a particular symptom cluster if he/she endorsed 3 or more symptoms. In the entire sample, 110 participants (57.9%) were negative for all three symptom clusters: 47 participants (24.7%) were positive for only one symptom cluster; 23 participants (12.1%) were positive for two symptom clusters; and only 10 participants (5.26%) were positive for all three symptom clusters. The co-occurrence of the three symptom clusters is shown in Table 4. These findings imply that the three symptom clusters do not represent the same construct of psychopathology, although they are highly inter-related.

In addition, a preliminary analysis was conducted to examine the relationship between distress/impairment and the three symptom clusters. As shown in Table 5, participants who reported distress/impairment reported significantly more dissociative, Schneiderian and BPD symptoms than those who reported no distress/impairment. . Moreover, participants who were positive for one symptom cluster were more likely to report distress/impairment than those who were negative for all three symptom clusters (52.2% vs 28.0%), $\chi 2$ (1) = 8.21, p = .004; and participants who were positive for all three symptom clusters were more likely to report distress/impairment than those who were positive for only one symptom cluster (90% vs 52.2%), $\chi 2$ (1) = 4.86, p = .028. This preliminary analysis suggests that the three symptom clusters could discriminate between Chinese students with and without distress/impairment due to psychological problems in our sample and that increasing comorbidity of these symptom clusters is associated with a higher probability of experiencing distress/impairment.

Discussion

In this paper, we reported the frequency of dissociative, Schneiderian and borderline personality symptoms in a non-clinical sample in Hong Kong and the relationships between these three symptom clusters. There are some important findings which require further discussion.

First, the average number of DID features, Schneiderian symptoms, and BPD symptoms was higher than one for each of the three symptom clusters. This number was far higher than the numbers reported in the general population (N = 502) in North America (Ross & Ellason, 2005), where the average number of symptoms in each cluster was about 0.5 to 0.6. There are some possible reasons for these differences between Hong Kong and North America that require further investigation. For example, (1) people may tend to report more symptoms in self-report surveys than in structured interviews, (2) Chinese students may have experienced more trauma and stress than the general population in North America and therefore they reported more trauma-related symptoms, (3) there may be some sociocultural factors (e.g., family relationships, parental styles) which could affect the frequency of certain psychiatric symptoms, or (4) undiagnosed BPD or dissociative disorders are truly common in this population.

Second, our study provides the first data regarding the relationship between dissociative, Schneiderian and BPD symptoms in a non-clinical sample in Hong Kong. These three symptom clusters were highly inter-related and often co-occurred in this sample, although they are not the same construct of psychopathology. This finding is consistent with the Western literature we discussed in the beginning. There are several implications of this finding. For instance, practitioners who are treating clients with Schneiderian symptoms (e.g., hallucinations, delusions) should consider the possibility that their clients also have dissociative and/or BPD symptoms, and vice versa. Thus, they should consider assessing their clients for these forms of comorbidity. Furthermore, practitioners working with clients with Schneiderian and/or BPD symptoms should be aware that the level of dissociation in their clients might affect the treatment response of their other comorbid disorders (Kleindienst et al., 2011; Spitzer, Barnow, Freyberger, & Joergen Grabe, 2007). In addition, we expect that the co-occurrence of the three symptom clusters is also common in clinical settings. Given that dissociative symptoms and disorders may often be overlooked in the Chinese context (Fung, 2016b; Fung & Lao, 2017; Fung, Lee, Lao, & Lin, 2017), future studies should investigate the prevalence of dissociative symptoms and disorders in patients with psychotic disorders and patients with BPD.

Third, our preliminary analysis suggest that the co-occurrence of these symptoms indicates a higher likelihood of having distress/impairment. Thus, additional care may be needed in such cases. The co-occurrence of these symptoms may also require further attention in treatment.

This paper provides a preliminary report of dissociative, Schneiderian and borderline personality symptoms in a non-clinical sample in Hong Kong. Future studies which use the DES-T, SDQ-5 and/or DDIS in the Chinese context could compare their findings with those reported in this paper. Yet, the study does have some limitations. First, only self-report data from a single university in Hong Kong were collected, although the participants were from diverse background and most of them had not used mental health service before. Second, although single-item self-reported mental health (SRMH) is increasingly used in survey studies (Ahmad, Jhajj, Stewart, Burghardt, & Bierman, 2014), the present study only included dichotomous items to measure use of treatment and subjective distress and/or functional impairment due to psychological problems. Due to the use of a single question on distress/impairment, only very preliminary analyses can be conducted concerning distress, and impairment and further investigation is necessary. Third, as we did not employ trauma measures, we could not examine the role of trauma or other psychosocial etiological factors in relation to the three symptom clusters in our sample, and the any potential sociocultural influences could not be explored. Fourth, the study did not measure insight or reality testing, which might play an important role in understanding the similarities and differences between dissociative and Schneiderian symptoms – although patients with severe pathological dissociation can also suffer from impaired reality testing (Fung, 2016a; Şar & Öztürk, 2009), and therefore future studies on dissociation and psychosis should consider insight or reality testing as a variable to be measured.

Concluding remarks

This paper provides the first data regarding the frequency of and relationships between dissociative, Schneiderian and BPD symptoms in a Chinese college student sample in Hong Kong. Consistent with the literature, our data suggest that these three symptom clusters are highly related to each other but are not the same construct of psychopathology. Implications for research and practice have been discussed.

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