RESEARCH ARTICLE

Psychological Distress of Filipino Deaf: Role of Environmental Vulnerabilities, Self-Efficacy, and Perceived Functional Social Support

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Abstract: Researches on Deaf mental health show that Deaf individuals are two to three times more vulnerable to psychological distress compared to their hearing counterparts because they have been exposed to several environmental vulnerabilities. Using the assumptions of stress-vulnerability-protective factors model of Liberman (2008), this study looked into the moderating role of protective factors (general self-efficacy and perceived functional social support) on the effect of vulnerabilities in the psychological distress of 120 self-contained Deaf college students aged 18 to 25 (*M*=21.83; *SD*=4.11). Results show that (a) there is a non-significant relationship between environmental vulnerabilities and psychological distress, and (b) general self-efficacy and perceived functional support do not act as moderators. This entails inapplicability of Liberman's (2008) framework across Deaf sample and may be attributed to three factors: (a) normalization of environmental vulnerabilities in Deaf culture, (b) occurrence of inconsistent mediation in perceived functional social support, and (c) unique context of Deaf individuals in being in a hearing society. Limitations, together with recommendations in research and practice, are discussed to support the mandates of UNCRPD and Magna Carta for PWDs.

Keywords: Deaf, environmental vulnerabilities, psychological distress, self-efficacy, social support

There are approximately 360 million people worldwide with disabling hearing loss (World Health Organization, 2012). This accounts for about 5.3% of the world population, where 91% are adults, and 9% are children. In the Philippines alone, the DSWD Pantawid Pamilyang Pilipino (better known as 4Ps) surveyed the households in 2011 and yielded that 27,972 households (<1% of the total population) have Deaf members (Garcia, 2014).

Although a very small percentage comprises this Deaf population, it is still important to give them importance because they deserve to receive equal rights. As emphasized in the United Nations' Convention on the Rights of Persons with Disabilities[1] (UNCRPD; United Nations, 2007), persons with disabilities (PWDs), including that of hearing impairment, should enjoy all human rights and freedom in its fullness, and be respected to maintain their dignity as a human person. In the Philippines, the Magna Carta for Disabled Persons (1992) was implemented to rehabilitate disabled persons with an end goal of personal development and reliance, and integration in

the mainstream society. Despite these mandates, Deaf individuals still encounter several social problems in the hearing society as caused by the stigma and discrimination associated with their condition. As such, they are found to be two to three times more prone to acquiring mental illnesses as compared to their hearing counterparts (Fellinger et al., 2012; Dammeyer, 2010; Kvam et al., 2007; Hindley, 2005). Given their status quo, scant literatures (both local and worldwide) are found on mental health issues and interventions on Deaf individuals. Thus, with the end in view of supplementing existing knowledge on Deaf mental health, this study was conducted to understand the psychological distress of Deaf individuals vis-à-vis their vulnerabilities and protective factors.

Psychological Distress

Psychological distress is a general term that refers to the unpleasant and subjective feeling that arises in times of upsetting, frustrating, or harmful situations (Lerutla, 2000; Mirowsky & Ross, 1989). It ranges from mild to extreme symptoms caused by negatively biased cognitions of the self and others (Barlow & Durand, 1999), such as feelings of unhappiness, irritability, and hopelessness. Given the wide range of symptomatology of psychological distress, it may be viewed in two perspectives: (a) as a normal reaction, and (b) as a dysfunctional phenomenon.

As a Normal Reaction
According to the stress-distress model, psychological distress is a transient and unstable phenomenon in a normal individual resulting from an individual's internal response to external stressors (McKenzie & Harris, 2013). These responses depend on one's resources, such as social support, perceived harm, coping styles, and beliefs, which lead one to develop positive or negative feelings toward the event (Lazarus & Folkman, 1984). Cultural norms and societal pressure also play a role in the psychological distress of an individual (Drapeau et al., 2012). In the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013), this pertains to the "cultural concepts of distress," which refers to the ways a particular culture brings about their sufferings, problems, and troubles. The National Institute of Mental Health (2011) also contended that culture and social context do not only determine but also shape their mental health and the type of services they use.

Among Deaf individuals, being a victim of racism, discrimination, and stigma has become their social norm in order for them to feel "normal" because it is what identifies them similarly with their group (Crocker & Major, 1989). By normalizing the stigma they are associated with, they are able to build positive appraisals of themselves, hence making it less salient and negative (Becker & Arnold, 1986). This perspective explains the creation of Deaf culture because instead of regarding themselves as stigmatized, they help themselves build a sense of worth by becoming a member of a certain group that shares similar experiences (Jones, 2002).

As a Dysfunctional Phenomenon
Although psychological distress may be seen as a normal reaction, especially among Deaf individuals and PWDs, in general, it may also be viewed as an issue of clinical concern because it creates an emotional disturbance that shows symptoms of depression and anxiety (Mirowsky & Ross, 2002; Wheaton, 2007). It also serves as a diagnostic criterion of several psychiatric disorders specified in DSM-5 (Phillips, 2009; Watson, 2009), including those classified under depressive disorders, anxiety disorders, trauma- and stressor-related disorders, obsessive-compulsive and related disorders, and bipolar and related disorders (American Psychiatric Association, 2013). In the context of the Deaf population, psychological distress as a dysfunctional phenomenon is also rampant. The most common problems being referred to psychotherapies and counseling include clinical depression, different forms of anxiety, sexual identity issues, and Deaf identity issues. Furthermore, mental disorders that are commonly found among them include bipolar disorders, schizophrenic disorders, and substance abuse (Postsecondary Educational Programs Network [PEPNet 2][3], n.d.).

The wide continuum of psychological distress—as a normal reaction to becoming a dysfunction phenomenon—applies to Deaf individuals. Although the Deaf population contend it to be a relevant part of their culture caused by the stigma associated with their disability, there are also some exacerbated cases where psychological distress becomes a cause of their mental illness.

Environmental Vulnerabilities Among Deaf Individuals

Deafness poses several impacts on the individual not only on the physical aspect but also on the social, psychological, and cognitive aspects of their well-being. Despite the impact it carries on the individual, studies show that it does not result to psychological distress but their interactions in the hearing world (Tysoe, 2010; Sheppard, 2008; Leigh & Pollard, 2003). As Rutter (2000) described, deafness is a risk indicator, but its interaction with the environment makes up the proximal risk mechanisms (i.e., which directly cause the disease) among Deaf individuals. Examples of this include hearing parents, communication barriers, additional disabilities, and lack of mental health services (MacMillan et al., 2001; Turner et al., 2007; PEPNet 2, 2015; Lier, 2013, Brown & Cornes, 2014).

Hearing Parents

Mitchell and Karchmer (2004) and Moores (1987) cited that about 90% of Deaf infants are born from hearing parents. This is a significant factor that may explain the well-being of most Deaf children. In particular, Deaf children experience frustrations because of their unmet needs and wants due to the inability of the parent to respond efficiently to them, thereby making them more susceptible to language delays (Moog & Geers, 1985).

Communication Barrier

The language delays of Deaf individuals result in communication barriers, which escalate between them and their hearing peers, especially when they start schooling. This eventually results in the development impairment of their social skills (Bauman & Pero, 2011), which has several impacts on the child's growth. Being misunderstood by the majority, Deaf individuals are more exposed to incidences of bullying and discrimination because their condition is beyond the norm of hearing individuals. In particular, opportunities in education and employment are limited because of the majority's misconceptions about their abilities (Michael et al., 2013). Also, they become more prone to be victims of different forms of abuse, regardless of age (Kvam, et al., 2007; Hindley, 2005). Because of the communication barrier, they are unable to disclose the incident of abuse due to their difficulty in describing it with their limited vocabulary (Sullivan et al., 2000).

These circumstances show that the communication barrier has several impacts on Deaf individuals, hence adversely affecting their social living and functioning.

Additional Disabilities

Deaf individuals are also prone to acquire additional disabilities, which further affects their mental health. This includes behavioral disorders, learning difficulties, motor and visual impairments, and developmental delays (Knoors & Vervloed, 2003). This also becomes a source of getting bullied by both hearing and Deaf because they perceive them as weak and unable to cope effectively (Bauman & Pero, 2011).

Lack of Mental Health Services

The problems encountered by Deaf individuals show the great need for access to mental health services. However, these services are extremely lacking because very few clinicians are culturally and linguistically competent to provide services for the Deaf population (Wilson & Schild, 2014; Luckner & Bowen, 2006). Glickman (2003) emphasized that to be a competent clinician for the Deaf, one does not only need to be proficient and knowledgeable in mental health and sign language but also be able to have a holistic understanding of what deafness is. The National Association of the Deaf (NAD, 2003) posited that mental health care services for the Deaf and hard-of-hearing should be given great importance, and thus be provided at an optimal level. This includes direct communication with the client, sensitivity and understanding of one's culture, and sensitivity to various effects of hearing loss.

Because of these demands, only a few find interest in specializing in this unique sector of our population, hence accruing several issues. Critchfield (2002) mentioned that interventions and services given to hearing clients are not as equally effective for Deaf clients. In terms of psychological assessments, the use of some instruments may be invalid and unreliable due to the unstandardized accommodations provided for them (Fellinger et al., 2012). Also, the presence of an interpreter to mediate between the clinician and the Deaf client can create relational complications and result in misdiagnosis (Vernon & Leigh, 2007).

These vulnerabilities are unique to the experience of being Deaf. Albeit, some Deaf individuals do not experience these vulnerabilities or are able to withstand these vulnerabilities, hence are able to lead healthy

lives (NAD, 2003). This may be attributed not only to the absence of these vulnerabilities but also to the presence of certain protective factors that help them become resilient to stress.

Protective Factors

Protective factors are important in combatting the effects of environmental vulnerabilities. Ingram and Luxton (2005) defined the construct as those that promote resilience to individuals against the adverse effects of life stress. Werner (2000) further expounded on this by referring to them as moderators of vulnerabilities and life stresses that enhance good and developmentally appropriate outcomes, of which resilience is the end product. These definitions show that protective factors are important resources to protect individuals from vulnerabilities and promote resilience (Ostazewski & Zimmerman, 2006).

In the context of Deaf individuals, Young et al. (2011) reframed the concept of resilience among Deaf individuals because it is difficult or different to achieve among them. They defined resilience as the "successful navigation of the experience of being deaf in a world that creates risks that might impede self-fulfillment, safety, and well-being" (p. 12). This implies that protective factors among Deaf individuals are the resources necessary for navigating Deaf experiences in being in a hearing world. More importantly, understanding the role of protective factors among Deaf individuals is also essential because studies show that its impact may not be as powerful in the context of extreme risks (Vanderbilt-Adriance & Shaw, 2008).

The stress-vulnerability-protective factors model (Liberman, 2008) is one theoretical approach to understand the mechanism of protective factors. This model is a reformulation of the diathesis-stress model that aims to emphasize the role of rehabilitation and treatment interventions (Northcut, 2011). Similar to the assumption of the diathesis-stress model, it accounts for a biopsychosocial perspective, purporting that psychological disorders develop when one's vulnerabilities to stress (biological, psychological, social, environmental) and stressful life events interact and exceed the individual's thresholds (Lazarus, 1993). As this model emphasizes rehabilitation, it includes the role of protective factors in explaining how an individual can counterbalance the effects of stress and vulnerability. In particular, Liberman (2008)

hypothesized that when there are fewer stressors or when protective factors are strengthened, the individual shifts to a more stable and recovered state, thereby improving one's symptomatology, cognitive and social functioning, and quality of life. Hence, suggesting a moderating role of protective factors (e.g., Hardaway et al., 2016; Baldry & Farrington, 2005).

Among the Deaf population, Sheppard (2008) contended that the diathesis-stress model is an applicable framework among culturally Deaf adults. In particular, she hypothesized that one's interactions in the hearing world make up the diathesis, whereas events such as needing health care services are the stressors that increases one's symptomatology. In terms of protective factors, there are a wide variety of resources that can be investigated. Studies show that it can be internal (e.g., personality traits, determination, self-efficacy) or external (e.g., family support, quality interaction with parents, school support; Dias & Cadime, 2017).

Self-Efficacy

Bandura (1977) defined the concept as one's ability to execute behaviors that lead toward attainment of specific goals, achievements, or performance. Although usually seen as task-specific, some researchers use the concept of general self-efficacy (GSE) to refer to a broader and stable sense of one's personal competence, especially when the context is less specific (Schwarzer & Jerusalem, 1995). Luszczynska et al. (2005) cited that GSE is useful when focusing on multiple behaviors and when studying one's well-being.

Several foreign researches (e.g., Michael et al., 2013; Jones et al., 2007) that tackle specific self-efficacy of the Deaf population have been made. In particular, the results of these studies provide support that Deaf individuals generally have moderate to high self-efficacy despite their disability. However, no literature was available on explicating the effects of self-efficacy on their psychological distress.

Social Support

House (1981) defined social support as an interpersonal transaction that involves emotional and instrumental aspects. It is a multi-dimensional construct that can be differentiated into two: functional and structural (Sarason & Sarason, 1985). Functional support focuses on the qualitative characteristics of support, such as the perception of received support and

content of interpersonal relationship (e.g., material aid and emotional support)s, whereas structural support focuses on the quantitative aspect, such as frequency and size of received support (Lakey & Cohen, 2000; as cited in Gallo et al., 2015). In further understanding the distinction between the two, theories explicating their effects on stress is made. The main effect model focuses on structural social support, stating that the level of available social support increases health-promoting behaviors and sources of help, and strengthens self-confidence and security. On the other hand, the stress-buffering model focuses on functional social support, stating that under conditions of stress, perceived availability of social support leads to less pessimistic appraisals of the environment and the self (Cohen et al., 2000). These show that although structural support directly effects stress, functional support may either buffer or indirectly affects stress (Cohen & Wills, 1985). Not many studies have been made in terms of social support of Deaf individuals. Usual empirical studies would investigate the social support that hearing parents have to buffer parenting stress (e.g., Poon & Zaidman-Zait, 2014; Lederberg & Golbach, 2002).

The available literature provides empirical evidence that general self-efficacy and functional social support are protective factors against one's distress. However, no study was found to investigate the effect of these protective factors on the Deaf population vis-à-vis their environmental vulnerabilities and psychological distress. Using the assumptions of stress-vulnerability-protective factors model, this study confers the following relationships (See Figure 1):

(1) As environmental vulnerabilities increase, the level of psychological distress increases; and

(2) General self-efficacy and perceived functional social support moderate the relationship between environmental vulnerabilities and psychological distress, such that
   (2a) as general self-efficacy increases, the relationship between environmental vulnerabilities and psychological distress decreases to a lesser extent only;
   (2b) as perceived functional support increases, the relationship between environmental vulnerabilities and psychological decreases to a moderate extent; and
   (2c) as general self-efficacy and perceived functional social support increase, the relationship between environmental vulnerabilities and psychological distress decreases to a great extent.

By addressing this research gap, additional empirical evidence on Deaf mental health is provided. More importantly, this can serve as a basis for recommendations for future research and clinical
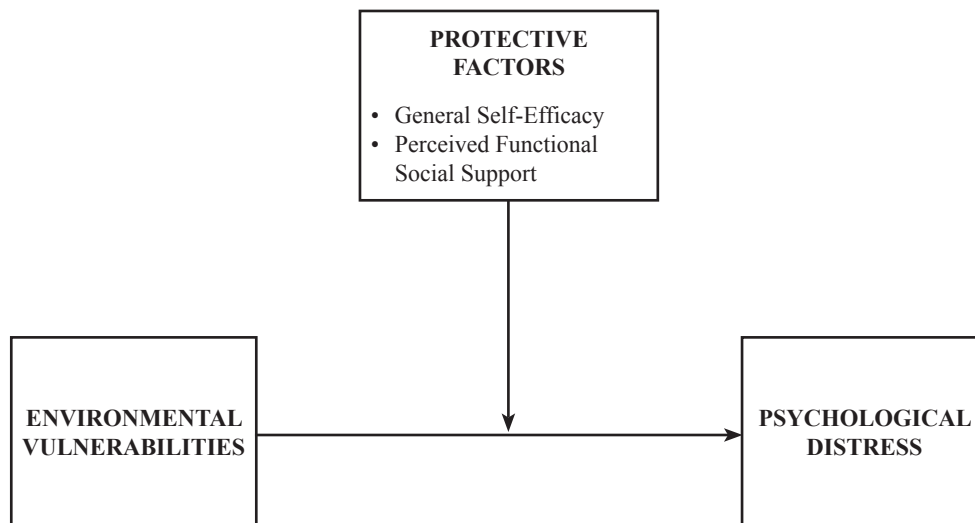

Figure 1. Moderating Role of Protective Factors on Environmental Vulnerabilities and Psychological Distress of Deaf Individuals

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practice that could aid in contributing to the mandates of UNCRPD and Magna Carta for PWDs in promoting inclusion for everyone.

Methods

Research Design

A cross-sectional, explanatory design was used in this study. Environmental vulnerabilities served as the independent variable. Protective factors, specifically general self-efficacy and perceived functional social support, served as the moderators, whereas psychological distress is the dependent variable. These variables were measured using the scales used in previous studies that were found to be reliable.

Participants

Purposive sampling was used in this study because a pre-determined target group was needed to accomplish its objectives. In particular, 120 self-contained Deaf college students were included in the study to minimize the presence of possible extraneous variables. By limiting the group into self-contained students only, participants experience the same school environment and class interactions, thereby limiting the variance in terms of exposure to environmental vulnerabilities.

Instruments

To measure the variables in this study, one self-made checklist and three Likert scales were used in this study. These instruments were translated to Filipino Sign Language and administered in video format to ensure similarity across data-gathering sessions.

Environmental Vulnerabilities Checklist

A self-made checklist was specifically made for this study to measure the number of environmental vulnerabilities experienced by Deaf individuals. This is a 10-item checklist that focused on four environmental vulnerabilities, namely: (a) hearing parents, (b) communication barriers, (c) additional disabilities, and (d) lack of mental health services. The total number of present environmental vulnerabilities was used as the measure for environmental vulnerabilities. Overall Cronbach's alpha yielded .278 for the translated version of this scale, which is contributed by the low correlations between items. This may be due to the varying experience of Deaf individuals across context (i.e.,

communication difficulty is present with family but not with friends; or they may have hearing parents but not experience communication difficulty).

General Self-efficacy Scale (GSE, Schwarzer & Jerusalem, 1995)

This is a 10-item unidimensional scale that measures perceived general self-efficacy. It is a four-point Likert scale (1 – not all true to 4 – exactly true) where participants appraised themselves in terms of their capabilities. The overall total of the 10 items was yielded to generate a measure of one's perceived general self-efficacy, such that the higher the score, the higher one's measure of self-efficacy is. Cronbach's alpha yielded for the translated version of this scale is .763.

Interpersonal Support Evaluation List–12 (ISEL-12; Cohen et al., 1985).

This is a 12-item three-dimensional scale that measures perceived functional social support. It is a four-point Likert scale (1 – definitely false to 4 – definitely true) where participants evaluated the perceived availability of resources they have in times of need. Three kinds of social support are being measured in this instrument: appraisal, belonging, and tangible social support, where each subscale is composed of four items. There were six items to be reverse scored for this scale. For this study, the overall average of the 12 items was yielded to generate a general measure of one's perceived functional social support. Cronbach's alpha yielded for the translated version of this scale is .328, which is attributed to the low correlations between items. Similar to Environmental Vulnerabilities Checklist, low reliability of this scale explicates that Deaf individuals experience varying qualities of functional support from different sources of people.

Depression Anxiety Stress Scale–21 (DASS-21; Lovibond & Lovibond, 1995)

This is a 21-item 3-dimensional scale that measures psychological distress, namely depression, anxiety, and stress. It is a four-point Likert scale (1 – never to 4 – almost always) where participants evaluated themselves in reference to their emotions. Each subscale is composed of seven items. For this study, the overall average of the 21 items was yielded to generate a measure of one's psychological distress.

Cronbach's alpha yielded for the translated version of this scale is .841.

Data Gathering Procedure

To comply with the ethical considerations in conducting researches among PWDs, accommodation in the administration of instruments was primarily given importance to respond to the needs of Deaf participants. Gathering of data was conducted face-to-face with the participants on a group basis (maximum of 20 participants per administration), and informed consent was provided in print and Filipino Sign Language. Instruments used were presented in video format to ensure consistency across administration sessions.

Responses were encoded, and some items reverse-coded. Descriptive statistics were reported to account for the psychological profile of Deaf individuals. Hierarchical regression analysis was performed to confirm the buffering effect of general self-efficacy and perceived functional social support. In particular, three hierarchical regression analyses were run to compare the coefficients of determination (r^2) among the following: (a) general self-efficacy as the only protective factor; (b) perceived functional social support as the only protective factor; and (c) general self-efficacy and perceived functional social support as protective factors. Variables entered in the regression were standardized (mean-centered) to avoid multi-collinearity. To confirm significant predictions and interactions, a p-value of .05 was used.

Results

Psychological Profile of Deaf Individuals

Most Deaf participants are exposed to two environmental vulnerabilities, namely, hearing parents and communication barriers. About 96% of them come from a hearing parent, whereas almost half of them expressed the consequences of having a communication barrier outside of their family. In particular, they associated deafness with having few friends (47%) and less social engagements with their hearing peers (42%). Meanwhile, only 9% of them expressed having additional disability, whereas 31% said that they did not have proper access to mental health services.

In terms of their protective factors, results show that Deaf participants yielded high and low levels of self-efficacy and perceived functional social support, respectively ($\bar{x}$ = 3.09, SD = .4; $\bar{x}$ = 2.72, SD = .3). Meanwhile, their psychological distress is higher compared to the norm. In particular, they have moderate level of depression ($\bar{x}$ = 15.98, SD = 6.67), severe level of anxiety ($\bar{x}$ = 17.45, SD = 6.15), and mild level of stress ($\bar{x}$ = 18.97, SD = 6.13).

Interplay among Distress, Vulnerabilities, and Protective Factors

Table 1 shows the values of Pearson product-moment correlation coefficients (r) derived from the variables being investigated in this study. Results show that the presence of environmental vulnerabilities is inversely associated with both self-efficacy and social support, but not with psychological distress. This shows that Deaf individuals with greater environmental vulnerabilities tend to have lower levels of self-efficacy and social support. A direct relationship is also found between self-efficacy and perceived functional social support, such that a high level of self-efficacy relates to a high level of perceived functional social support. In contrast, a low level of self-efficacy relates to a low level of perceived functional social support. On the

Table 1

Relationships Among Distress, Vulnerabilities, and Protective Factors

	1	2	3	4
1 Psychological Distress	1	.014	-.148	-.223*
2 Environmental Vulnerabilities	.014	1	-.256**	-.215*
3 General Self-Efficacy	-.148	-.256**	1	.185*
4 Perceived functional social support	-.223*	-.215*	.185*	1

Note: *, p<.05; **, p<.01

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other hand, psychological distress is found to have an inverse relationship with perceived functional social support only. This shows that Deaf individuals with a higher level of psychological distress tend to have a lower level of perceived functional social support.

Given the identified relationships between variables, it was deemed plausible not to pursue moderation analyses because there is no association found between environmental vulnerabilities and psychological distress. However, regression analyses were still pursued to identify the causes of psychological distress and understand the protective roles of general self-efficacy and perceived functional social support among Deaf individuals.

Role of Protective Factors in a Deaf's Psychological Distress

The non-significant relationship between environmental vulnerabilities and psychological distress entails that there is no direct influence occurring between them, $R^2 = .00$, $F(1, 118) = 0.024$, $p > .05$. However, when protective factors were

Table 2

Summary of Hierarchical Regression Analysis on Variables Predicting Psychological Distress

Variable	Model 1			Model 2		
	B	*SE B*	β	*B*	*SE B*	β
Self-Efficacy as the only protective factor						
Environmental Vulnerabilities	-.022	.081	-.025	-.022	.083	-.026
General Self-Efficacy	-.133	.081	-.154	-.133	.083	-.155
Int (EV x SE)				-.002	.085	-.002
R²		.022			-.022	
F for change in R²		1.343			.001	
Social Support as the only protective factor						
Environmental Vulnerabilities	-.030	.079	-.035	-.036	.081	-.042
Perceived functional social support	-.199	.079	-.231*	-.205	.082	-.238*
Int (EV x SS)				-.021	.057	-.034
R²		.051*			.052	
F for change in R²		3.142			.130	
Self-Efficacy and Social Support as protective factors						
Environmental Vulnerabilities	-.055	.081	-.064	-.056	.083	-.065
General Self-Efficacy	-.107	.081	-.125	-.099	.083	-.115
Perceived functional social support	-.184	.080	-.214*	-.196	.085	-.228*
Int (EV x SE)				.037	.094	.040
Int (EV x SS)				-.025	.064	-.041
R²		.065*			.067	
F for change in R²		2.696			.109	

Note: *, p<.05

added to environmental vulnerabilities, its effect on psychological distress becomes different. Table 2 shows the results of hierarchical regression analysis on three different models hypothesized in this study.

From the three hypothesized models in this study, results reveal that no model explains the occurrence of psychological distress among Deaf individuals. In particular, the interaction effects between environmental vulnerabilities and protective factors are not significant across three models. This shows that both general self-efficacy and perceived functional social support do not act as buffers among Deaf individuals. However, the second and third model show that perceived functional social support has a direct influence on their psychological distress, t(120) = -2.502, p < .05, and t(120)=-2.303, p < .05, respectively. Hence, the psychological distress of Deaf individuals is not caused by the environmental vulnerabilities they experience but by their perception of social support.

Discussion

Contrary to the hypotheses of this study, results showed a non-significant relationship between environmental vulnerabilities and psychological distress. This entails the inapplicability of Liberman's (2008) stress-vulnerability-protective factors model. However, further analysis showed that even though they have a non-significant relationship, it is linked through perceived functional social support but not general self-efficacy. Instead of acting as a moderator, perceived functional social support mediates the relationship between environmental vulnerabilities and psychological distress, as seen in Figure 2.

Non-Significant Relationship Between Vulnerabilities and Psychological Distress

There are two factors that may contribute to the non-significant relationship between environmental vulnerabilities and psychological distress: (a) normalizing environmental vulnerabilities and (b) occurrence of inconsistent mediation.

Normalizing Environmental Vulnerabilities

The non-significant relationship between environmental vulnerabilities and psychological distress can be attributed to Drapeau et al.'s (2012) view of psychological distress as partially bounded by culture. This implies the importance of Deaf individuals' acceptance of Deaf culture because it instigates a positive view of the self. Being a member of a group who shares common experiences—whether it be positive or negative—is regarded as a "normal" phenomenon caused by their condition (Crocker & Major, 1989). Among Deaf individuals, the presence of environmental vulnerabilities has become a cultural norm, as confirmed by the results of this study, which shows that majority of the participants have hearing parents and are exposed to communication barriers that limit their interaction in society. By normalizing these negative experiences, they make these less salient and less negative in their well-being (Becker & Arnold, 1986). This also explains the high level of self-efficacy among Deaf individuals. Even though they are exposed to more environmental vulnerabilities than their hearing counterparts, they perceive themselves as competent and able to overcome these adversities because others are also able to withstand these experiences.
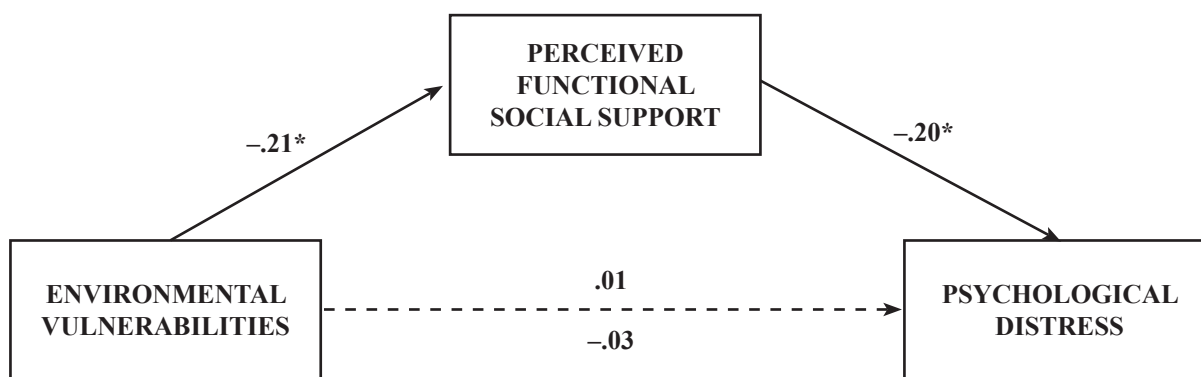

Figure 2. Mediating Role of Perceived Functional Social Support on Environmental Vulnerabilities and Psychological Distress of Deaf Individuals

Aside from the role of culture, societal pressure (Drapeau et al., 2012) also led to the non-significant relationship between environmental vulnerabilities and psychological distress because they perceive these vulnerabilities as something they cannot do anything about. This is demonstrated in the study conducted by Katipunan ng Maykapansanan sa Pilipinas, Inc. and Disability Rights Promotion International (2009), which revealed that PWDs opt not to report instances of human rights violations because they have already associated it as part of their identity. In the context of Deaf individuals, they perceive environmental vulnerabilities as the pressure to interact with hearing individuals. However, instead of doing something about it, they choose to let go and accept as it is because of several possible reasons: (a) lack of confidence that they will be protected, (b) lack of knowledge about their rights; (c) choice to avoid being in trouble; (d) fatalistic attitude; and (e) belief that disabilities are a gift from God and His will for them (Katipunan ng Maykapansanan sa Pilipinas, Inc. & Disability Rights Promotion International, 2009).

Occurrence of Inconsistent Mediation

Even though this study rejected the moderating role of protective factors, further analysis showed that there is inconsistent mediation, as shown in Figure 1. This also explains why there is a non-significant relationship between environmental vulnerabilities and psychological distress. As the direct effect ($c' = -.03$) and indirect effect ($ab = .04$) are opposite in signs, they tend to cancel each other out, thereby resulting in non-significance of the total effect ($c = .01$) (MacKinnon et al., 2007). Meanwhile, the indirect effect yielded a significant result using the bootstrapping method with 5,000 resamples and bias-corrected confidence intervals. This shows that environmental vulnerability affects psychological distress through the presence of perceived functional social support.

Perceived Functional Social Support as a Mediator

Instead of acting as a moderator, this study reveals that perceived functional social support acts as a mediator between environmental vulnerabilities and psychological distress. An increase in environmental vulnerabilities leads to a decrease in perceived functional social support, which in turn leads to an increase in psychological distress. This can be attributed to the unique context of Deaf individuals in a hearing society.

As presented in several researches, Deaf individuals experience adverse social living and functioning due to the effects of communication barriers. In particular, they experience limited opportunities in education and employment (Michael et al., 2013) and different forms of abuse (Kvam et al., 2007; Hindley, 2005), among others. These imply relational problems, which in turn affect their perception of available support for them. This is especially deleterious in the Philippine context due to their collectivist nature, where social support is associated with hands-on support such as advice, personal assistance, and being challenged (Fernandez, 2012).

The presence of hands-on support may be difficult to achieve due to the social norm of hearing individuals and the stigma associated with Deaf individuals. Advice from significant others may not be easily accessible, especially if there is no access to sign language. Personal assistance is dependent on how their significant others treat them. Being challenged is a constant dilemma among Deaf individuals, but the support of others is hardly present. Because of these indifferences, their perception of available support diminishes because of the risks that they are confronted in dealing with hearing individuals. This is consistent with Vanderbilt-Adriance et al.'s (2008) findings that protective factors vary across context and has the tendency to diminish in extreme risks. This purports that among Deaf individuals, perceived functional social support cannot protect one's well-being because it is affected by one's exposure to environmental vulnerabilities. Hence, the mediating role of perceived functional social support reinforces Young et al.'s (2011) view of resilience as different and difficult to achieve among Deaf individuals. Instead of acting as a resource toward resilience, this study reveals that protective factors, such as perceived functional support, cannot protect individuals against adversities because it interplays with the environmental vulnerabilities that are present to the individual. As such, protective factors cannot guarantee Deaf individuals toward a "successful navigation of the experience of being deaf in a world that creates risks" (Young et al., 2011, p. 12).

These findings provided evidence that support is not necessarily seen as a protective factor because it is not readily available among Deaf individuals. To contribute to the improvement of Deaf mental

health, qualitative research on this area may be done in order to provide a deeper understanding of how Deaf individuals view social support and thereby identify appropriate social support services that will be beneficial for them. Aside from this, a moderating study on other protective factors cited in the literature (e.g., structural social support and self-regulation strategies) may be done to identify possible resources of Deaf individuals not considered in this study.

In terms of psychometrics, the small number of participants may have contributed to the poor reliability of the tests administered in this study. With this, future studies may explore expanded age groups to aid in a higher reliability index. In particular, Deaf adolescents, young adults, and adults may be included in one study to increase the number of individuals who will be qualified to participate. Also, expanding the age groups will contribute to a higher reliability index and provide insight into whether age affects the level of psychological distress among Deaf individuals. Moreover, poor reliability may also entail the need for developing tools that are appropriate for Deaf participants. To date, test translation and adaptation of psychological tools in Filipino Sign Language are not available due to the tedious process and lack of available experts. However, this step is seen as an integral part of contributing to a Deaf's mental health to provide them with an accurate assessment.

Overall, the inapplicability of the theory used in this study shows the vulnerability of Deaf participants in terms of their mental health, and the complexity of providing clinical interventions to them. These show the greater need for research and clinical practice to take action in helping the Deaf community. Although greater skills set are needed to serve them, this research hopes to serve as eye-opener among mental health researchers and clinicians that by responding to the needs of the Deaf community, the society will be better able in implementing the mandates of UNCRPD and Magna Carta for PWDs to promote inclusion that provides better access and equality for everyone.

Declaration of ownership:

This report is my original work.

Conflict of interest:

None.

Ethical clearance:

This study was approved by the institution.

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Footnotes

[1] UNCRPD is the first human rights treaty of the third millennium that included an explicit sustainable development dimension for persons with disabilities. As of 2016, this treaty has 160 signatories and 168 parties (including the Philippines).

[2] This research adapts the sociocultural view of deafness – as a culture, a way of life to be lived (Power, 2005). Hence, the Deaf population will be represented with a capital "D". This will be done to delineate from the stigma and prejudice being created by some members of the society.

[3] PEPnet 2 is a funded project of the US Department of Education whose primary mission is to uplift the lives of Deaf and hard of hearing individuals. It is a collaboration of professionals whose expertise is in research and other relevant content areas to support its stakeholders through provisions of technical assistance, personnel development, research, and evidence synthesis.