

Controllability Awareness and Maladjusted Personality Traits: Preliminary Findings

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Abstract: Previous evidence from studies with college students on three continents and with teachers in an Israeli border community under constant terrorist threat indicates that individuals who are higher in "controllability awareness" (CA, the extent to which an individual's responses to life situations reflect attention to distinctions between controllable and uncontrollable aspects of potential outcomes) perceive their lives as less stressful, report fewer physical symptoms, and think in ways that enable them to cope more effectively with environmental demands. The current study extends these findings to include clients seeking treatment in an outpatient institute for the treatment of psychological stress. Correlational findings from measures of CA, perceived stress and personality variables indicate that CA is associated with higher stress tolerance irrespective of clinical diagnosis and appears to mitigate a wide range of psychological difficulties. Clinical and research implications are discussed.

"Controllability awareness" (CA) refers to the extent to which an individual pays attention to distinctions between controllable and uncontrollable aspects of potential outcomes in responding to life situations (1). Unlike "perceived control" (e.g., 2; 3), "personal control" (e.g., 4; 5), and "locus of control" (e.g., 6; 7), which focus on how much or whether events are seen as controllable, the controllability awareness construct addresses the subtle distinctions among different aspects within situations that may or may not be controllable and distinctions among the agents affecting the outcomes in terms of which aspects the individual can control, which others control, which require cooperative efforts to achieve the outcome, and which are not under human control (1). Controllability awareness is anchored in a similar tradition as "constructive thinking"

(8) and "adaptiveness" (9), which are also indicative of managing life's demands more successfully. Scores on the Constructive Thinking Inventory (CTI; 8) and the Personal Functioning Inventory (PFI; 10), which measures adaptiveness, correlated significantly with scores on the Controllability Awareness Inventory (CAI), which was developed to assess controllability awareness (1). Controllability awareness, however, is thought to be an explicit factor in stress tolerance because individuals who are mindful of controllability distinctions should be more likely to respond confidently and effectively to environmental demands and thus they are more likely to appraise situations as challenging rather than threatening.

Lazarus and Folkman's (11) model of coping recognizes the complexity of an ever-changing environment that can be both chal-

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lenging and threatening and the individual's dynamic interaction with it. The situation is appraised as threatening if the individual's coping resources seem insufficient to meet the demands, whereas individuals with sufficient coping resources appraise the situation as challenging (12). Controllability awareness is thought to be a characteristic of stress tolerance because it is grounded in the same theoretical distinction. Lack of awareness of or inability to distinguish between controllable and uncontrollable aspects of situations may lead to higher proportions of threat appraisals. In contrast, awareness of controllability distinctions should promote challenge appraisals because controllability analysis helps categorize potential outcomes in terms of what is achievable and what is futile. The controllability awareness construct separates controllability into four different aspects: *personal control*, i.e., the individual can produce the desired outcome; *others in control*, i.e., the individual must rely on others to achieve the desired outcome; *shared control*, i.e., the individual must cooperate with others to achieve the desired outcome; and, *no control*, i.e., no one is in control because the outcome will or will not occur by chance. An individual's overall level of CA depends upon the extent to which the individual responds to situations appropriately based on his/her realistic control in each of these areas. Controllability aware individuals probably tend to see challenges and determine effective responses; individuals low in CA may have difficulty getting beyond the threat (1).

Until now, controllability awareness has only been explored in the context of "stresses" of non-clinical populations. Measures of CA have been associated with better stress tolerance in healthy young adults (1), in teachers managing classrooms in an Israeli border community under constant terrorist threat (13), and in patients suffering from chronic rheumatic diseases (14). The

relationship between CA and stress tolerance in individuals struggling with psychological difficulties has not yet been explored. We hypothesize that the same benefits accrued to those using CA to manage the stresses of daily life even when that daily life includes stresses of chronic illness or threat of terrorist attack would provide additional stress tolerance in psychotherapy clients, i.e., that those higher in CA would cope more effectively with their difficulties.

This study was designed to assess relationships among controllability awareness, perceived stress, and personality variables associated with psychopathology in emotionally distressed clients seeking help for their difficulties. Although CA is not a coping style or strategy *per se* (see 1), given the previous findings (1, 13, 14), we hypothesize that CA would be associated with more adaptive personality characteristics and more effective coping with the demands of psychological difficulties when they occur. In the present study we sought to investigate the relationship between CA and maladjusted personality traits measured with a personality inventory. We hypothesized that individuals higher in CA would experience fewer and less severe psychological symptoms when encountering environmental demands. Individuals higher in CA should be higher in ego-strength and self-esteem, better equipped to manage their emotions, less prone to worry or anxiety, more effective in their interpersonal and employment relationships, and better able to tolerate uncertainty and others being in charge. In contrast, we would not expect CA to be associated with inventory scales involving gender roles, nor do we expect CA to have an effect on measures of biologically determined affective states such as manic tendencies or depression, or scales measuring somatization and histrionic defenses.

If, as we would predict, psychotherapy clients who are higher in CA are more toler-

ant of the stresses associated with their psychological difficulties, this would provide motivation to investigate the possibility that CA training programs designed specifically to help low CA individuals suffering from psychological disturbances learn the CA skills that could enable them to feel better, as well as to manage their lives and their problems more effectively. This may be particularly useful because controllability awareness is thought to be a "skill" that is more amenable to training than personality characteristics, such as optimism and self-efficacy, and more helpful than stress reduction training alone (1).

Method

The purpose of this study was to determine whether there are predictable relationships between CA and perceived levels of life stress and self-reported symptoms in an independently diagnosed clinical sample.

Participants

Successive new clients (40 women and 22 men ranging in age from 18 to 65, mean 32) seeking psychotherapy at a large outpatient mental health clinic in Northern Israel were interviewed as part of their pre-therapy diagnostic intake assessment (a 100% response rate). Inquiring patients were informed prior to their intake interview that psychological test assessment was customary practice in this research-oriented clinic. Patients who decided to schedule an intake appointment understood it would involve an extensive three-hour psychological assessment procedure (interview and test completion). All provided written informed consent. Of these participants, 18 (29%) were diagnosed as suffering from anxiety disorders; 11 (18%) presented with non-clinical V-code distress categories; 8 (13%) with adjustment and stress-related disturbances; 6 (10%) had a depressive disorder; 6 (10%) were assessed as having a personality disorder; 3 (5%) were

sexually dysfunctional; 3 (5%) had an eating disorder; 2 (3%) suffered from a sleep disorder; 2 (3%) from a dissociative disorder; 2 (3%) suffered from schizophrenia and 1 (2%) received no DSM diagnosis.

Procedure and Materials

Subsequent to their diagnostic interview, participants completed the questionnaires at the clinic. The test battery included the Hebrew versions of the Controllability Awareness Inventory (1), the Perceived Stress Scale (15), and the second edition of the Minnesota Multiphasic Personality Inventory (16). Participants also provided descriptive personal data, such as age, sex, education, marital status, and profession. To maintain patient anonymity, we coded the questionnaires by participant numbers rather than names. In addition, participants were administered the Structured Clinical Interview for DSM-IV.

Controllability Awareness Inventory (CAI)

The CAI (1) measures the extent to which the individual's behavioral and emotional responses to daily life situations, which may or may not be appraised as stressful, reflect awareness of the controllable and uncontrollable aspects of the outcomes of those situations without focusing explicitly on controllability distinctions. The inventory consists of 20 simple statements assessing awareness of various aspects of controllability including personal control (e.g., "I am confident that I can manage all the things I have to do"), shared control (e.g., of an item worded anti-trait "I get upset when someone won't cooperate with me"), others in control (e.g., "I try not to be impatient with inefficient clerks and administrators"), and no one in control (e.g., "I don't worry about things if there's nothing I can do about them"). The instrument has subjects indicate how much they agree or disagree with each statement on

a 5-point scale from 1=disagree strongly to 5=agree strongly. Anti-trait items are reversed and the responses are summed to produce a score between 20 and 100. Chronbach alpha measures for the CAI previously yielded .78 and .85, indicating the reliability of this inventory. CAI was slightly more highly correlated with the Perceived Stress Scale ($r=-.60$; 15) and the Cohen-Hoberman Inventory of Physical Symptoms ($r=-.52$; 17) than the scores on either the Personal Functioning Inventory (PFI; 10) or the Constructive Thinking Inventory (CTI; 8). Correlations with the PFI and CTI were .66 and .63 respectively. All validity indices were significant at a $p<.01$ level (1).

Although the CAI has been shown to be a reliable and valid measure of stress tolerance based on awareness of controllability in previously studied non-clinical populations (1, 13, 14), the instrument has not yet been tested as a coping measure in a clinical population and its relationship to psychopathological indices and personality variables is not yet known.

Perceived Stress Scale (PSS)

The Perceived Stress Scale (PSS) is a 14-item scale designed to assess subjects' appraisal of how stressful (on a 5-point scale) their life situation feels to them (15). PSS scores correlated significantly with CAI scores in previous investigations (1, 11, 12).

Minnesota Multiphasic Personality Inventory — Second Edition (MMPI-2)

This is the most extensively used personality test in North America. The MMPI (MMPI; 18) and the MMPI-2, a more recent revision of the MMPI (16) are also the most widely translated and adapted clinical tests of personality worldwide (19). The MMPI-2 has been translated into Hebrew and successfully adapted to use in Israel (20). The instrument consists of 567 statements to

which the subject responds with true, false, or cannot say. The test provides scores on 10 basic clinical scales: hypochondriasis (exaggerated concern about physical health), depression, hysteria, psychopathic deviancy, masculinity-femininity, paranoia, psychasthenia (irrational fears and compulsive actions), schizophrenia (a form of psychosis), hypomania (excitability), and social introversion (withdrawal). The MMPI-2 includes 10 supplementary scales that help evaluate such clinically relevant variables as anxiety, repression, or ego strength. There are also 15 content scales that measure various aspects of behavior and personality, such as anger, Type-A personality, low self-esteem, work or family problems. The subscales enable identification of specific areas of psychological difficulty that assist in the diagnosis and treatment plan.

Structured Clinical Interview for DSM-IV (SCID)

The SCID is a clinician guided semi-structured diagnostic interview for the assessment of DSM-IV-based psychopathology (21). The SCID interviews were administered by the first author.

Results

Preliminary Analyses of Variance (ANOVA) indicated no effects of sex, age, years of education, marital status, profession, or DSM-IV diagnostic category on CAI scores, thus the results were analyzed as a single participant group. Levels of CA correlated negatively and significantly with levels of perceived stress, as measured by the PSS ($r=-.58$, $p<0.0001$).

As hypothesized, the MMPI-2 clinical, content and supplementary scales that measure known negative outcomes of person-environment interaction correlated negatively and significantly with the CAI (see Table 1). For problems with close relationships, authority and interpersonal anger

these include: the clinical psychopathic deviation scale (which measures problems with authority), the content scales of anger, family problems, and work interference. For difficulties with worrying, anxiety and avoidance these include: the clinical psychasthenia and social introversion scales, both content and supplementary anxiety scales, and the obsessiveness scale. Correlations between the CAI and both clinical and content depression scales were also significant, as was the correlation with the Type A personality scale, which measures an interpersonal style related to coronary heart disease (see Table 1). Because individuals high in CA should have a good capacity for reality testing, they scored significantly lower on the schizophrenia scale (see Table 1). As predicted, CAI scores were positively correlated with ego strength and negatively correlated with low self-esteem (see Table 1). Although the multiplicity of scales from the MMPI led to many calculated correlations, all were in the predicted direction and, with the exception of these last two (plus psychopathic deviation and family problems scales by the narrowest margin), the correlations were sufficiently strong that they maintained their significance even after a Bonferroni correction, which set statistical significance at 0.003.

Divergent validity of the CAI was also demonstrated when no significant relationships were found with such MMPI-2 measures as the clinical scales for somatization and health-related distress ($r = -.17$; $p = 0.176$), hysterical tendencies ($r = -.14$; $p = 0.289$), gender roles ($r = .17$; $p = 0.200$), excitability ($r = .14$; $p = 0.290$), or with such supplementary scales as repression ($r = .18$; $p = 0.152$). This demonstrated that low CA was not a product of a pathology-endorsement response set.

Table 1. *Correlations between scores on the Controllability Awareness Inventory and scores on the Minnesota Multiphasic Personality Inventory (MMPI-2) subscales associated with negative or positive person-environment interactions.*

MMPI-2 subscale	r	p
Authority	-.36	0.005
Anger	-.40	0.001*
Family problems	-.35	0.006
Work interference	-.49	0.0001*
Clinical psychasthenia	-.42	0.001*
Social introversion	-.40	0.001*
Content anxiety	-.50	0.0001*
Supplementary anxiety	-.60	0.0001*
Obsessiveness	-.47	0.0001*
Clinical depression	-.39	0.002*
Content depression	-.53	0.0001*
Type-A personality	-.45	0.0001*
Schizophrenia	-.46	0.0001*
Ego strength	.32	0.011
Low self-esteem	-.32	0.011

* Significant after a Bonferroni correction that set statistical significance at 0.003.

Discussion

The results demonstrate that controllability awareness is significantly associated not only with lower levels of perceived stress but also with less severity of psychological symptoms and indices of maladjusted personality traits. CA scores were indicative of a client's ability to tolerate stresses associated with their psychopathology. Interestingly, the benefits of CA appeared to be present irrespective of psychiatric diagnostic category or pathological etiology, i.e., the nature of the stress (characterological, biochemical, traumatic, or the hassles of everyday life) that brought the client for treatment.

Evidence from previous studies of the re-

relationship between CA and stress tolerance demonstrated that higher CA was significantly associated with reduced perceived stress and other adverse outcomes in university students on three continents (1), teachers managing classrooms in crisis (13), and patients with rheumatic diseases (14). The results reported here demonstrate that similar relationships obtain among a sample of clients seeking help for their emotional distress, and thus, this study lends further support to the construct validity and wide applicability of the concept of controllability awareness.

The significant correlations between CA and perceived stress/maladjusted personality traits/emotional distress irrespective of DSM-based diagnostic category suggest that higher levels of CA are associated with better stress tolerance and less bothersome psychological symptoms regardless of the type or severity of the psychopathology. Taken together, these preliminary findings may imply that greater controllability awareness might help psychotherapy clients by enabling them to tolerate the stress associated with their psychological difficulties more effectively whatever the severity of their disorder may be. It is also likely that controllability awareness works as a psychological buffer against psychopathology. In any case, greater severity of psychopathology presents additional challenges that demand greater levels of stress tolerance, and individuals who are higher in CA are better able to tolerate the higher levels of environmental demands, perhaps because they are still able to appraise their life situations as challenging rather than threatening.

Although additional research will be necessary to fully document the role of controllability awareness in stress tolerance, these preliminary results are encouraging. We believe that CA is a modifiable skill, but the onus of demonstrating that is on us. Future research needs to investigate the extent

to which CA is adjustable by specific cognitive-behavioral training modules and the extent to which it mediates psychotherapeutic outcome. If the relationship between greater CA and less perceived stress and fewer psychological symptoms is causal as well as correlational, and if CA is indeed modifiable, specific CA training should be explored as a potential ego-strengthening procedure in mental health. We hope that CA training would prove effective for patients living in environments that are objectively higher in threat and lower in controllability, such as communities under low-grade warfare conditions and random terrorist attacks.

This study does have limitations in terms of generalizing from the findings to wider clinical populations because of the small sample size. The small heterogeneous clinical sample does not permit adequate comparisons among all the diagnosed clinical groups. Because of the minor representation in each of the diagnostic categories we had to collapse separate nosological groups (e.g., Panic Disorder with Agoraphobia and Posttraumatic Stress Disorder) to broader categories (i.e., Anxiety Disorders). In so doing, we may have lost some valuable information. It will also be important to corroborate the evidence presented here with results from additional research looking for similar relationships between CA and stress tolerance in larger groups of patients. Of course it is impossible to determine from these results whether CA contributes to psychological wellbeing or the other way around. Future controlled experimental studies with CA skills training, however, could help determine causality (if any) and its direction.

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