Terror Management Theory and Mental Health Stigma. Testing the worldview defense in mental health professionals

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Abstract

People with mental health disorders experience exclusion and discrimination due to mental health stigma which includes misconceptions, negative attitudes and stereotypes against them. According to the Terror Management Theory, the worldview defense hypothesis states that mortality salience leads people to cling to their preexisting worldview. The aim of this study was to investigate, through a quasi-experimental design, the effect of mortality salience condition on stigma of mental illness among mental health professionals. The study involved 81 participants (79.0% women, mean age: 33.8 years, 43 in the experimental group) of which 47 (58%) psychologists, 23 (28.4%) social workers, and 11 (13.6%) psychiatrists. Two questionnaires (experimental and control group) were shared via internet, including the Social Dominance Orientation tool, the Mortality Attitudes Personality Survey, the PANAS scale, a scale to evaluate Mental Health Stigma perceptions for people suffering from Depression, Anxiety / Panic Disorders and Schizophrenia, using 9 clusters of statements (e.g. "are isolated," "cannot work normally," "have self-destructive tendencies," "pose a risk to others") and a scale to evaluate out of workplace contact with people with mental disorders. The experimental group (Mortality Salience) showed systematically lower rates of stigma scores regarding people suffering from Anxiety and Depression. Participants having out of work contacts with people with mental conditions showed lower stigma scores for Schizophrenia in the experimental group. Social Dominance Orientation was positively related to mental health stigma in the total sample; however, when examined in the experimental and the control group separately, there were not statistically significant correlations. The findings of the present study confirm to some extent the worldview defense hypothesis. A potential explanation to this might be that the activation of personal vulnerability triggers the activation of systems of subjective sense of vulnerability which then mobilize mental health professionals to be attached to their worldview and be supportive to stigmatized groups suffering from mental health illness.

Keywords: mental health stigma, mortal salience, mental health workers, worldview defense

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Introduction

Mental health stigma is associated with negative stereotypes against people with mental health illness. According to Corrigan et al. [1] mental health stigma includes beliefs that people with mental illness are unpredictable, dangerous, responsible for their illness and cannot recover even after treatment. In general stigmatization has emotional and behavioral dimensions [2-3] including adoption and reproduction of inaccurate stereotypes, prejudicial attitudes, and discriminatory behaviour towards individuals experiencing specific conditions or belonging to specific social groups, as people with physical or intellectual disabilities [4].

As suggested by Crisp [5], stigmatization of mental illness is considered to be one of the most important issues for the mental health field. Individuals suffering from mental health conditions, in addition to the negative effects and impairments related to the disorder itself have to face and overcome the social stigma of mental health disorders. This additional load, works in a multiplicative way, aggravating and creating further barriers to personal development and treatment [6-10].

The field of Social Psychology, in an attempt to understand the phenomenon of stigma and explore ways to combat its effects, focuses not only on its detailed description, but also on the causal mechanism behind it, how it is created. Previous studies focused on social cognitive processes such as intergroup prejudice, reception of stereotypes [11], fear of threat and disorder [12], terror management and stigma [13-15].

Contact

For decades, researchers and practitioners have been speculating about the potential for intergroup contact to reduce intergroup prejudice [16]. In his seminal work Allport [17] introduced the most influential statement of intergroup contact theory claiming that contact between groups under optimal conditions could effectively reduce intergroup prejudice. More specifically, Allport suggested that reduced prejudice occurs when four features of contact are present: equal status between the groups in the situation; common goals; intergroup cooperation; and the support of authorities, law, or custom [17].

Regarding mental health stigma, previous contact was associated with less desire for social distance, lower scores in stereotypes and more positive attitudes toward individuals with mental illness [18-20]. In the same context, other studies [21] revealed that more contact was associated with lower scores on attitudes that consider the mentally ill person as dangerous and unpredictable. Nevertheless, the most negative stereotypes accompanying mental health stigma are those regarding schizophrenia [22]. The diagnosis of, of schizophrenia is associated with higher degree of stigmatization compared to depression [23] and contact with mental illness only partially diminished attitudes and discrimination towards them [24]. According to Corrigan, Kerr and Knudsen [25] mental health stigma of schizophrenia is related to the belief that those who are affected by this illness are dangerous and unpredictable, which leads to negative emotional reactions such as fear and aggression, ultimately resulting in an increased desire for social distance.

Ideology and Mental Health Stigma

Adorno et al. [26], in their groundbreaking work on ideology, suggested that attitudes about socio-political issues seemed to be highly correlated. These attitudes form two dimensions; the first is that with antisemitism, prejudice toward outgroups and minorities, politically conservative attitudes, excessive and uncritical patriotism, while the second is that of socially liberal attitudes, tolerance toward outgroups and minorities, and egalitarian beliefs. The approach according to which the ideological social attitudes might be organized in two distinct dimensions came to the fore with the development of two constructs, those of Right-Wing Authoritarianism and Social Dominance Orientation [27].

Social Dominance Orientation (SDO) is "*a general attitudinal orientation toward intergroup relations, reflecting whether one generally prefers such relations to be equal, versus hierarchical*" [28]. People with high-SDO prefer to rank social groups in a hierarchy according to superiority. SDO has been found to be predictive of various types of prejudice,

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including ethnic prejudice [29] and prejudice toward individuals with mental illness [30-31]. According to Grandón Fernández et al. [32] and their work regarding mental health stigma, it was observed positive correlation between Social Distance Scale and SDO, while authoritarian along with rejecting attitudes towards certain social groups had negative association with the establishment of close and trusting relationships with these groups.

In addition, political conservatism was significantly associated with perceived danger from individuals with mental illness [20], while conservative attitudes was significantly associated with perception according to bad character is attributed to mental illness [33]. Furthermore, a similar concept with Social Dominance Orientation, the Right-Wing Authoritarianism was related to harsher sentencing and less empathy toward someone with schizophrenia [34] as well as lower evaluation and less comfort for a hypothetical job candidate with schizophrenia [35].

Terror Management Theory

According to the Terror Management Theory (TMT) the idea of personal death causes a sense of threat and uncertainty in the ontological security of the individual [36-37]. Humans try to manage the awareness of the inevitability of death in various ways, for example through myths, religion, science and medicine as well as through family and work [38].

TMT similarly proposes when we think about our mortality (e.g., by answering questions about death or experiencing subliminal death primes), we react on a personal level, enhancing us self-clarity [39] and self-esteem [40], as well as on a social level (i.e., defending cultural worldviews and ingroups) [41].

More specifically, TMT supports that the juxtaposition of the awareness that death is inevitable with the desire for survival is the most fundamental threat to someone. Investment in groups and shared worldviews buffers the anxiety associated with the inevitability of death. In such a way, any threat to the group, or to the value of someone within the group, causes anxiety by weakening this anxiety buff-

er functioning [42]. In other words, we create and maintain cultural systems of meaning and values in order to minimize the distress and anxiety related to death and instill hope through beliefs about immortality [43].

The attachment to cultural values and institutions enables individuals to construe themselves as valuable, memorable contributors to larger entities that continue to exist after their death, such as family, communities or nations [44]. TMT claims that exposure to mortality salience increases the dependency on internalized cultural worldviews as well as the preference for those supporting the same worldviews.

However, during the development of the TMT, two different hypotheses have been formulated based on the fact that the mortality salience promotes: a) worldview defense and b) conservative shift [45]. According to the worldview defense hypothesis, mortality salience leads people to cling to their preexisting worldview (adherence to one's pre-existing worldview), while according to the conservative shift hypothesis, mortality salience elicits a general shift toward more conservative values, attitudes and preferences. These lines of research have sparked considerable debate between proponents of the worldview defense hypothesis [46] and proponents of the conservative shift hypothesis [47-48]. However in the meta-analysis of Burke, Kosloff, and Landau [45] the worldview defense hypothesis yielded a large overall effect size.

Present Study

The purpose of the present study is to experimentally examine the relations among mortality salience, contact, ideology and mental health stigma in mental health professionals. As suggested by Martin et al. [49] there is difference in attitudes regarding stigma for mental health depending on the pathological category. Based on this, separate evaluations for stigma toward people with depression, anxiety disorders and schizophrenia have been used for this study.

Although there are few studies that have studied stigma through the TMT [13-15] this study is the first that attempts to investigate the worldview defense hypothesis. Based on

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this hypothesis, mental health workers in the experimental group (Mortality Salience) is expected to show lower scores on stigma indices for Anxiety, Depression and Schizophrenia. Stronger differences between the experimental and control group are expected regarding the group of people suffering from Anxiety and Depression compared to Schizophrenia, as the latter is associated with a greater degree of overall burden. Relying on the intergroup contact hypothesis [17], more contact with people with mental illness, even out of the workplace, is expected to be associated with lower stigma levels. The ideological parameters are related both to the sample consisting of mental health professionals who have more positive predisposition towards the mental health stigma in relation to the general population, and to the evaluation of crude ideological predispositions through the SDO. Moreover, SDO is expected to be associated with higher levels of stigma. As no other relevant studies are available, it would not be safe to make clear assumptions about the interaction between experimental manipulation, contact and SDO regarding mental health stigma.

As the participants are mental health professionals, out of work contact with people with mental disorder is not expected to differentiate significantly the results of the experimental manipulation. Differences on positive and negative emotions after the experimental manipulation were not expected.

Methods

Participants

Eighty-one (81) mental health workers participated in the study, being invited through email. The sample was determined by convenient personal contacts Out of the 81 participants 17 (21%) were men and 64 (79%) women. As for participants' job, 47 (58%) were psychologists, 23 (28.4%) social workers and 11 (13.6%) psychiatrists. Their mean age was 33.82 years ($SD = 7.83$). Regarding contact with people with mental health all participants were in contact through their job, 51(64.6%) had frequent contact with a person with a mental illness out of their job and 22 (27.2%) had a person with mental illness in their close family circle. Participants

were randomly assigned to the experimental group (mortality salience condition) ($n = 43$, 53.1%) and the control group ($n = 38$, 46.9%). The two groups did not differ substantially in terms of gender and age.

Materials

Social Dominance Orientation

The greek translation of the SDO scale [50], introduced by Pratto et al. [28], consists of 16 items and measures the level of social dominance orientation that a person appear. All items were assessed with Likert-scales ranging from 1 to 7 (1=strongly disagree, 7=totally agree) where higher scores indicate stronger agreement with the question. Some item examples include the following statements: "Some groups of people are just inferior to others" (approving suggests high social dominance); "We would have fewer problems if we treated all groups equally" (approving suggests low social dominance). The scale presented high internal consistency, with its Cronbach's alpha coefficient to be equal to 0.83.

Mortality salience

The Mortality Attitudes Personality Survey [51] was administered in the mortality salience condition. Participants were asked prototypical open-ended questions regarding their mortality: "Please briefly describe the thoughts and emotions that follow the idea of your own physical death" and "Write down in detail what you think will happen to you as you die and once you are physically dead" [51]. In the control condition, participants responded to two questions regarding dental pain. This is a commonly used manipulation for control groups in experimental designs of TMT [41]. To further provide a distraction between the mortality salience exposure and the dependent measures, participants completed the PANAS scale.

PANAS

To assess emotions after the experimental manipulation we used 20 items of the Job Affect Scale [52] that assesses participants' experience of positive and negative effect on

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a 7-point scale. Examples of positive items include: enthusiastic, elated, active; while examples of negative affective states include: hostile, fearful, sleepy, etc. The positive and negative effect parts of the scale had satisfactory internal consistency (Cronbach's a. 81 and. 89, respectively).

Mental Health Stigma

For the compilation of the items, suggestions from previous instruments were used that assessed the stigma of mental illness [53-55]. The following nine items were selected: they are isolated; you cannot communicate with them; they cannot work normally; they do not recover, despite treatment; they are responsible for their own situation; they have an inherited predisposition; they should not start a family; they have self-destructive tendencies; they are a danger to others. The scale assesses participants' stigma attitudes on a 7-point scale (1=strongly disagree, 7=totally agree). The mean of the items composed an index of stigma for people suffering from Anxiety, Depression and Schizophrenia. Stigma indices had acceptable internal consistency (Cronbach's a:. 76 for Anxiety. 78 for Depression and. 80 for Schizophrenia).

Procedure

All measures were adapted to Greek from their original English versions by two bilingual researchers following back translation procedures [56]. Data collection was carried out in web-based survey using the platform of google forms. Two questionnaires (experimental and control group) was administered. Data collection took place after informed consent was granted. Participation was voluntary and no reward was offered. Questionnaire completion time did not exceed 30 minutes.

Results

Descriptive statistics

We found low scores of SDO (M = 2.21, SD = 0.78) and regarding Positive and Negative Affect on total sample higher scores observed for PANAS positive affect (M = 4.41, SD = 1.05) in comparison to negative affect (M = 2.65, SD = 1.17).

Overall, the highest score of stigma related attitudes was found for the item "people with schizophrenia have an inherited predisposition" and the lowest score for that of "people who have schizophrenia are responsible for their own situation". Regarding the above-mentioned indices the highest scores observed for people with schizophrenia (see Table 1).

***Table 1:** Mental health stigma descriptive statistics (N=81)*

	Depression		Anxiety/ Panic Attack		Schizophrenia	
	M	**SD**	**M**	**SD**	**M**	**SD**
They are isolated	4.64	1.58	3.28	1.68	4.61	1.53
You cannot communicate with them	2.70	1.65	2.37	1.54	3.90	1.66
They cannot work normally	3.54	1.75	3.00	1.74	4.21	1.60
They do not recover, despite treatment	2.27	1.48	2.25	1.45	3.98	1.60
They are responsible for their own situation	2.32	1.29	2.51	1.31	1.80	1.20
They have an inherited predisposition	3.67	1.51	3.04	1.54	4.77	1.47
They should not start a family	2.47	1.41	1.93	1.08	4.04	1.76
They have self-destructive tendencies	4.51	1.24	3.19	1.48	4.54	1.41
They are a danger to others	2.00	1.04	1.89	1.17	3.64	1.65
Stigma indices	3.12	0.85	2.61	0.87	3.94	0.96

Manipulation check

Self-reported affect. The two independent samples t-test was performed on the each of the subscales of the PANAS, revealing no significant effects on positive ($M_{Experimental}$ = 4.25, $SD_{Experimental}$ = 1.12, $M_{Control}$ = 4.59, $SD_{Control}$ = 0.96), $t(79)$=-1,46, p=0,144, d = 0.32 and negative effect ($M_{Experimental}$ = 2.75 $SD_{Experimental}$ = 1.26, $M_{Control}$ = 2.53, $SD_{Control}$= 1.05), $t(79)$=0,86, p=0,392, d = 0.20 regarding the experimental manipulation (mortality salience).

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Mental Health Stigma. Three independent samples *t* tests were performed on the indices of the three mental health groups (depression, anxiety and schizophrenia) comparing the scores between the experimental and the control group. We found that MS (Mortality Salience) exposure led to significantly lower scores on mental health stigma for people with Anxiety/Panic Attach (*t*(79) = -2.37, *p* =. 020, *d* = 0.52) and Depression (t(79) = -2.21, *p* =. 030, *d* = 0.50) (see Table 2).

Table 2: Independent samples t test comparisons on Stigma indices between experimental and control group.

Stigma index:	Experimental group		Control group					
	M	SD	M	SD	t	df	p	d
Depression	2.93	0.87	3.34	0.78	-2.21	79	.030	0.50
Anxiety/ Panic Attack	2.40	0.80	2.84	0.89	-2.37	79	.020	0.52
Schizophrenia	3.96	0.93	3.92	1.01	0.20	79	.839	0.04

Contact and Mental Health Stigma

Twelve independent samples *t* tests were performed on the indices of the three mental health groups (depression, anxiety, schizophrenia) regarding contact with people with mental health illness (a: out of work, b: in their family). Regarding contact out of work there were statistically significant differences in experimental group (mortality salience) on schizophrenia stigma index of (*t*(40)= -2.95, *p* =. 005, *d* = 0.96) with mental health workers that were in contact showing lower levels of stigma. we found statistically differences in depression stigma index (*t*(35) = -2.26, *p* =. 030, *d* = 0.77) with mental health workers that were in contact showing lower levels of stigma (see Table 3). Regarding contact with people with mental illness in their family, we did not find significant differences in none of the stigma indices

between the experimental (mortality salience) and control group (see Table 3).

Ideology and Mental Health Stigma

Spearman *rho* correlation was used between SDO and Stigma indices for Depression, Anxiety and Schizophrenia. The first analyses on the overall sample showed statistically significant correlation only for the Anxiety/Panic Attack Stigma Index (*rho* = 0.27, *p* =. 014) whereas non- significant correlations observed for the Depression Stigma Index (*rho* = 0.26, *p* =. 018) and the Schizophrenia Stigma Index (*rho* = 0.23, *p* =. 038). In the experimental group (mortality salience) non-significant correlations were observed between SDO and Anxiety/Panic Attack Stigma Index (*rho* = 0.15, *p* =. 350), Depression Stigma Index (*rho* = 0.21, *p* =. 177) and the Schizophrenia Stigma Index (*rho* = 0.19, *p* =. 214). In the control group non-significant correlations were observed between SDO and Anxiety/Panic Attack Stigma Index (*rho* = 0.28, *p* =. 085) Depression Stigma Index (*rho* = 0.14, *p* =. 420) and the Schizophrenia Stigma Index (*rho* = 0.32, *p* =. 052).

Discussion

The TMT's worldview hypothesis [45] was partially validated. Mental health professionals in mortality salience presented lower scores on stigma for people with Depression and Anxiety disorders in relation to control group. As suggested by worldview hypothesis mortality salience leads mental health professionals to cling to their preexisting worldview showing less mental health stigma. Our findings did not validate the conservative shift hypothesis in which mortality salience would lead to more mental health stigma and conservative attitudes toward people suffering from mental illness in comparison to control group.

However, there was not observed effect of experimental manipulation on stigma toward people with schizophrenia. The stigma toward schizophrenia is expressed by individuals across different social levels [57] and labelling elicited the belief that people suffering from this illness are dangerous and unpredictable, resulting to an increased desire for social

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distance [25]. In our study the index of stigma for Schizophrenia was higher in relation to Depression and Anxiety disorders. A possible interpretation for the non-differentiation of responses to experimental manipulation may be related to the fact that a) some items of stigma were related to the scientific knowledge that mental health professionals had regarding this particular disorder, b) the order of the questions and c) schizophrenia is related with greater degree of overall burden. Future experimental designs could target on the effect of mortality salience on stigma of schizophrenia.

Consistent with the suggestions of Pyszczynski, Solomon and Greenberg [42] between experimental manipulation and dependent variable (mental health stigma) the delay task of Positive and Negative Affective Schedule was administered. As expected, no differences in positive and negative emotion were found between the experimental group and the control group. This finding provides some indications of the equivalence of the two groups in terms of mental load.

The relationship between the contact with people suffering from mental health disorders and the stigma of men-

Table 3: *Independent samples t test comparisons on Stigma indices between experimental and control group regarding contact with people with mental health problems*

Contact with people with mental illness out of work								
Experimental group		Yes		No				
Stigma index:	M	SD	M	SD	T	df	p	d
Depression	2.91	0.90	3.03	0.87	-0.43	40	.673	0.14
Anxiety/Panic Attack	2.45	0.86	2.38	0.63	0.28	40	.782	0.09
Schizophrenia	3.70	0.82	4.56	0.96	-2.95	40	.005	0.96
Control group		Yes		No				
Stigma index:	M	SD	M	SD	T	df	p	d
Depression	3.14	0.76	3.70	0.69	-2.26	35	.030	0.77
Anxiety/Panic Attack	2.64	0.88	3.17	0.87	-1.80	35	.081	0.60
Schizophrenia	3.76	1.00	4.28	0.86	-1.65	35	.108	0.56
Contact with people with mental illness in their family								
Experimental group		Yes		No				
Stigma index:	M	SD	M	SD	T	df	p	d
Depression	3.06	0.78	2.87	0.92	0.64	41	.528	0.22
Anxiety/Panic Attack	2.69	0.84	2.25	0.76	1.71	41	.095	0.55
Schizophrenia	3.89	0.97	4.00	0.92	-0.36	41	.721	0.12
Control group		Yes		No				
Stigma index:	M	SD	M	SD	T	df	p	d
Depression	3.64	0.67	3.26	0.80	1.22	36	.230	0.51
Anxiety/Panic Attack	3.32	1.20	2.72	0.77	1.74	36	.090	0.40
Schizophrenia	4.39	1.14	3.79	0.95	1.51	36	.139	0.57

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tal illness is documented in the literature, with people with greater contact showing lower levels of stigma and more positive attitudes [18-20]. Our study focused on contacts out of workplace. Even though major differences were not expected because participants were mental health professionals, we found significant results in the basis of worldview defense and lower scores on stigma of schizophrenia in participants with contact out of work in experimental group. Therefore, we found an interaction between the contact out of workplace and the exposure to mortality salience providing some more data on supporting worldview defense versus conservative shift.

Our findings appear to be well substantiated regarding the relationship of stigma with ideological attitudes measured by SDO. As expected, participants with higher levels of SDO presented higher scores on all stigma indices. These results confirms previous findings in the literature [30-31]. As suggested by Bizer et al. [30], individuals with mental illness might be considered as constituting an "ingroup" competing with other social groups for resources and individuals with high scores in SDO reporting more negative attitudes toward individuals with mental illness. Regarding experimental manipulation we did not find statistically significant correlations of SDO and stigma in mortality salience and control group. However, the relationships between SDO and stigma indices in mortality salience were lower in relation to the control group providing some clues that could support the worldview hypothesis. Nevertheless, due to the small sample and low levels of SDO in the whole sample, our findings should be explored further in a future study.

As suggested by Mosher and Danoff-Burg [15] future work on TMT could concentrate on attribution theory aiming to elucidate the mechanisms underlying mental health stigmatization on special samples (e.g. mental health professionals) and general population samples.

Our work has some limitations. Undoubtedly, more studies are necessary to replicate our findings. Data were collected through a convenient sample of mental health professionals that work mainly on public sector, and, thus, additional research is necessary to explore mental health stigma from

a terror management perspective across various and broader samples. In sum, the non-representative sampling procedure limits generalizability of this study. The sample size was another limitation of the study. Larger samples are needed to be able to examine the interaction of experimental manipulation with other variables (e.g. contact, ideology etc).

Regarding the effect of Mortality Salience (MS), as suggested by Grover and Miller [14] two different, but not necessarily mutually exclusive, assumptions could be made. The first is that mortality salience can result both in actual acceptance and lower mental health stigma. The second is that MS can result in efforts to appear accepting of persons with mental health disorders. More specifically, the MS could decrease mental health stigma among individuals who are motivated by personal values not to be prejudiced. On the other hand, MS may increase efforts to appear accepting among individuals who are motivated by external factors (e.g., professional norms for tolerance, political correctness etc.) not to be prejudiced. Future studies should address issues about motives of mental health professionals regarding stigma.

Future studies could also explore qualitative aspects of mental health stigma, such as the content and quality of contact. For this purpose, alternative to self-report measures, such as interviews or focus groups, are more appropriate.

Mental health stigma is a complex phenomenon that might be influenced by predispositions, ideology and contact with people suffering from mental health conditions.

As suggested by Griffiths et al. [58] available interventions to reduce negative attitudes to people with mental health disorders are effective but the magnitude of the effects is small and there is need to improve their effectiveness. Intervention programs will be useful providing better understanding of mental health stigma related antecedents and consequences. Through research studies we try to understand in depth how stigma develops and maintains and our ultimate goal is to create target-based methods to reduce mental health stigma in society (anti-stigma interventions) and to reduce its effect on the person who suffers from mental illness.

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