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Anger Coping Strategies and Anger Regulation

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Summary. – The present review summarizes the current research on anger coping and experiencing. We proceeded step by step, starting from the structure of anger coping, covering the influence of anger coping on somatic health, the influence of anger coping on psychic health, and finally we discussed the interpersonal domain of anger coping, including dyadic interactions. The main emphasis was given on the shift in the conceptualization of anger coping from the simple descriptions of coping mechanisms towards the dynamic explanations within the interpersonal context. We discussed contextual factors, such as situational specificity, relative status of the individual within the social group, interpersonal targeting of anger expression, perceived level of injustice in anger elicitors, etc. Further, we also focused on the domain of the nonverbal expression of anger. Since nonverbal expression constitutes the essential part of emotional coping, we surveyed some aspects of this subfield, such as facial expression of anger, energetical costs of nonverbal expression of anger, intrapersonal emotional transfer, and emotional transfer of anger between individuals.

Past investigation of anger coping focused mainly on the structure of coping and on the description of coping mechanisms within the individual. Currently, some scholars pointed out that anger is a socially censored emotion, and that it should be investigated in the context of social interactions and interpersonal relationships (Keltner & Kring, 1998; Kring, 2000). Therefore, we will also later discuss several contextual factors such as relative status in a social group and interpersonal targeting of anger expression.

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Further, Deffenbacher, Oetting, Lynch, & Morris (1996) noticed that previous research of anger coping neglected the domain of nonverbal expression of anger. Since this nonverbal expression constitutes the essential part of emotional coping, we will pay attention to some aspects of this subfield, such as facial expression of anger and energetical costs of nonverbal expression of anger.

To meet the mentioned aims we try to put together pieces of information from different scientific fields. The present study aims to integrate relevant information from the research of stress and coping, clinical psychology, medical research, social psychology, emotion research, and gender studies. A brief definition of the emotion of anger is provided at the beginning of the chapter. Further, we focus on the methods used for the assessment of anger coping and to the structure of anger coping. In the following two parts, the impact of anger coping on physical and mental health is briefly surveyed. The following part focuses on the interpersonal domain of anger coping including gender differences. Finally, several possible insights for future research are discussed.

STRUCTURE OF ANGER COPING

Anger is defined as an emotional state characterized by “*feelings of outrage and annoyance*” (Pérez-Nieto, Camunas, Cano-Vindel, Miguel-Tobal, & Iruarrizaga, 2000, p. 291). Hostility and aggression represent related constructs to anger, and together they are sometimes considered as a triad: anger-hostility-aggression (Pérez-Nieto *et al.*, 2000). Aggression refers to “*overt behavior defined by attacking, destructive, or hurtful actions*” (Harburg, Julius, Kaciroti, Gleiberman, & Schork, 2003, p. 588), whereas hostility is defined as a “*persistent negative attitude towards others*” (Pérez-Nieto *et al.*, 2000, p. 291).

How can we approach anger from the methodological point of view? Several typologies of anger coping strategies have emerged during past empirical research. Anger-In/Anger-Out or suppressed/expressed anger belongs to the one of the most discussed concepts. Anger-Out is defined as “*the tendency to overtly express anger, typically in negative, aggressive ways*”, Anger-In as “*the tendency to experience but suppress the overt expression of anger*” (Deffenbacher *et al.*, 1996, p. 576). These categories are usually assessed by subjective self-report measures such as the State-Trait Anger Expression Inventory - STAXI (e.g., Forgays, Forgays, & Spielberger, 1997; Pérez-Nieto *et al.*, 2000; Martin & Dahlen, 2005; originally developed by Spielberger, 1988), or the Anger Expression Scale (Burns, Evon, & Strain-Saloum, 1999; Musante & Treiber, 2000; originally developed by Spielberger, Johnson & Russell, 1985). Another category, Anger-Control, is present in these instruments, and is defined as “*the tendency to be patient, calm,*

and modulate emotional and behavioral expression of anger” (Deffenbacher *et al.*, 1996, p. 576). Bartz, Blume, & Rose (1996) pointed out the limitations of such self-report measures due to possible social desirability response bias. He also proved (Bartz *et al.*, 1996) that the level of Anger-Out is dependent on the level of social desirability measured by the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1964).

Previous research paid only little attention to the context where Anger-In/Anger-Out strategies are performed in daily life. Therefore, our team conducted a study employing STAXI with innovated context-dependent scales (Stuchlíková & Man, 2003). This innovated inventory was administrated to 215 Czech college students (119 females, 96 males). Participants reported different performance of Anger-In/Anger-Out strategies in the home, work, and leisure time settings. Interestingly, some gender-specific effects were found (see Figure 6.1). Women reported more Anger-Out than men in the home and leisure time settings. Further, women suppressed their anger in the work more than men. These results are consistent with findings of Bongard & al’Absi (2003), where women reported greater anger control and less overt anger expressions in the work than in the home settings. In this study women also described themselves as having generally greater Anger-Out than men. Interestingly, the gender differences were absent when anger expression was measured by the simple anger expression STAXI scale, irrespectively to social domains. Similar findings were reported also by others who did not distinguish between social context or aggregated the data for all situations (e.g., Spielberger, 1988; Kopper & Epperson, 1991; Porter, Stone, & Schwartz, 1999). Further, previous research has also demonstrated behavioral differences in the coping of hostility and aggression between home and work settings (Bongard & al’Absi, 2003). These contexts differ in the level of privacy, relations to potential anger targets, and in power distance, all of which are the factors that influence the expression of anger (Matsumoto, 1990; Underwood, Coie, & Herbsman, 1992). Porter *et al.* (1999) also found that university students reported more open anger expression in the private settings compared to the public settings.

In comparison with suppressed and expressed anger, researchers paid less attention to another general category called “repressed anger”. Anger repressors denied their strong experience of anger both to themselves and to others (Burns *et al.*, 1999). However, such anger repressors showed very high physiological reactivity during stress situations (Jorgensen, Gelling, & Kliner, 1992; Miller, 1993). This intrapersonal defense mechanism represents very interesting anger coping strategy that can have also negative influence on the one’s state of health (Greer & Watson, 1985). Repressors describe themselves as more controlling and expressing anger to a lesser extent. Those who repress anger proved the smallest changes in cardiovascular reaction when working in mild mental stress condition (Stuchlíková &

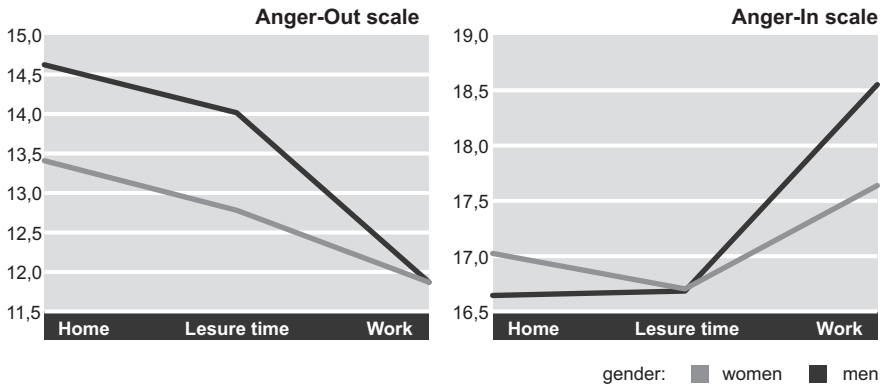


Figure 6.1 Gender differences in Anger-Out/Anger-In in various contexts (Source: Stuchlíková & Man, 2003).

Man, 2002). Egloff & Krohne (1996) showed that repressors reported less fear, sadness and hostility after failure. Some studies demonstrated that repressors have difficulty with the open expression of anger (e.g., Kiecolt-Glaser & Greenberg, 1983; Taylor, 1970). Pauls & Stemmler (2003) showed that highly defensive copers showed low levels of negative affect in their behavior during anger induction. Thus, the repressor's reactivity to negative feedback or social disapproval depends on the context.

Several researchers considered the Anger-In/Anger-Out dichotomy too narrow. The self-report instrument, the Behavioral Anger Response Questionnaire – BARQ (Hogan & Linden, 2004; Hogan & Linden, 2005; Miers, Rieffe, Terwogt, Cowan, & Linden, 2007; originally developed by Linden *et al.*, 2003), is built on the previous measures, STAXI, but it works with the more precise diversification of anger coping strategies. This model with six factors consists of Direct Anger-Out, Assertion, Diffusion, Avoidance, Rumination, and Support-Seeking.

Another self-report instrument was developed by Zeman, Shipman, & Penza-Clyve (2001) specifically for children. The Children's Sadness and Anger Management Scale (CSMS) includes three anger and sadness coping strategies - Inhibition, Dysregulated Expression, and Emotion Regulation Coping. Inhibition assesses the "masking or suppression of emotional expression", Dysregulated Expression measures "culturally inappropriate expression of anger and sadness", and Emotion Regulation Coping examines "perceptions of the ability to cope with anger and sadness" (Zeman, Shipman, & Suveg, 2002, p. 395).

Anderson & Lawler (1995) used the Anger Recall Interview (ARI) for determining anger expression coping strategies. Participants were asked to recall a time when they had become very angry. Four categories were later created based on

the analysis of their responses in these semi-structured interviews - suppression, cognition, assertion, and aggression.

The Anger Strategies Scale (Ronan, Keeney, Date, & Ronan, 1996; Ronan, Dreer, Dollard, & Ronan, 2004) assessed 17 effective and 17 ineffective coping strategies that are used by people for dealing with high-conflict situations. Effective coping strategies involve, e.g., accepting responsibility, compromising, describing the problem, paraphrasing/reflecting, or describing past positive behaviors. Ineffective coping strategies cover, e.g., denying responsibility, complaining, interrupting, criticizing, describing past negative behaviors, or name-calling.

Eight other anger coping strategies were assessed by Willner, Brace, & Phillips (2005) using the Profile of Anger Coping Skills - PACS. These categories involved using relaxation skills, walk away, do something else, ask for help, rethink the situation, use humor, be assertive, and count to 10 (pausing before expressing anger, giving the individual time to think).

Goodwin (2006) used a series of open, self-report questions for assessment of anger coping behaviors (e.g., "What do you usually do when you get angry?"). Reported activities were later grouped into four general categories - substance use (alcohol, drugs, cigarettes), physical activities (exercise, biking, walking), emotional coping (talking to someone, praying, listening to music) and aggressive behavior (fighting with someone, arguing).

ANGER COPING, HEALTH, AND ILLNESS

There is an increased interest in anger coping strategies in current medical research due to their impact on the risk of coronary heart disease (e.g., Fava, Anderson, & Rosenbaum, 1990) and cancer susceptibility and recurrence (Greer & Watson, 1985). Generally, anger causes a higher risk of cardiovascular disease, because of the exaggerated cardiovascular reactivity to stress (Houston, 1994; Suarez, Kuhn, Schanberg, Williams, & Zimmerman 1998), especially in the situations of interpersonal provocation (Suarez *et al.*, 1998). Both the influence of Anger-In/Anger-Out coping strategies and the influence of different personality types were investigated in previous studies with respect to the health risk in anger emotional processing and anger emotional expression.

The longitudinal study of Harburg *et al.* (2003) assessed anger-coping types based on the responses to two hypothetical anger-provoking situations involving injustices perpetrated by a power figure (unjustified "attack" of a policeman and unjustified "attack" of a spouse). Responses were evaluated as either the expression of anger or the suppression of anger, analogically to Anger-In/Anger-Out

coping strategies. Results showed that Anger-In strategy predicted earlier mortality for women, but not for men (Harburg *et al.*, 2003). Heart rate, cardiac output, and changes in peripheral resistance were measured as responses to experimentally induced unjust situations in another study (Girdler, Turner, Sherwood, & Light, 1990). Women showed greater increases in heart rate, cardiac output, and decreased peripheral resistance than men (Girdler *et al.*, 1990). Gallacher, Yarnell, Sweetnam, Elwood, & Stansfeld (1999) showed that individuals with higher levels of Anger-In were more stricken by coronary heart disease than others.

Few studies also pointed out the influence of different personality types to anger coping responses and health (Greer & Watson, 1985; Anderson & Lawler, 1995). Women were asked to "recall a time when they become very angry" in the study of Anderson & Lawler (1995). Their responses were later coded into four anger coping responses: suppression, cognition, assertion, and aggression. Heart rate and blood pressure were monitored at the baseline and after the interview. The relation of type-A and type-B personality to systolic blood pressure in anger coping condition was investigated. Women using the suppressed mode of anger coping showed higher systolic blood pressure. Women using the assertive mode of anger coping had the lowest level of systolic blood pressure. Further, type-A women using the suppressed mode of anger coping showed the highest systolic blood pressure. The lowest level of systolic blood pressure was found in type-B women using the assertive mode of anger coping (Anderson & Lawler, 1995).

Special effects related to anger coping were observed in the individuals with type-C personality (Greer & Watson, 1985). The typical behavioral pattern of "being pathologically nice" is represented in the type-C individuals (Buck & Powers, 2005), because of their excessive and exaggerated levels of kindness expressed towards their social environments. Type-C individuals deny their anger feelings and expressions (Buck & Powers, 2005), and this pattern was associated with cancer susceptibility and recurrence (Greer & Watson, 1985). Such repressed coping strategy is an interesting phenomenon when seen from the functionalist perspective. One of the most important functions of emotions is their signal function (Nakonečný, 2000). This signal function works on both the intrapersonal and the interpersonal level (Thoits, 1989). The repression of anger in the mind would strongly reduce the intrapersonal signal function of anger. However, on the other hand, it is known from anxiety research that repressors avoid only medium threats. When the level of threat is highly significant, they process the threat with the similar allocation of attention as non-repressors (Calvo & Eysenck, 2000). Causes of anger repression are not always clear. Repression might occur, for example, as an outcome of evoked anxiety when negative consequences are assumed, including social disapproval, which is especially threatening for repressors (Zeman &

Garber, 1996). However, possible influences of social regulatory pressures such as specific social rules for expressing anger (display rules) and specific expectations for anger experience (feeling rules) can be assumed as well.

ANGER COPING, DEPRESSION, AND SUBSTANCE USE

Anger coping strategies have impact not only on physical health, but they can also influence on the development of some mental problems, especially depression and internalizing disorders. The suppressed mode of anger coping and stressful life events were independent predictors of depression in the study of Clay, Anderson, & Dixon (1993). Similarly, the inhibition of anger predicted internalizing symptoms in children (Zeman, Shipman, & Suveg, 2002). Experiences of anger and sadness represent two emotional states which are often associated with the development of depression in children (Zahn-Waxler, Klimes-Dougan, & Slattery, 2000).

Alcohol abuse was reported as an one of the most anger-provoking elicitors for women in the study of Buss (1989). Women reported greater anger than men as a reaction to their partner's alcohol abuse (Buss, 1989). One can see alcohol abuse in two different roles in relation to anger experience and anger coping. First, alcohol abuse could be a possible strategy of coping with anger for men, although Goodwin (2006) considered drinking alcohol as a less productive coping behavior. Second, alcohol abuse could be also one of the strongest anger-provoking elicitors for women (Buss, 1989). Such gender differences would have further implications on dyadic intimate relationships between males and females. We can construct a hypothetical situation where the male partner wishes to cope with his anger experience with alcohol consumption. This may elicit further anger feelings in his female partner, who may also externalize her feelings in mutual interactions and emotional communication. Previous research revealed that negative emotional reactions of women represent generally one of the strongest anger-provoking elicitors for men (Kring, 2000). We can discuss a hypothetical "loop effect" in this sense. The anger coping of one person creates anger experience in another. Such interindividual emotional transfer of negative arousal seems to be quite specific because of its self-enhancing effect. A similar effect at the intraindividual level was described for happiness by Ryan & Deci (2001). Happiness is proposed to cause positive cognitions, which in turn contribute to further happiness in the individual.

Problems with excessively externalized anger seem to be possibly related with the development of depression as a consequence of suppressed anger. Chronically

or problematically angry individuals are often unable to deal with stress (Lench, 2004). This inability leads to an increase of frustration and this frustration consequently leads to increased anger (Grieger, 1986; Edmondson & Conger, 1996; Cox, Stabb, & Bruckner, 1999). Such individuals might then perform, for example, acts of domestic violence or child abuse (Lench, 2004).

INTERPERSONAL CONTEXT OF ANGER COPING AND GENDER DIFFERENCES

As is apparent from the previous text, anger may often elicit conflicts in social interactions. Thoits (1989) pointed out that emotional functions are key mechanisms which form the social structure and the behavior of individuals. Negative emotions, like anger, might harm group harmony and smooth social interactions (Biehl *et al.*, 1997). This could be the reason why people with chronic anger tendencies maintain poorer social relationships (Monnier, Stone, Hobfoll, & Johnson, 1998). Suitable coping with anger emotional processing, and especially coping with anger emotional expression, is therefore crucial for smooth social functioning.

Interestingly, previous research revealed some gender differences relating to the interpersonal context of anger expression. Men experienced and expressed anger generally more often than women (Plant, Hide, Keltner, & Devine, 2000; Plant, Kling, & Smith, 2004). Further, men were also better in expressing anger via facial expressions than women (Coats & Feldman, 1996). We may posit the question about the causes of such differences. Although biologically based, anger is chiefly a socially constructed emotion (Strongman, 2003). Anger is a conflictive emotion that also has relations to the systems of aggression, social living, symbolization, and self-awareness (Strongman, 2003). Based on these theoretical considerations, one can construct two views of anger utility in daily social interactions for both men and women. The first view assumes that the expression of anger toward one's social environment may have negative consequences for the individual. The second view searches for the positive effects of overtly expressed anger. Anger might negatively influence social interactions (Biehl *et al.*, 1997). Women are generally highly motivated to maintain and refine their social relationships with others, rather than to elicit conflict situations by overt anger expression (Madden, Barrett, & Pietromonaco, 2000). From this point of view, one of possible explanations might be that women's competence not to express anger overtly is rooted in their high pro-social motivation. They can perceive overt anger expression as "socially harmful", which might be a result of gender-specific socialization.

Can an overt expression of anger be also beneficial? Previous empirical evidence showed that expression of anger elicits an attribution of dominance and power to

the individuals who expressed this anger (Marsch, Adams, & Kleck, 2005). Marsch *et al.* (2005) stated that the expression of anger communicates the relative status in social groups. From the functionalist perspective, one of the functions of anger is to energize the person for defense (Strongman, 2003). Izard & Ackerman (2000) pointed out that experience and expression of anger mobilize and sustain energy at a high level, and that the increased motor activity sustained for a long time period is typical for the emotion of anger. This readiness for action may also prevent the aggressive behavior of another person (Izard & Ackerman, 2000).

Anger is expressed by specific facial expressions, intensive and fast speech, and by very fast, expansive, and awkward movements (Wallbott & Scherer, 1986). It seems that anger expression might be energetically very costly for the individual. Our team conducted research where eight basic facial expressions of emotion were compared according to their energetic costs (Trnka, 2007). Energetic costs were analyzed according to the range of structural facial changes, signal duration, duration of communication sequence, and presence/strength of vocalization. Based on this assessment, the expression of anger was considered as the second most energetically expensive facial signal compared to other facial expressions (see Figure 6.2).

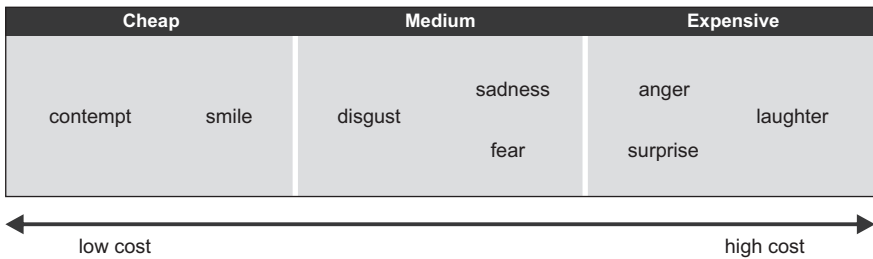


Figure 6.2 Energetic costs of eight basic facial expressions. (Source: Trnka, 2007).

As seen above, the expression of anger is an energetically demanding behavior. We can speculate about two hypothetical causes of the above-mentioned gender differences from this perspective. First, it would be beneficial for women to save energy by expressing anger to a lesser extent. The saved energy would be hypothetically used for improving and maintaining their interindividual relationships through pro-social communication or for child care. The second hypothesis takes in mind the relation of anger to the status hierarchy. Men are more often targets of the anger expression of others than women (Dossier, Balswick, & Halverson, 1983; Harris, 1994; Brody, Lovas, & Hay, 1995). It seems that men are challenged to defend their status more often than women. Frequency of anger expressions towards friends increases generally with age during childhood (Underwood *et al.*, 1992; Underwood, 1997), as their social relationships become more complex and com-

plicated. It seems plausible that with the increasing complexity of social bonds, status rivalry may cause gender-specific direction of overt anger expressions. Men are hypothesized to be exposed to more conflict social interactions with others. Higher frequency of overt anger expressions might then reflect either the more pronounced status rivalry in men, or the generally higher occurrence of aggressive interactions in men.

CONCLUSIONS

The previous text briefly summarized the current research of anger coping. We proceeded step by step starting from the structure of anger coping and covering the influence of anger coping on health and illness. Further, we explored area of impact of anger coping on mental health, and finally we discussed the interpersonal domain of anger coping including dyadic interactions.

Current research revealed several loop effects of previous expression or coping of anger on the current anger experience. These effects emerged both on the interpersonal level (Buss, 1989; Burman, Margolin, & John, 1993; Goodwin, 2006) and intrapersonal level (Grieger, 1986; Edmondson & Conger, 1996; Cox, Stabb, & Bruckner, 1999; Harburg *et al.*, 2003). These effects prove to be not only immediate, but they may cause reexperiencing anger after long time period (Harburg *et al.*, 2003). The well-known facial feedback hypothesis (e.g., Izard, 1991; Ekman, 1993; McIntosh, 1996; Blairy, Herrera, & Hess, 1999) posits that changes in the nonverbal expression of the individual can elicit physiological changes, and consequently also an emotional experience consistent with the expressed emotion. However, researchers recently agree that such proprioceptive feedback may elicit a similarly valenced experience (pleasant/unpleasant), but no specific emotional experience such as disgust, anger, contempt, etc. (Burgoon, Buller, & Woodall, 1996; Andersen & Guerrero, 1998). On the contrary, the above mentioned “anger self-enhancing loop effect” seems to be just specific. Anger experience and expression often elicit further anger experience or expression in another person or within the same individual. Since anger has an immediate initial phase with a strong experience and limited potential to manage it, further research should address the following phases, where display rules start to work and self-strengthening effects contrary cause repeated reexperiencing of anger, to a greater extent.

From the methodological point of view, anger coping strategies were assessed by self-report measures in most cases (see “Structure of Anger Coping”). However, such measures are often criticized because of social desirability response bias and other limitations (Bartz *et al.*, 1996; Kring, 2000; Miers *et al.*, 2007). Measuring coping under real-life conditions is possible, especially in the domain

of the emotional expression of anger. Future research may be inspired by research in human ethology (see, e.g., Eibl-Eibesfeldt, 1989) where observational methods are well-defined and standardized. However, the main limitation of such an approach is the possible negative observer bias, when the observer is physically present during data collecting and thus may interrupt natural expressions of anger. Further methodological development should focus on the reducing of such negative observer bias to a permissible level.

Finally, we may conclude that some of the already-developed instruments have not yet been sufficiently utilized for assessing gender differences in anger coping. Using the Profile of Anger Coping Skills - PACS (Willner *et al.*, 2005) and the Anger Recall Interview – ARI (Anderson & Lawler, 1995) can bring new insights into possible gender-specific coping mechanisms in future research.

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