



Understanding the links between self-concept, sociocultural deviance and mental health problems in pathological social withdrawal

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Abstract

Pathological social withdrawal (PSW), an extreme form of socially avoidant behaviour, is emerging as a global public health issue. Prior PSW theories implicate personal values that deviate from sociocultural norms resulting in inner conflict and mental health problems. Speculatively, this conflict could manifest or be embedded within a person's cognitive and affective self-concepts (self-construal and self-esteem respectively). In this study, we tested the hypotheses that compared to those without PSW, individuals with PSW would have lower personal and collective self-esteem, and endorse independent and/or interdependent self-construals to differing degrees. 343 Taiwanese adults completed a two-step online survey, which consisted measuring their social withdrawal condition, sociocultural deviance, personal/collective self-esteem, independent/interdependent self-construal and mental health problems. As expected, data showed that the affected group had lower self-esteem than the unaffected group, but no group difference emerged in either self-construal dimension. We also found that personal self-esteem in the PSW group was (concurrently) associated with sociocultural deviance and symptoms of poor mental health. Our results tentatively supported theories of PSW, suggesting that the influences individuals' personal self-esteem and sociocultural deviance should be considered in future studies or treatments/preventions.

Keywords Hikikomori · Sociocultural deviance · Mental health problems · Self-concept · Collective self-esteem

Introduction

Pathological social withdrawal (PSW, also known as Hikikomori) refers to a severe type of social avoidance. Individuals with PSW have low interests in maintaining social relationships with others, and spend most of their time at home with a significant impact on daily life (Takahiro A Kato et al., 2019a; T. A Kato et al., 2012; Saitō, 1998). Perhaps as a result of their atypical social behaviours, individuals with PSW also experience stigmatisation and distress (Serafini et al., 2011). The discovery that PSW is globally present with significant mental health consequences (Wu et al., 2019a) - up to 80% of

individuals with PSW have other psychiatric co-morbidities such as depression, social anxiety or schizophrenia - has led to a growing body of research focused on identifying risk factors to inform personal and societal interventions for PSW (Koyama et al., 2010; Malagón-Amor et al., 2015). Previous research indicates that PSW is more common in men and in those with higher socioeconomic status (Paul W.C. Wong et al., 2017). In addition, dysfunctional family dynamics and relationships also characterise those with PSW. Early theories also suggested that PSW emerges through conflicts between the perceptions and values of individuals and the expectations of society (Uchida & Norasakkunkit, 2015). However, there are few empirical studies addressing these theoretical predictions. Here, we address this gap, by testing novel predictions regarding emotional and cognitive aspects of self-concept in individuals with PSW.

The earliest wave of studies on PSW was from Japan. Made up largely of anecdotal case studies, these noted how PSW youth struggled in fulfilling certain culturally-endorsed behaviours such as completing education, finding a job, and establishing romantic relationships, especially in the early phases of social withdrawal (Sakamoto et al., 2005; Teo,

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2013; Ohashi, 2008). This led to theories around the role of “cultural deviance”, the “tendency to deviate from mainstream cultural attitudes and values”, as a risk factor for PSW. In their study of sociocultural deviance, as an index of risk for PSW, Norasakkunkit and Uchida (2014) found that those reporting greater deviance reported a larger difference between personal and perceived social values compared with those with lower deviance scores (and lower risk for PSW). Following up on this, other researchers suggested that this deviance emerged from a deviant self-identity, which could become reinforced by further avoiding social activities (Ishii & Uchida, 2016; Norasakkunkit & Uchida, 2014; Uchida & Norasakkunkit, 2015). Indeed, according to Wells (1978), carrying out deviant behaviours, such as conducting crimes, is strongly embedded within self-concept, both as a consequence but also as an explanation of self-concept. Therefore, given individuals with PSW are defined as being socioculturally deviant, measuring their self-concepts are crucial.

Some research has already investigated one aspect of self-concept in PSW: personal self-esteem, defined as self-worth and self-respect towards themselves (M. Rosenberg, 1979) but with mixed findings across studies. Personal self-esteem was found to be lower in those with PSW than those without (Olejarz, 2011), consistent with an earlier study by Wong & Ying, 2006. However, another study by Chan and Lo (2016) found different results; these data showed that affected individuals’ self-esteem could vary based on the quality of relationships with others. However, these studies only looked at individuals’ personal self-esteem, and did not measure another key aspect of self-esteem, collective self-esteem, defined as an individual’s self-worth and self-respect when considering themselves as a member of a social group (Crocker et al., 1994). This aspect of self-esteem may be particularly relevant as individuals with PSW show less engagement with and participation in social activities and membership of social groups. Furthermore, self-concept is multidimensional (Irwing, 1996) and as well as including affective (feelings) judgments about oneself (self-esteem), may also encompass cognitive components (thoughts) including self-construal. Self-construal refers to one’s definition of the self in relation to others, and can itself be decomposed into interdependent self-construal, referring to individuals’ self-percept as connected to others through highly valued group memberships, and independent self-construal, referring to the self-percept as unique and independent from others (Markus & Kitayama, 1991). No studies have assessed PSW-linked differences in collective self-esteem, nor in cognitive aspects of self-concept (self-construal).

In this study, we sought to answer some new research questions regarding the links between PSW and emotional and cognitive aspects of self-concept. We compared those with and without PSW on four sub-scales reflecting personal self-esteem, collective self-esteem, interdependence and independence. Based on prior research, our first research question

was to investigate the hypothesis of significantly lower personal self-esteem scores in those with PSW and tentatively, lower collective self-esteem too, than in those without. Our second research question was to investigate group differences in both independent and interdependent self-construal. Drawing tentatively on prior studies suggesting that PSW individuals have deviant sociocultural values (Norasakkunkit & Uchida, 2014), we suggest that PSW individuals have higher independent self-construal and poorer interdependent self-construal than unaffected individuals. These group differences may be particularly prominent in cultures that emphasise collectivism. Finally, in line with various predictions from earlier theories, our third research question was to explore the associations between self-concepts, social/cultural deviance, and mental health symptoms within affected individuals. While Wells (1978) suggested that different aspects of self-concept and deviance could contribute to inner conflict, some researchers also suggested that they associated with symptoms of poor mental health too. Indeed, previous cross-sectional and longitudinal studies showed that self-concept plays an important role in conferring risk and maintaining psychiatric symptoms (Markowitz, 2001; Marsh et al., 2004). For example, one study suggested that our self-concept might affect how we perceive information related to ourselves, which is highly connected to extreme positive and negative affective states that characterise many mental health conditions (Keyes & Ryff, 2000). Thus here we also test the hypotheses that sociocultural deviance amongst PSW individuals is embedded in and correlated with self-concept, and that higher social deviance, lower self-esteem and self-construals predict symptoms of poor mental health in those with PSW.

Method

Sample and General Procedure

This study was approved by the research ethics committee of King’s College London (reference no. HR-17/18–5323); all participants gave their informed consent online prior to participation. A two-phase online survey was delivered, investigating in Phase 1, the frequency of PSW in Taiwan and in Phase 2, the psychological correlates (including self-concept). The inclusion criteria were being aged over 18 years, being a Taiwanese national and ethnicity, currently living in Taiwan; exclusion criterion was having difficulties reading traditional Chinese script. At Phase 1 (between 2nd of January and 31st of May 2018) potential participants were approached through posting advertisements on Taiwanese websites and social media, including Facebook, Bulletin Board Systems, universities’ websites and online forums. 1046 eligible respondents completed measures of PSW behaviours and further received an invitation of a follow-up phase of data collection (1–

5 months after Phase 1); amongst these 1046 participants, 343 responded to the follow-up data collection invitation. These 343 participants were aged 18–45 with a mean age of 27.34; 61.2% were female. The Phase 2 survey included measures of sociocultural deviance, personal self-esteem, collective self-esteem and self-construal. Published Chinese versions of the self-construal and personal self-esteem measures were used. As the measures of collective self-esteem and of sociocultural were not available in Chinese script, we translated and back-translated these questionnaires.

Measures

Measures were split across the two phases of the study, to reflect the different goals of each phase. In Phase 1, we wanted to estimate the frequency of individuals in Taiwan manifesting atypical social behaviours that would be consistent with pathological social withdrawal (see Wu et al. (2019a) for details on these findings). We therefore wanted to maximise participation rates by including fewer measures. These were: 1) demographic characteristics, including age, gender, maximum educational level reached, current occupation, who they lived with and where they lived (district and city of Taiwan); 2) pathological social withdrawal questionnaire and 3) psychiatric history. In Phase 2, we wanted to investigate the psychosocial correlates of PSW and therefore invited all participants to a second wave of data collection, comprising 5 questionnaires: 1) the NEET-Hikikomori Risk factor scale; 2 and 3) measures of personal and collective self-esteem; 4) a measure of self-construal and 5) the General Health Questionnaire 12-item.

Pathological social withdrawal questionnaire: Participants were asked whether they had ever experienced three behaviours based on criteria in prior studies (Koyama et al., 2010; P.W.C. Wong et al., 2015): 1) spending most of time at home; 2) refusing interaction with others; 3) avoiding maintaining social relationships. For the items with a ‘yes’ response, they reported the period of that behaviour.

NEET-Hikikomori Risk factor scale: This is a self-report scale developed to measure an individual’s degree of cultural/social deviance (Uchida & Norasakkunkit, 2015). While an overall score indexes sociocultural deviance, this is made up of items reflecting three different aspects of marginalization: 1) adopting a freeter lifestyle preference (NHR-free); 2) showing a lack of self-competence particularly in interpersonal contexts (NHR-lack); 3) having unclear plans/ambitions for the future (NHR-unclear). In our sample, Cronbach’s alpha for the overall score was .9.

Personal self-esteem: This is a 10-item scale measuring an individual’s overall evaluation of his or her worthiness as a human being (Morris Rosenberg, 1965). Participants were presented with statements and asked to choose from 1

(strongly agree) to 4 (strongly disagree); all items were then summed to a total score. The Cronbach’s alpha of our sample was .9.

Collective self-esteem: This consists of 16 items, measuring participants’ feeling of being valued in a social group to which they belong (Luhtanen & Crocker, 1992). Participants rate each item from 1 (strongly disagree) to 7 (strongly agree) and the sum of all the items was used in analysis. Cronbach’s alpha was .88 in our sample.

Self-construal scale: This scale consists of two 12-item subscales to measure individuals’ independent and interdependent self-construal (Singelis, 1994). The independent self-construal scale measures the importance of being unique and independent from others whereas the interdependent scale investigates the importance of being connected to others and being a part of group memberships. Items were rated on a 7-point scale ranging from 1, (disagree very much) to 7 (agree very much). The Cronbach’s alpha of the independent self-construal and interdependent self-construal subscales in our sample were .74 and .8 respectively.

General Health Questionnaire 12-item (GHQ): GHQ is a self-report instrument for screening and detection of short-term minor psychiatric disorders in the general population within the community or non-psychiatric disorders in the general population within the community or non-psychiatric clinical settings (Chong & Wilkinson, 1989). Participants were asked to rate the frequency for each symptom on a four-point response scale, from 0 ‘not at all’ to 3 ‘much more than usual’. The sum of each item reflects the symptom impacts on normal functioning. The Cronbach’s alpha of this scale in our study was .9.

Data Analysis

Given the new cultural context in which these questionnaires were used, before conducting group comparisons, we carried out four confirmatory factor analyses for the personal self-esteem, collective self-esteem, independent self-construal and collective self-construal to confirm the item loadings of each item for each scale. Based on factor loadings, the sum of scores for each scale was created and standardised (by calculating its Z-score) for further cross-scale analysis. Participants were divided into three groups based on their responses to the PSW questionnaire: 1) affected: if they said ‘yes’ to all the three withdrawal items and all items had lasted for at least 6 months; 2) borderline: if they said ‘yes’ to one or two items or said ‘yes’ to all three items but duration of each item was less than 6 months; 3) unaffected: if they said ‘no’ to all items. Borderline cases were not included in inferential statistics. A mixed 2×2 ANOVA with between-subjects factor of PSW group (affected, unaffected) and within-subjects factor of self-esteem (personal self-esteem, collective self-esteem, both scores were standardised) was conducted to

address the first research question. A second 2×2 ANOVA with between-subjects factor of PSW group (affected, unaffected) and within-subjects factor of self-construal (independent, interdependent) was used to address the second research question. To investigate if there were any relationships between self-concepts and sociocultural deviance, correlation analyses were conducted. Also, in order to assess the relationships between sociocultural deviance, self-concepts (affective and cognitive) and mental health problems, multiple linear regression was conducted with mental health symptoms (GHQ) as a dependent variable and the different self-concept sub-scales as independent variables in affected individuals with PSW. All data was valid; the way the surveys were programmed did not allow for responses that were out of range of a scale or not of a numeric value. To minimise the impact of missing data, all participants' responses were included in the analyses regardless of whether they completed all the survey. Only when the participants did not complete key measurements of the analyses were those participants removed from specific analyses.

Results

Participants were 343 individuals aged 18–45 (mean age = 27.34; 61.2% female). Sixty-three (18.5%; mean age = 28.87; 50.8% female) of them were categorised as affected and 80 (23.2%; mean age = 27.97; 61.3% female) as unaffected. Two hundred (58.4%; mean age = 26.6; 64.5% female) were considered 'borderline'. A Kruskal-Wallis H test showed that there was no statistically significant difference in age and gender across groups, $\chi^2_{age}(2) = 4.59, p = 0.1$; $\chi^2_{gender}(2) = 3.78, p = 0.15$. Of those affected, 4 were experiencing current (rather than past) withdrawal.

The confirmatory factor analyses largely confirmed the representation of items on each of the four self-concept scales, $\chi^2_{personal} = 265.52, p < .001, RESMA_{personal} = .14$; $\chi^2_{collective} = 791.25, p < .001, RESMA_{collective} = .14$; $\chi^2_{independent} = 312.74, p < .001, RESMA_{independent} = .12$; $\chi^2_{interdependent} = 182.18, p < .001, RESMA_{interdependent} = .08$. Only one of the collective self-esteem items had a loading below .3 (item 4: 'Overall, my groups memberships have very little to do with how I feel about myself.'). The mean scores of personal self-esteem, collective self-esteem (without item 4), independent self-construal and interdependent self-construal for each PSW group are presented in Table 1.

Self-Esteem Differences across PSW Affected and Unaffected Groups

The 2×2 mixed ANOVA with PSW group as the between-subjects factor and aspect of self-esteem as the within-subjects factor showed a significant main effect of PSW group,

Table 1 Questionnaire scores across PSW groups

	all	unaffected	affected
	mean(SD)	mean(SD)	mean(SD)
Personal self-esteem	27.86(5.86)	29.81(6.01)	26.81(5.54)
Collective self-esteem	73.78(12)	76.89(11.24)	71.44(11.93)
Independent self-construal	55.71(8.82)	56.58(8.7)	56.32(8.88)
Interdependent self-construal	58.92(8.72)	60.7(7.74)	59.57(8.76)

$F_{group}(1141) = 11.11, p = .001, \eta^2 = .07$, but the main effect of self-esteem and interaction of these two factors did not reach significance, $F_{SE}(1141) = .34, p = 0.56, \eta^2 = .002$; $F_{SE \times Group}(1141) = .14, p = .71, \eta^2 = .001$. Collapsed across both aspects of self-esteem, the affected group had lower scores than the unaffected group.

Self-Construal Differences across PSW Affected and Unaffected Groups

The 2×2 mixed ANOVA with PSW group as the between-subjects factor and dimension of self-construal as the within-subjects factor showed no significant main effects of group or dimension, or their interaction, $F_{group}(1141) = .33, p = .56$; $F_{Self-construal}(1141) = .4, p = .53$; $F_{group \times Self-construal}(1141) = .32, p = .57$.

Associations between Self-Esteem, Sociocultural Deviance, and Symptoms of Poor Mental Health

Sociocultural deviance in the affected group was negatively associated with personal and collective self-esteem, $r_{personal}(63) = -.62, p < .001$; $r_{collective}(63) = -.68, p < .001$, but was not associated with independent and interdependent self-construals $r_{independent}(63) = -.14, p = .27$; $r_{interdependent}(63) = -.17, p = .19$.

A multiple linear regression model including data from affected individuals only showed that collective self-esteem, personal self-esteem, independent self-construal and interdependent self-construal scores explained 42.9% of the variance in psychiatric disturbance (GHQ), $F(4,58) = 10.89, p < .001$. In a second step, the four self-concepts and sociocultural deviance were included with a significant increase by 9% in variance explained, at 51.2%, $F(5,57) = 12.31, p < .001$. Personal self-esteem and sociocultural deviance contributed significantly to the model, $B_{personal} = -.42, CI = [-4.62, -3.02], p = .02$; $B_{NHR} = .14, CI = [0.04, 0.12], p = .002$, but not collective self-esteem, independent self-construal and interdependent self-construal, $B_{collective} = .027, CI = [-0.77, 0.58], p = .71$; $B_{independent} = .01, CI = [-0.54, 0.72], p = .89$; $B_{interdependent} = .12, CI = [-0.59, 0.57], p = .14$.

Discussion

The results in the present study showed lower personal and collective self-esteem among affected relative to non-affected individuals, replicating but also extending prior studies (Olejarz, 2011; V. Wong & Ying, 2006). In contrast to our predictions, no significant difference emerged between groups on the two dimensions of self-construal. Finally, while both personal and collective self-esteem were associated with sociocultural deviance, only personal self-esteem was associated with symptoms of poor mental health (after controlling for its association with sociocultural deviance).

Our findings of lower self-esteem in individuals with PSW supported previous findings (e.g. Olejarz (2011)) and extended these group differences to collective self-esteem, that is, the extent to which individuals feel valued as a member of a group. Also, as Serafini et al. (2011) suggested, stigma associated with PSW or the co-occurring conditions could lead to poorer self-esteem. Both these aspects of self-esteem were associated with sociocultural deviance. That sociocultural deviance is associated with self-esteem supports previous findings too (Chan & Lo, 2016). The cross-sectional design of this study means we are unable to disentangle the direction of these associations, but there are two possible interpretations of the association. First, when individuals' patterns of behaviour start to deviate from societal expectations, this may undermine their own self-value (as individuals but also as members of specific groups and society). Second, lower self-esteem may affect the extent to which one feels that they conform to social norms (Iacoviello et al., 2017). These bidirectional associations could lead to a vicious cycle contributing towards social withdrawal. Indeed, Wu et al. (2019b) reported that some of the reasons for individuals with PSW being withdrawn were difficulties fitting into society and being ashamed about their lack of academic achievements and job performance.

In addition, our data showed that lower self-esteem, specifically personal aspects, was associated with poorer mental health in affected individuals. Although this is consistent with a large body of literature in the general population, previous case studies of individuals with PSW have depicted these withdrawal behaviours as the voluntary endorsement of a socially deviant lifestyle choice. However, more recent studies have suggested that individuals with PSW may not be satisfied with this lifestyle and instead further manifest negative traits, such as low self-esteem (V. Wong & Ying, 2006) but also mental health problems (Wu et al., 2020; Teo et al., 2015). While the direction of the associations between personal self-esteem and mental health difficulties among PSW individuals are unclear, prior research points to bidirectional associations between personal self-esteem and poorer mental health. Especially, a PSW related psychiatric symptom, called “modern-type depression” (MTD, defined as overt depressive

symptoms, especially associated distressing work place/school settings) was highly associated with low self-esteem (Takahiro A Kato et al., 2019b). Thus low self-esteem contributes towards symptoms of mental illness and the experience of mental illness influences these affective aspects of self-identity. It is noteworthy that Chan and Lo (2016) reported that certain close relationships, specifically family relationships, can be protective against low self-esteem. This close connection with family would provide resources of social support and sense of social competence, which further boosts one's self-esteem. Thus strategies to improve self-esteem in individuals with PSW, could involve the encouragement of more positive and supportive family relationships. The absence of an association between collective self-esteem and mental health problems was surprising as the individuals surveyed grew up in Eastern cultures where there is societal emphasis on group identities (Dhawan et al., 1995).

Another key finding was that independent and interdependent self-construals did not significantly differentiate between the affected and non-affected groups and did not predict mental health difficulties. That the cognitive aspects of self-concept remained intact amongst individuals with PSW suggests that self-construals may not reflect the psychological effects of socially deviant behaviours. Indeed, Lu (2014) suggested that individuals with PSW might maintain the same self-construal as those unaffected, but still experience conflicts in other aspects, such as social rejection (Lebra, 2007), which led them to drop out from society. Although a recent study by Norasakkunkit and Uchida (2011), high risk individuals showed a lower interdependence self-construal than low risk individuals, the difference between studies might result from participants at different states. To be more specific, most our participants had recovered from their withdrawn state while their participants were at risk of socially withdrawn. On the other hand, Norasakkunkit and Uchida (2014) found that people at high risk of PSW differed on another type of self-concept, harmony seeking, which can be divided into two aspects: self-level and perceived social belief level. They found that the high-risk group had lower harmony seeking at the self level than the low risk group, but not at the perceived social belief level. The group difference discrepancy amongst these self-concepts (i.e. self-esteem, self-construal and harmony seeking) also reveals the multidimensional nature of the self-concept, suggesting PSW may have different effects on different self-concepts. Future studies should take this into account.

There are some study limitations. All questionnaire data was collected at the same time-point, making it difficult to establish temporal relationships. Longitudinal assessments with several time-points are needed to fully interrogate relationships between PSW, affective/cognitive self-concepts, sociocultural deviance and mental health. Second, the number of affected individuals was small, affecting power to detect

group differences of weaker effect sizes. We chose not to include those falling short of the PSW criteria with the affected group, due to heterogeneity within this ‘borderline’ group of the withdrawal state. Moreover, the affected group contained people who had currently or previously experienced withdrawal. This might increase the heterogeneity of the affected group by confounding state and trait factors since people who were currently withdrawn might show different mental states to people who had already recovered from the state. Third, not all aspects of self-concept were measured in this study. A more comprehensive measure of self-concept would be helpful to fully understand the association between self-concept, sociocultural deviance and mental health in PSW. In addition, GHQ as an assessment for mental health problems could be very limited, suggesting that cross-reference to medical records would strengthen correlates with mental health problems. Moreover, this current study relied on a single informant across measures, which might result in impression management bias, recall errors or affect construct validity (Chan, 2009). This might potentially inflate the correlations between constructs or increase the heterogeneity of measures within the sample. Future studies could include multiple informants to validate the self-report results. Finally, this was an online survey, which could incur sampling biases.

Conclusion

This study looked at possible differences in cognitive (self-construal) and in affective (self-esteem) self-concepts between groups of individuals affected and non-affected by PSW, and their associations with sociocultural deviance and mental health symptoms. The group comparisons of the affective and cognitive self-concepts suggested that individuals with PSW might only manifest differences in affective self-concepts compared with unaffected individuals. Furthermore, the low self-esteem of affected individuals might be associated with their high level of social/cultural deviance. Finally, the associations between sociocultural deviance, self-concepts and mental health could shed light on the connection between PSW and the existing mental disorders (i.e. greater deviance and lower personal self-esteem would predict poorer mental health). Future studies could explore associations between other aspects of self-concept and PSW as well as associations between perceived social value and personal values to comprehensively understand PSW. Together with the findings on self-esteem, future treatment could focus on boosting ones’ personal/collective self-esteem and other self-concept (e.g. strengthening positive and supportive family relationships which boost PSW individuals’ self-esteem). Boosting self-esteem in particular could further prevent increasing severity of mental distress in those with PSW.

Authors’ Contributions AFWWU conceived of the study/designs/coordination, performed the statistical analysis, interpreted the results and drafted/revised the manuscript; TLC participated in the coordination of study, interpreted the results and revised the manuscript; CC conceived of the study/designs/coordination, participated in statistical analysis, interpreted the results and revised the manuscript; JYFL conceived of the study/designs/coordination, participated the statistical analysis, interpreted the results and revised the manuscript.

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Data Availability The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Declaration

Ethics Approval This study was approved by the research ethics committee of King’s College London (reference: HR-17/18–5323).

Consent to Participate All participants gave informed consent.

Consent to Publish Confidentiality and anonymity were maintained, and it would not be possible to identify the participants. All the participants gave the consent to publish their data.

Conflict of Interest The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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