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RESEARCH ARTICLE

The role of resources in the face of psychopathology

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Abstract

Objectives: The current study compared resource realization and psychological distress in patients with different psychiatric diagnoses and healthy individuals and examined the moderating effect of intrapersonal resources (personal strengths) and interpersonal resources (relationships) on the association between incongruence (unsatisfactory realization of personal goals) and psychological distress.

Method: In total, 218 participants (45.87% female, mean age = 39.83 years) completed standardized questionnaires at one measurement point.

Results: Healthy individuals ($n = 56$) reported the most resources, followed by patients with psychotic ($n = 53$), substance use ($n = 53$), and depressive disorders ($n = 56$). While patients with psychotic disorders benefited from intra- and interpersonal resources, patients with depression only benefitted from intrapersonal resources. Patients with substance use disorders did not benefit from resources at all.

Conclusions: Depending on the diagnosis, patients evaluated their level of resources differently and benefitted in different ways. The results suggest that within psychotherapy, it might be useful to strengthen resources, especially for patients with depressive and substance use disorders.

KEYWORDS
affective disorder, psychological distress, psychotic disorder, resources, substance use disorder

Psychotherapeutic research and interventions mostly focus on problematic aspects of functioning and the reduction of psychopathological symptoms (Kati, Stumpf, Heuft, Burgmer, & Schneider, 2015; Seligman & Csikszentmihalyi, 2000). This view on the dysfunctional aspects of individuals with mental disorders is one-sided because persons with mental disorders not only suffer from psychopathological symptoms but also have strengths and abilities at the same time (Meister & Haug, 2004; von Wachter & Hendrischke, 2013). To achieve a more holistic perspective, some authors also focus on strengths as opposed to problem orientation (Grawe, 1994), vulnerabilities (Jerusalem, 1990) or deficits (Hobfoll, 1989). Three different ways of describing the relationship between resources and problems can be found in the literature. First, resources and problems can be considered as two sides of the same coin (Fiedler, 1997). Second, resources and problems can be understood as opposite poles of the same continuum (Antonovsky, 1987). Third, resources and problems can be interpreted as independent dimensions in a coordinate system with two vectors (Lutz & Mark, 1995). Compared to the other two models, the third model offers an advantage in the clinical context, since an individual's resources and problems can be contemplated simultaneously. In this vein, previous research has already indicated that a sole focus on problems does not necessarily lead to therapy goals being reached; combining problem activation with resource activation strategies, however, allows the potential of psychotherapy to unfold and enables problems to be solved more effectively (Flückiger, 2015; Gassmann & Grawe, 2006; Rashid, 2015).

The concept of resources is not used consistently in the research and is operationalized differently depending on the respective authors. In terms of content, Klemenz (2003) distinguishes between resources of the environment (e.g., positive relationships) and the person (physical and psychological resources), while Willutzki (2008) differentiates between three types of resources: intrapersonal, interpersonal, and external. Intrapersonal resources describe a person's strengths and abilities (such as problem-solving abilities), while interpersonal resources refer to the individual's experiences with relationships, and external resources are found in the social, cultural, and physical environment. This definition of resources is similar to the 40 Developmental Assets identified by the Search Institute (e.g., external assets such as support, internal assets such as social skills), which should positively impact the development of young people by helping them to become healthy, caring, and responsible adults (Search Institute, 2006). Other authors mention special criteria that are used to determine whether or not something can be considered as a resource. Flückiger (2009) points out that resources are associated with positive affect and are temporally limited. This aspect of time limitation emphasizes that resources are not necessarily stable personality traits, although stable factors can certainly also represent resources. Moreover, resources can be defined in terms of their individuality, as there are interpersonal differences regarding whether or not something is perceived as a resource (Groß, Stemmler, & De Zwaan, 2012). A further aspect relates to the functionality and utility of resources, which should be helpful in achieving personal motives and goals (Trösken & Grawe, 2004). The functionality of resources additionally plays a role in the context of coping, with resources being regarded as resilience factors that help to maintain or quickly recover mental health during and after exposure to stressful life circumstances (Kalisch et al., 2017).

Grawe (2004) also underlines the crucial nature of functionality, by describing resources as a person's positive potential and the necessary conditions to fulfill basic needs, including attachment, self-esteem, control, and pleasure. With this definition, he refers to the consistency-theoretical model of mental functioning, which explains how resources influence the maintenance of mental health (Grawe, 1998, 2004). According to this model, internal consistency is a prerequisite for mental functioning. The central idea of internal consistency refers to the compatibility of the simultaneously occurring intrapsychic processes within an individual. If the intrapsychic processes are incompatible, inconsistency results and basic needs cannot be adequately satisfied. This leads to a discrepancy between the person's goals and his/her perception of reality, which is termed incongruence. A high degree of incongruence increases the level of psychological distress and promotes the development of mental disorders. In this respect, the model overlaps with the personality theory of Rogers (1959), who also postulated that permanently unsatisfied basic needs result in incongruence between a person's experience and desires. Grawe (2004) assumes that incongruence initiates intrapsychic regulatory processes that are designed to restore the state

of congruence. These processes are supported by resources that help to reduce incongruence and establish consistency. The presence of a high level of resources is associated with the experience of positive emotions, leading to a gain in additional resources which serve as protective factors for mental health (Hobfoll, 1989). In contrast, a lack of resources, as well as existing but neglected resources, contribute to intrapsychic processes being poorly matched or inconsistent, meaning that life goals cannot be realized. A low level of resources hinders the acquisition of new resources and can be regarded as a risk factor for further loss and the development and maintenance of mental disorders (Hobfoll, 1989). One of the most central factors impacting psychotherapy is, therefore, the reduction of incongruence and the satisfaction of needs through resource activation. The realization of resources in psychotherapy should be negatively reinforced by the elimination of incongruence, and positively reinforced by the experience of satisfying basic needs.

Resource realization represents a measure of the degree of congruence with regard to a person's goals and basic needs (Trösken, 2002). In contrast to resources per se, which can be perceived both subjectively by a person and objectively by an external observer (Willutzki, 2008), resource realization refers solely to the subjective experience of the utilization of resources to satisfy basic needs. Resource realization does not refer to the acknowledgment of resources but rather describes the active use of resources, which can take place at an action level (e.g., meeting friends) as well as a mental level (e.g., being optimistic). Various studies have shown that high resource realization (e.g., the use of humor or the contact with a partner or pet) can be a central protective factor against the development of psychopathological symptoms by buffering the negative effect of symptoms (Bos, Snippe, De Jonge, & Jeronimus, 2016; Deubner-Böhme, Deppe-Schmitz, Lindenmeyer, & Schulz, 2011; Galderisi et al., 2014).

With regard to interindividual differences, previous studies indicate that patients with mental disorders realize fewer resources compared to healthy subjects (Deubner-Böhme et al., 2011; Hofer et al., 2016). However, within individuals with different mental disorders, research findings are inconsistent. Groß, Stemmler, Erim, and De Zwaan (2015) found that patients with depression reported fewer resources than did patients with anxiety disorders. In contrast, in a sample of patients with affective, anxiety, and somatoform disorders, Deubner-Böhme et al. (2011) found no differences in the level of resources depending on the diagnosis. Another study found that alcohol-dependent inpatients realized fewer resources compared to healthy control participants, but the study did not include a comparison with other diagnostic groups (Deppe-Schmitz, Deubner-Böhme, Lindenmeyer, & Schulz, 2009). Further studies showed that a person's level of resources is not a stable factor, and can be increased in psychotherapy (Deubner-Böhme et al., 2011; Groß et al., 2015; Kati et al., 2015). Moreover, psychotherapy helped patients to permanently decrease the level of incongruence and to improve therapy success (Groß et al., 2015; Trösken & Grawe, 2004). In a study including patients with affective and anxiety disorders, resources explained 33% of the variance in incongruence, and resources and incongruence together explained 55% of the variance in psychiatric symptoms of mental disorders (Kohls, 2005).

Research comparing patients with different diagnoses regarding the level and protective effects of resources is scarce. Moreover, studies have mainly focused on patients with affective and anxiety disorders. Few systematic investigations have been conducted across the most common psychiatric patient groups, whose mental disorders are associated with the highest disabilities. As a measure of disability, the number of life-year affected by a disorder in relation to the whole life span can be used (years of life lived with disability). Based on this calculation, the World Health Organization states that depression, alcohol abuse, and schizophrenia are among the eight major problems that contribute to 75% of the global burden of mental disorders (World Health Organization, 2015).

To understand the role that resources play in the presence of the three mental disorders with the most severe disabilities, we investigated the following research questions:

(1) What are the differences in the level of resource realization and psychological distress between inpatients with depression, substance use disorders, and psychotic disorders, as well as a reference group of healthy participants?

(2) Are there any differences between inpatients with depression, substance use disorders, and psychotic disorders in their ability to reduce the association of incongruence and psychological distress with the help of resources?

1 | METHODS

1.1 | Study design

The study was conducted between 2015 and 2017. The recruitment of the three patient groups took place during the first week of their inpatient stay in a department of psychiatry and psychosomatic medicine. The patients were classified into one of three groups according to their main diagnosis, which was the indication for the current inpatient stay. At the time of participation, all patients were experiencing an acute episode of their mental disorder. Participants with comorbid neuropsychological disorders such as organic brain disorder, cognitive impairment, or dementia were excluded from the study. Patients with other comorbid disorders were included in the study if the comorbid disorders were not the primary reason for the inpatient treatment. Patients who agreed to participate signed a written statement of informed consent after the procedures had been explained in detail. They were asked to complete a set of paper-and-pencil questionnaires measuring resource realization, psychological distress, and incongruence. A psychologist was available to assist the patients while completing the questionnaires, and patients were able to discontinue or take a break from the questionnaires at any time. The average time to complete the questionnaires lay at 60 min. To obtain a community sample, healthy controls were recruited from social media, mailing lists, and flyers in public places. Control participants were eligible to take part in the study if they provided informed consent and stated that they did not suffer from any mental disorder. The healthy subjects completed an online survey in an average of 30 min, with all relevant psychological questionnaires provided by Questback company.

The study was approved by the local ethics committee and was conducted in accordance with the Code of Ethics of the World Medical Association (Declaration of Helsinki).

1.2 | Participants

The study included 218 participants, comprising 56 patients with major depressive disorder, 53 patients with substance use disorder, 53 patients with psychotic disorder according to ICD-10 criteria (World Health Organization, 1992), and 56 healthy controls. Diagnoses were established using the Structured Clinical Interviews for DSM-IV Axis I (SCID-I) (Bell, 1994) and Axis II (SCID-II) disorders (Wittchen, Zaudig, & Fydrich, 1997). The subsamples were matched according to age and gender. In addition, the duration of the respective mental disorder was recorded, as well as any psychiatric medication intake. Medication doses were converted into amitriptyline (Hayasaka et al., 2015) and chlorpromazine equivalents (Woods, 2003). Eighty-four patients were treated with a monotherapy of either an antidepressant or an antipsychotic medication and 35 participants were taking a combination medication. For detailed information on sociodemographic and clinical characteristics as well as psychopharmacological treatments, see Table 1.

1.3 | Measures

The Structured Clinical Interview for DSM-IV disorders on Axes I and II, SCID-I and SCID-II (Wittchen et al., 1997): SCID-I and SCID-II are semi-structured interviews. The SCID-I diagnoses the DSM-IV Axis I disorders and identifies 129 symptoms, which are categorized into the following nine classes of Axis I psychiatric disorders: depressive, manic, psychotic, anxiety, somatoform, mood, adjustment, eating, and substance (alcohol or drug) disorders. The SCID-II determines 14 types of personality disorders of DSM-IV Axis II. Results have shown moderate to excellent

TABLE 1 Sociodemographic and psychiatric data across groups

	Depressive disorder (*n* = 56)		Substance use disorder (*n* = 53)		Psychotic disorder (*n* = 53)		Healthy controls (*n* = 56)	
	n	(%)	*n*	(%)	*n*	(%)	*n*	(%)
Gender								
Female	29	(51.8)	20	(37.7)	22	(41.5)	33	(58.9)
Male	27	(48.2)	33	(62.3)	31	(58.5)	23	(41.1)
Marital status								
Never married	21	(35.8)	26	(49.1)	35	(66.0)	19	(33.9)
Married, partnership	28	(47.2)	15	(28.3)	14	(26.4)	35	(64.2)
Divorced, separated	7	(17.0)	12	(22.6)	4	(7.6)	2	(1.9)
Employment								
Unemployed	18	(32.1)	27	(50.9)	27	(50.9)	12	(21.4)
Working	32	(57.1)	23	(43.4)	22	(41.5)	18	(32.2)
Studying, apprentice	6	(10.8)	3	(5.7)	4	(7.6)	26	(46.4)
Number of comorbidities								
No	26	46.4	9	17.0	41	73.2		
One	16	28.6	20	37.7	4	7.1		
Two or more	14	25.0	24	45.3	8	14.3		
Comorbidities								
Substance use disorders	0	(0.0)	62	(67.9)	5	(9.4)		
Affective disorders	6	(10.7)	5	(9.4)	0	(0.0)		
Anxiety disorders	15	(26.8)	3	(5.7)	5	(8.9)		
Eating and sleep disorders	9	(16.07)	3	(5.7)	0	(0.0)		
Disorders of personality	4	(7.1)	4	(7.1)	0	(0.0)		
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Age	39.88	13.29	43.28	12.03	37.68	10.42	38.48	15.81
Duration of illness	5.09	7.34	10.85	9.38	10.35	10.90		
Chlorpromazine equivalent (mg/day)	65.64	114.12	109.13	449.59	838.05	1305.30		
Amitriptyline equivalent (mg/day)	189.87	170.73	79.28	117.07	21.10	63.79		

Abbreviations: *M*, mean; *SD*, standard deviation.

inter-rater reliability for the Axis I disorders (from 0.60 to 0.83), while most measured personality disorders have shown excellent inter-rater reliability from 0.78 to 0.94 (Lobbestael, Leurgans, & Arntz, 2011).

Resource Realization Questionnaire, RES (Trösken, 2002): The RES is a self-assessment questionnaire which comprises 133 items measuring a person's resource realization on nine dimensions: well-being (e.g., "I felt comfortable because I had interesting experiences"), coping with daily hassles (e.g., "If I felt stressed in everyday life, then it helped me to relax"), social support (e.g., "I was supported in everyday life by someone who offered me his help"), successful coping with crises in the past (e.g., "In an earlier crisis, it helped me to accept the situation"), fostering self-esteem (e.g., "I was proud of myself because I was brave"), personal strengths and skills (e.g., "It is a strength of mine that I have a hobby or a special interest"), current relationships (e.g., "My relationship is currently characterized by the fact that I can be open and honest"), characteristics of strong relatives (e.g., "My mother could express her feelings") and sense of commitment to personal growth (e.g., "At the moment my life makes sense because I pay attention to my health"). Items are rated on a scale from 0 (never) to 6 (very often), with higher scores

reflecting more frequent resource realization on the individual dimensions. In addition, a total resource index can be calculated. The scales of the RES have shown good internal consistency, with Cronbach's α = 0.79–0.90 (Trösken, 2002). In the present study, Cronbach's α was 0.91.

Incongruence Questionnaire, INK (Grosse Holtforth & Grawe, 2003): The INK is a self-report survey measuring the discrepancy between a person's motivational goals and the perception of reality with 94 items on two scales representing avoidance aims and approach aims. The avoidance scale comprises nine subscales: separation, not being respected, embarrassment, criticism, dependency, hurting others, loss of control, helplessness, and failure. The approach scale comprises 14 subscales: intimacy, affiliation, altruism, receiving help, appreciation, status, autonomy, achievement, control, education, sense of meaning, excitement, trust in oneself, and self-reward. Items are rated according to how well the respective aims have been achieved on a scale ranging from 1 (not enough) to 5 (enough). A global measure of overall avoidance (INK-V) and approach goals (INK-A) is provided as a total average (INK-G). The INK has shown good internal consistency, with Cronbach's α ranging from 0.69 to 0.98 in a sample of inpatients (Grosse Holtforth & Grawe, 2003). In the present study, Cronbach's α was 0.91. The questionnaire has also shown high construct validity (Roth, Freiburg, & Krampen, 2009).

Brief Symptom Inventory, BSI (Derogatis & Melisaratos, 1983): The BSI is a self-report survey measuring psychological distress on nine subscales: obsessive-compulsive, paranoid ideation, hostility, somatization, depression, interpersonal sensitivity, anxiety, psychoticism, and phobic anxiety. It consists of 53 items which are rated on a scale ranging from 0 (not at all) to 4 (extremely). A global measure of overall psychological distress is provided as an average of the responses to each item (Global Severity Index [GSI]). The BSI has shown good internal consistency, with Cronbach's α ranging from 0.70 to 0.89 in a sample of outpatients (Geisheim, Hahlweg, & Fiegenbaum, 2002). In the present study, Cronbach's α was 0.93. Convergent validity has been demonstrated through high intercorrelations with other established clinical rating scales (Geisheim et al., 2002).

1.4 | Statistical analyses

All data were analyzed using IBM SPSS Statistics for Windows, Version 22.0 (IBM Corp., Armonk, NY).

1.4.1 | Participant characteristics

Descriptive statistics were used to characterize the healthy subjects and the patient groups according to sociodemographic and health-related variables and to identify any differences between them. Therefore, the four groups were compared using analysis of variances for continuous measures and the χ^2 analyses for categorical variables.

1.4.2 | First research question: group differences in resource realization and psychological distress

A multivariate analysis of variance (MANOVA) was calculated to detect differences in resources and psychological distress in the patient groups and healthy subjects. Dependent variables were psychological distress (GSI) and resources (RES, RES-Intra, RES-Inter) and the diagnosis was the independent variable. The potential influence of employment, marital status, and the number of comorbid mental disorders were controlled using a covariate analysis. Summed scores were z-transformed to a standardized mean of 0 with a standard deviation (*SD*) of 0.5. Effect sizes were interpreted as η^2 small ≥ 0.01, medium ≥ 0.06, and large ≥ 0.14 (Cohen, 1988).

1.4.3 | Second research question: resources as a moderator between incongruence and psychological distress

To assess whether the total score of resources as well as intra- and interpersonal resources were significant covariates in the relationship between incongruence and psychological distress, a multilinear mixed model approach was employed. Subsequently, a moderator analysis was calculated to determine the moderating influence of resources on the relationship between incongruence and psychological distress. To minimize and structure the subscales of the RES questionnaire, a two-factor solution was used, which was found in a previous study in a sample of 627 healthy subjects (Goldbach, Rabener, Windmann, Reif, & Oertel-Knöchel, in preparation). Content-related resources were separated into interpersonal resources (RES-Inter, containing the subscales social support, current relationships, and characteristics of stable relatives) and intrapersonal resources (RES-Intra, containing the subscales well-being, coping with daily hassles, coping with crises in the past, fostering self-esteem, personal strengths and skills, and sense of commitment to personal growth). Interpersonal resources represent factors that lie outside of an individual. They include social relationships that are currently important or have been relevant in the past, and through which the person receives support. By contrast, intrapersonal resources lie within an individual and include psychological functions in dealing with situations that are stressful or affect self-esteem.

The SPSS macro PROCESS developed by Andrew F. Hayes was used for the moderator analysis. The dependent variable was psychological distress (GSI); the predictors were incongruence (INK, independent variable) and the total score of resources as well as inter- and intrapersonal resources (RES, RES-Inter, RES-Intra, moderator variables). Age and gender were matched between the subsamples. Therefore, only the potential influence of employment, marital status, and the number of comorbid mental disorders were controlled using a covariate analysis. To further investigate the significant interaction between incongruence and the factors of the RES questionnaire, the conditional effect of incongruence on psychological distress was investigated at different levels (−1 *SD*; average; +1 *SD*) of the moderator variable.

2 | RESULTS

2.1 | Participant characteristics

The subsamples did not differ significantly in age ($F(3, 214) = 1.906$; $p = .13$) and sex ($\chi^2(3, N = 218) = 6.13$; $p = .11$), but differences did emerge regarding marital status ($\chi^2(6, N = 218) = 28.74$; $p < .001$) and employment status ($\chi^2(6, N = 218) = 47.89$; $p < .001$). For more details on sociodemographic and psychiatric data, see Table 1.

2.2 | First research question: group differences in resource realization and psychological distress

The MANOVA showed significant differences between the four groups ($F(6, 426) = 34.03$; $p < .001$; Wilk's $\Lambda = 0{,}46$; $\eta^2 = 0.324$). Group had a significant effect on both psychological distress ($F(3, 214) = 20.99$; $p < .001$; $\eta^2 = 378$) and resource realization ($F(3, 214) = 44.03$; $p < .001$; $\eta^2 = 0.48$).

The post hoc tests for resources indicated that healthy subjects ($M = 4.81$; $SD = 0.65$) differed significantly from patients with a psychotic disorder ($M = 3.60$; $SD = 0.95$; $p < .001$; 95% confidence interval [CI] = [−0.80, −1.61]), patients with a depressive disorder ($M = 2.76$; $SD = 0.80$; $p < .001$; 95% CI = [1.65, 2.45]) and patients with a substance use disorder ($M = 3.15$; $SD = 0.83$; $p < .001$; 95% CI = [1.26, 2.07]). Patients with a psychotic disorder also significantly differed from those with a depressive disorder ($p < .001$; 95% CI = [0.44, 1.24]) and those with a substance use disorder ($p = .022$; 95% CI = [0.05, 0.86]). Moreover, there was a marginal difference between patients with a depressive disorder and patients with a substance use disorder ($p = .068$; 95% CI = [−0.79, 0.02]). Healthy individuals had the highest values for resources, followed by patients with a psychotic disorder, patients with a substance use disorder, and lastly patients with a depressive disorder.

The post hoc tests for interpersonal resources indicated that healthy subjects ($M = 4.34$; $SD = 0.85$) differed significantly from patients with a psychotic disorder ($M = 3.41$; $SD = 0.94$; $p = .030$; 95% CI = [0.04, 0.74]), patients with a depressive disorder ($M = 3.41$; $SD = 0.91$; $p < .001$; 95% CI = [0.59, 1.28]) and patients with a substance use disorder ($M = 3.64$; $SD = 1.01$, $p < .001$; 95% CI = [0.35, 1.05]). Patients with a psychotic disorder differed significantly from those with a depressive disorder ($p = .003$; 95% CI = [0.19, 0.89]) and marginally significantly from patients with a substance use disorder ($p = .085$; 95% CI = [−0.04, 0.67]). There were no differences between patients with a depressive disorder and patients with a substance use disorder ($p = .194$; 95% CI = [−0.58, 0.12]). Healthy individuals had the highest values for interpersonal resources, followed by patients with a psychotic disorder, patients with a substance use disorder and lastly patients with a depressive disorder.

The post hoc tests for intrapersonal resources indicated that healthy subjects ($M = 3.77$; $SD = 0.87$) differed significantly from patients with a depressive disorder ($M = 2.80$; $SD = 1.68$; $p < .001$; 95% CI = [0.54, 1.41]) and patients with a substance use disorder ($M = 2.91$; $SD = 0.87$; $p < .001$; 95% CI = [0.42, 1.30]). Healthy subjects did not differ significantly from patients with a psychotic disorder ($M = 3.41$; $SD = 1.01$; $p = .102$; 95% CI = [−0.07, 0.80]). Patients with a psychotic disorder differed significantly from patients with a depressive disorder ($p = .007$; 95% CI = [0.17, 1.05]) and patients with a substance use disorder ($p = .029$; 95% CI = [0.05, 0.94]). There were no differences between patients with a depressive disorder and patients with a substance use disorder ($p = .614$; 95% CI = [−0.55, 0.33]). Healthy individuals had the highest values for intrapersonal resources, followed by patients with a psychotic disorder, patients with a substance use disorder and lastly patients with a depressive disorder.

The post hoc tests for psychological distress indicated that healthy subjects ($M = 0.39$; $SD = 0.46$) differed significantly from patients with a psychotic disorder ($M = 1.04$; $SD = 0.64$; $p < .001$; 95% CI = [−1.00, −0.31]), patients with a depressive disorder ($M = 1.70$; $SD = 0.74$; $p < .001$; 95% CI = [−1.66, −0.98]) and patients with a substance use disorder ($M = 1.64$; $SD = 0.89$; $p < .001$; 95% CI = [−1.60, −0.91]). Patients with a psychotic disorder also differed significantly from patients with a depressive disorder ($p < .001$; 95% CI = [−1.00, −0.31]) and patients with a substance use disorder ($p < .001$; 95% CI = [−0.95, −0.25]). There were no significant differences between patients with a depressive disorder and patients with a substance use disorder ($p = .970$; 95% CI = [−0.29, 0.41]). Healthy individuals had the lowest values for psychological distress, followed by patients with a psychotic disorder, patients with a substance use disorder, and lastly patients with a depressive disorder. For further information, see Figure 1.

All models with psychological distress (GSI) and resources (RES, RES-Intra, RES-Inter) as dependent variables and the diagnosis as independent variable remained stable when employment, marital status, and the number of comorbid mental disorders were controlled in a covariate analysis.

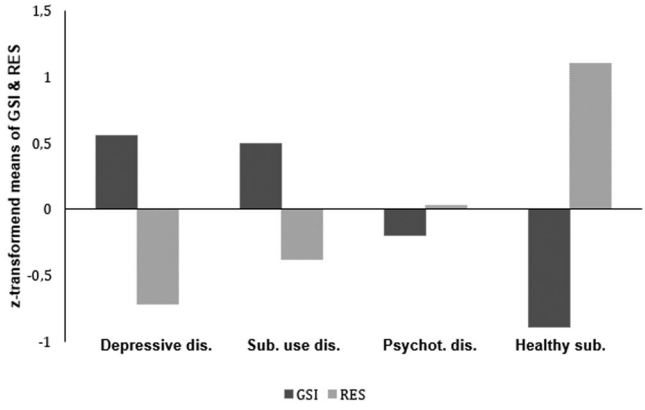

FIGURE 1 Results of MANOVA with psychological distress (GSI) and resources (RES) as dependent variables and the diagnosis as an independent variable. Means of GSI and RES are z-transformed. GSI, Global Severity Index; MANOVA, multivariate analysis of variance; RES, Resources Realization Questionnaire

2.3 | Second research question: resources as a moderator between incongruence and psychological distress

The multilinear mixed model revealed a significant influence of the total score of resources as well as intra- and interpersonal resources on the relationship between incongruence and psychological distress (total score of resources: $F(1, 154) = 34.390$, $p < .001$; intrapersonal resources: $F(1, 154) = 5.743$, $p = .018$; interpersonal resources: $F(1, 154) = 12.94$, $p < .001$). Therefore, the prerequisites to conduct a moderator analysis were met. The moderating influence of RES, RES-Inter, and RES-Intra on the relationship between incongruence (INK) and psychological distress (GSI) examined differences between the three patient groups (see Tables 2 and 3). In the following, the results of the moderator analyses are reported:

2.3.1 | Patients with depressive disorders

The interaction effect of the total score of resources on the relationship between psychological distress and incongruence was not significant ($b = -0.107$; $t(51) = -0.701$; $p = .486$; 95% CI = [−0.422, 0.208]). The interaction effect of intrapersonal resources on the relationship between incongruence and psychological distress was significant ($b = -0.277$; $t(52) = -2.177$; $p = 0.03$; 95% CI = [−0.533, −0.022]): As intrapersonal resources increased, the relationship between incongruence and psychological distress decreased (from $b = 1.084$, $p < .001$ when RES-Intra was 1 *SD* below the mean to $b = 0.153$, $p = .626$ when RES-Inter was 1 *SD* above the mean). The interaction effect of interpersonal resources on the relationship between psychological distress and incongruence was not significant ($b = 0.431$; $t(52) = 0.205$; $p = .839$; 95% CI = [−0.379, 0.465]).

TABLE 2 Results of the moderating effect of inter- and intrapersonal resources on the correlation between incongruence and psychological distress

		DV: GSI			
Disorder	**IV→DV**	***b***	***SE***	***t***	***p***
Depressive disorder	INK	0.600	0.193	3.113	.003**
	RES-Inter	−0.224	0.115	−1.952	.056
	INK × RES-Inter	0.043	0.210	0.205	.839
	INK	0.619	0.183	3.377	.001**
	RES-Intra	−0.131	0.066	−1.981	.053
	INK × RES-Intra	−0.277	0.127	−2.177	.034*
Substance use disorder	INK	0.607	0.175	3.469	.001**
	RES-Inter	−0.158	0.172	−0.915	.365
	INK × RES-Inter	0.028	0.177	0.159	.874
	INK	0.749	0.172	4.365	.001***
	RES-Intra	0.145	0.148	0.981	.331
	INK × RES-Intra	0.154	0.182	0.846	.402
Psychotic disorder	INK	0.622	0.101	4.436	.001***
	RES-Inter	−0.020	0.076	−0.270	.789
	INK × RES-Inter	−0.274	0.101	−2.730	.009**
	INK	0.562	0.160	3.519	.001***
	RES-Intra	−0.023	0.109	−0.212	.833
	INK × RES-Intra	−0.306	0.111	−2.723	.009**

Abbreviations: GSI, Global Severity Index of the Brief Symptom Inventory; INK, Incongruence Questionnaire; RES-Inter, Interpersonal resources of the Resources Realization Questionnaire; RES-Intra, Intrapersonal resources of the Resources Realization Questionnaire; *SE*, standard error.

*$p < .05$.

**$p < .01$.

***$p < .001$.

TABLE 3 Result of the effect from low (−*SD*), average (*M*), and high (+*SD*) level of inter- and intrapersonal resources on the correlation between incongruence and psychological distress

		Criterion: BSI			
Disorder	**Resources**		**Effect**	**Below 95% CI**	**Above 95% CI**
Depressive disorder	Interpersonal resources	−1 *SD*	0.561	−0.048	1.170
		M	0.690**	0.213	0.986
		+1 *SD*	0.639**	0.169	1.108
	Intrapersonal resouces	−1 *SD*	1.084***	0.587	1.581
		M	0.619***	0.251	0.986
		+1 *SD*	0.153	−0.473	0.779
Substance use disorder	Interpersonal resources	−1 *SD*	0.578*	0.034	1.122
		M	0.607***	0.255	0.958
		+1 *SD*	0.635**	0.177	1.093
	Intrapersonal resouces	−1 *SD*	0.615**	0.163	1.068
		M	0.749***	0.434	1.093
		+1 *SD*	0.882***	0.400	1.364
Psychotic disorder	Interpersonal resources	−1 *SD*	0.880***	0.453	0.307
		M	0.621***	0.340	0.903
		+1 *SD*	0.363**	0.142	0.584
	Intrapersonal resouces	−1 *SD*	0.867***	0.420	1.313
		M	0.562***	0.241	0.883
		+1 *SD*	0.257	−0.071	0.585

Abbreviations: CI, confidence interval; GSI, Global Severity Index of the Brief Symptom Inventory; INK, Incongruence Questionnaire; *M*, mean; RES-Inter, Interpersonal resources of the Resources Realization Questionnaire; RES-Intra, Intrapersonal resources of the Resources Realization Questionnaire; *SD*, standard deviation.
*$p < .05$.
**$p < .01$.
***$p < .001$.

2.3.2 | Patients with substance use disorders

The interaction effects of the total score of resources and inter- and intrapersonal resources on the relationship between psychological distress and incongruence were not significant (RES: $b = 0.188$, $t(48) = 1.144$, $p = .258$, 95% CI = [−0.143, 0.519]; RES-Inter: $b = 0.028$, $t(49) = 0.159$, $p = .874$, 95% CI = [−0.327, 0.384]; RES-Intra: $b = 0.154$, $t(49) = 0.846$, $p = .402$, 95% CI = [−0.211, 0.519]).

2.3.3 | Patients with psychotic disorders

There were significant interaction effects of the total score of resources and intra- and interpersonal resources on the relationship between psychological distress and incongruence (RES: $b = -0.308$, $t(48) = -2.764$, $p = .008$, 95% CI = [−0.532, −0.084]; RES-Intra: $b = -0.304$, $t(49) = -2.723$, $p = .009$, 95% CI = [−0.527, −0.080]; RES-Inter: $b = -0.274$, $t(49) = -2.730$, $p = .009$, 95% CI = [−0.476, −0.072]). The relationship between incongruence and psychological distress decreased as the total score of resources and intra- and interpersonal resources increased (RES: from $b = 0.879$, $p < .001$ when RES was 1 *SD* below the mean to $b = 0.295$, $p = .054$ when RES was 1 *SD* above the mean; RES-Intra: from $b = 0.867$, $p < .001$ when RES-Intra was 1 *SD* below the mean to $b = 0.257$, $p = .122$, when RES-Intra was 1 *SD* above the mean; RES-Inter: from $b = 0.880$, $p < .001$ when RES-Inter was 1 *SD* below the mean to $b = 0.363$, $p = .002$, when RES-Inter was 1 *SD* above the mean).

For further details, see Figure 2.

All models with resources (RES, RES-Inter, RES-Intra) and incongruence as predictors and psychological distress (GSI) as dependent variable remained stable when employment, marital status, and the number of comorbid mental disorders were controlled in a covariate analysis.

3 | DISCUSSION

The results of the present study indicate that healthy individuals and patients with various psychiatric diagnoses evaluate the level of resources they use and their level of psychological distress differently and benefit from resources in different ways. Healthy individuals reported the most resources, followed by patients with psychotic, substance use, and depressive disorders (based on the total and the split score of resources). Conversely, depressive patients reported the most psychological distress, which was at a similar level to patients with substance use disorders, followed by patients with psychotic disorders and healthy individuals. While patients with psychotic disorders seem to benefit from the moderating effect of intra- and interpersonal resources on the association between incongruence and psychological distress, patients with depression only benefitted from the moderating effect of intrapersonal resources, and patients with substance use disorders did not benefit from the moderating effect of resources at all.

With regard to the first research question, the results demonstrate that healthy individuals experienced the most resources and the lowest psychological distress compared to persons with mental disorders. This finding is in line with previous studies (Deppe-Schmitz et al., 2009; Deubner-Böhme et al., 2011; Hofer et al., 2016). Interestingly, patients with psychotic disorders had the second-highest level of resources and the second-lowest level of psychological distress when compared to the other groups. Indeed, with regard to intrapersonal resources, patients with psychotic disorders did not even differ significantly from healthy individuals. This is surprising given that psychotic disorders, and especially schizophrenia, are usually chronic disorders with the most adverse impact on the quality of life (Palmer, Martin, Depp, Glorioso, & Jeste, 2014). Moreover, the finding is in contrast to the typical perception of observers, for example, psychotherapists, who usually attribute significantly more resources to patients with depression than to patients with substance use disorders (Oesch, 2002). To explain this discrepancy, three aspects should be considered. The first relates to the ability to adapt to mental disorders. Psychotic disorders, for example, schizophrenia and substance use disorders, mostly show a chronic course (Köhler & Drexler, 2008; Palmer et al., 2014), while patients with recurrent depressive disorder have symptom-free intervals between the depressive episodes. Chronic disorders might permanently constrain mental capacities and living circumstances, thereby reducing the patient's overall standards and expectations over time. By contrast, the

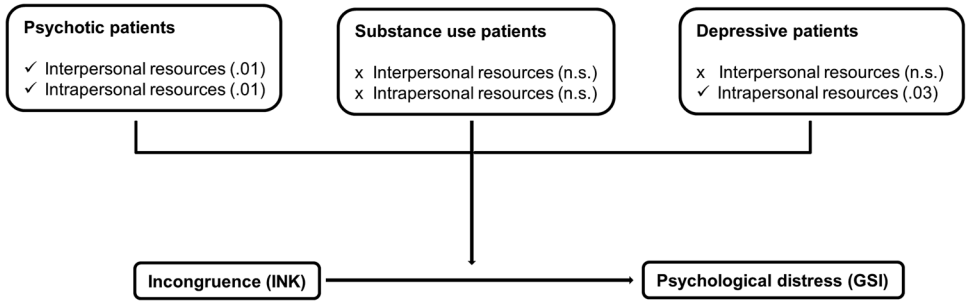

FIGURE 2 Overview of the results of the moderator analyses with psychological distress (BSI) as a dependent variable, incongruence (INK, independent variable) and inter- and intrapersonal resources (RES-Inter, RES-Intra, moderator variable) as predictors. BSI, Brief Symptom Inventory. RES-Inter, Interpersonal resources of the Resources Realization Questionnaire; RES-Intra, Intrapersonal resources of the Resources Realization Questionnaire

expectations of depressive patients are probably more oriented to symptom-free intervals, meaning that every new depressive episode may be particularly frustrating and making it difficult for them to adapt to the state of having mental health problems. These differences in standards might influence self-reports, such that patients with psychotic and substance use disorders are more optimistic than patients with depression.

The second explanation may refer to the validity of self-reports of patients with psychotic disorders and depression. Research findings on this issue are inconsistent. Some studies suggest that patients with psychotic disorders have a changed perception of reality, a lack of insight and difficulties accurately reporting negative symptoms (Reddy, 2015; Selten, Wiersma, & Van Den Bosch, 2000). Other research shows that patients with depression see their living conditions as worse than would be judged by an independent observer, and their mood often results from altered psychological perspectives rather than from the objective circumstances (Katschnig, Freeman, & Satorius, 2006; Kay, Roth, & Beamish, 1964). In contrast, several studies indicate that self-reports of patients with schizophrenia are valid in different domains of personality and mood and are not affected by the severity of psychotic symptoms, cognitive deficits, or antipsychotic medication (Bell, Fiszdon, Richardson, Lysaker, & Bryson, 2007; Liraud, Droulout, Parrot, & Verdoux, 2004; Voruganti, Heslegrave, Awad, & Seeman, 1998). In the case of patients with depression, the effect of psychopathology on the validity of self-ratings of personality traits, temperament, and interpersonal problems seems to be minimal and not influenced by mistaken beliefs (Bergsma, Veenhoven, ten Have, & de Graaf, 2011; Ready & Clark, 2002). In the present study, we cannot judge the extent to which the statements of patients with schizophrenia and depression were valid and whether or not they had a positivity or negativity bias, respectively.

Finally, the third possible explanation for the group differences might lie in the higher number of comorbid disorders in patients with depression and substance use disorders compared to the group of patients with psychotic disorders. In particular, patients with substance use disorders had a large number of additional comorbid disorders associated with substance use. It seems reasonable to assume that a higher number of mental health problems is associated with increased psychological distress and decreasing resources. Regardless of the cause of the group differences, it should be noted that patients' differing levels of symptom severity might have influenced the results of further analysis.

Concerning the second research question, patients with a psychotic disorder not only constitute the patient group with the most resources but also seem to be best able to utilize the full range of their resources to reduce the association between inadequate fulfillment of needs and psychological distress. Previous studies point in the same direction and have already indicated that in patients with psychotic disorder, resources have a beneficial effect on the course of the mental disorder, the risk of suicide, and the quality of life (Ho, Chiu, Lo, & Yiu, 2010; Johnson et al., 2010; Torgalsbøen, 2012). In particular, interpersonal resources should be important for patients with a psychotic disorder, because they positively affect the course of the mental disorder. Conversely, a negative attitude of relatives, who show criticism and hostility toward the patient, known as high expressed emotion, is a crucial risk factor for relapses (Butzlaff & Hooley, 1998).

In contrast to patients with psychotic disorders, patients with substance use disorders do not seem to be able to compensate for the association between incongruence and psychological distress with the help of their resources. It can be assumed that the existing resources are used in a dysfunctional way, such that basic needs cannot be satisfied. For instance, the social environment (e.g., peers, romantic partners) of patients with substance use disorders is often associated with substance consumption, which leads to a further increase in consumption (Fleming, White, & Catalano, 2010; Kim, Tiberio, Pears, Capaldi, & Washburn, 2013; Washburn, Capaldi, Kim, & Feingold, 2014). As such, it can be supposed that interpersonal resources strengthen and maintain substance abuse and dependency. With regard to intrapersonal resources, the preferred coping styles for patients with substance use disorders were previously reported to be palliative reaction (e.g., try to feel better through substance use), avoidance (e.g., avoidance of situations), and passive reaction (e.g., rumination, retreat; Kronenberg, Goossens, van Busschbach, van Achterberg, & van den Brink, 2015). These coping styles may be effective in the short term, by reducing difficult emotions and distress, but in the long term they can interfere with the ability to effectively deal

with impairments. Active, adaptivem and problem-focused coping, which is more suitable in the long term, was found to be rarely used by patients with substance use disorder (Kronenberg et al., 2015). In the present study, as no distinction was made between functional and dysfunctional coping, it was not possible to examine whether the patients with substance use disorders use their coping skills in a dysfunctional way.

With regard to patients with depression, the question arises why intrapersonal resources appear to buffer the interaction effect between incongruence and psychological distress, while an effect of interpersonal resources is lacking. In this case, it should be noted that social isolation is a typical symptom of depression, and the goals of patients with depression are often motivated by avoidance, which contributes to incongruence (Matthews et al., 2016; Ülsmann, Hitzegrad, Ertle, Schulte-Herbrüggen, & Fydrich, 2016). Both of these aspects may prevent patients with depression from actively utilizing social resources, even though helpful relationships may exist.

The study has certain limitations that should be improved upon in further research. First, we did not control for the influence of distorted cognitions and perceptions (especially positive symptoms) on participants' self-reports. Therefore, it is possible that the results (e.g., the GSI score) might not be valid, which would affect the further analysis and ultimately the conclusions of the study. Two different options could have ensured the validity of the data. On the one hand, more objective data would have been achieved by including not only self-report but also reports of other individuals (e.g., family members, therapists). On the other hand, patients could have completed the measures following the stabilization of their symptoms. However, neither of these options is compatible with the objective of the study, namely to understand the subjective experience of patients with acute mental health symptoms. From our perspective, it is a valuable finding that patients with psychotic disorders subjectively experience less psychological distress and more personal resources than do patients with other diagnoses, regardless of whether or not this experience corresponds to objective facts. Patients' subjective experience is especially important within psychotherapy. Nevertheless, a comparison of the level of resources and psychological distress during an acute phase with the respective levels after recovery would be very interesting for future research. Second, recognizing the problem in research in patients with schizophrenia that very ill patients are often noncompliant and unwilling to participate in studies (Schreiber, Breier, & Pickar, 1990), the sample of the present study may not be representative of a broader schizophrenic population. Moreover, as answering the questionnaires was cognitively demanding, those patients with greater cognitive impairments refused to participate. Third, due to the single- point study design, the question of how resources might change over time was not examined. Future research should explore whether resources have a preventive effect following inpatient treatment. It can be hypothesized that resources in phases of recovery help to satisfy basic needs and prevent relapse. Fourth, the analyses were more exploratory and less hypothesis-driven due to the lack of previous studies in this area. As such, the findings primarily serve the purpose of generating concrete hypotheses for future research. Fifth, no distinction was made between a functional and dysfunctional resource utilization. A more differentiated view of resources could provide greater insight, especially for the group of patients with substance use disorders, for whom no moderating effect of the two types of resources could be found. Sixth, as the psychiatric sample included patients with comorbid disorders, the diagnostic groups are not clearly separated. This can be considered as a methodological problem of the study, as it cannot be ruled out that the comorbid disorders influenced the results. The confounding factor of the comorbid disorders was tolerated because the sample should represent a naturalistic sample of patients in psychiatry, for whom comorbid disorders are typical. Therefore, the results might be not representative of patients with (pure) mental disorders in outpatient-level care but can be transferred to a typical psychiatric patient cohort in inpatient clinical practice. Furthermore, all models of the moderator analysis remained stable when the number of comorbid mental disorders was controlled in a covariate analysis. Seventh, the sample size of each patient group was not very large (≤56 patients). Eighth, as the SCID-I and SCID-II were not used in the group of healthy controls, it cannot be definitively ruled out that there were healthy subjects with undiagnosed mental disorders. These limitations might be balanced out by a number of strengths, including a reference group of healthy subjects, a comprehensive examination of severely impaired patients and a study in a little-known field of research.

Furthermore, the study has several clinical implications. The results indicate that the objective manifestation of a mental disorder can differ from the subjective experience of mental health problems (Hoefert, 2010). In psychotherapy, the subjective view is always crucial because opinions, feelings, and judgments of patients cannot be neglected when achieving therapy goals. In patients with psychotic disorders, the perception of well-developed resources should be promoted in psychotherapy and used to achieve further therapeutic goals. However, care should be taken to avoid overestimating these patients' abilities, as this could increase the risk of lack of compliance and lack of awareness of the need for treatment. Regarding the group of patients with depression, a particular aim of psychotherapy should be to reduce social withdrawal and avoidance behavior and to promote active maintenance of social contacts. Social resources should also be relevant in terms of relapse prevention because loneliness is associated with depressive symptoms (Cacioppo, Hughes, Waite, Hawkley, & Thisted, 2006). The finding that in patients with substance use disorders, resources do not seem to lead to a reduction of distress and an improvement in the satisfaction of needs should not inevitably mean that patients with this diagnosis generally do not benefit from resources. Rather, it may be especially important to reduce barriers in the form of dysfunctional relationships and coping styles in this patient group to enable access to hidden resources.

4 | CONCLUSION

The present study points to the importance of resources in the context of mental health problems. Depending on the diagnosis, patients indicate different levels of resources and seem to have different abilities to utilize their resources in dealing with their mental disorder. This finding leads to implications for psychotherapy: in psychotherapy with patients with schizophrenia, the wide range of resources can be utilized to effectively achieve therapeutic goals. In the case of patients with depression and substance use, existing but unutilized resources have great potential for psychotherapeutic improvement.

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