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DISSERTATION TITLE: *Psychological and physiological factors underlying stress-induces health complaints in victims of bullying*

Workplace bullying represents a form of social stress that may give rise to anxiety, helplessness and pain. The present thesis addresses the effect of such negative social stress.

First, the impact of bullying was demonstrated in the Norwegian working population. Subjects who felt they were unable to defend themselves against bullying experienced increased anxiety as compared to subject who felt they were able to defend themselves against such exposure. However, this effect was limited to subjects who were exposed to low levels of negative social acts. Individual coping seemed to have limited protective impact in victims of high levels of negative social acts at the workplace.

Next, in the same cohort, we demonstrated that the serotonin transporter SLC6A4 length polymorphism in combination with the rs25531 single nucleotide polymorphism had a moderating effect on the relationship between exposure to bullying and pain. Subjects with the L_AL_A genotype – associated with high expression of the serotonin transporter – were significantly more vulnerable toward exposure to negative social acts with regard to pain, as compared to subjects with the $SL_G/SL_A/L_AL_G$ genotypes.

Finally, using an animal model of social stress, we identified miR-146a, miR-30c and miR-223 as potentially important gene regulatory molecules that may be involved in the stress response. Interestingly, human genotypes affecting the expression of mature miR-30c and miR-223 had a moderating effect on the association between exposure to bullying and pain. Subjects with the miR-30c rs928508 GG genotype had a significantly stronger association between exposure to bullying behaviors and pain than other subjects. The same was observed in men with the miR-223 rs3848900 G genotype, as compared to other men.

In summary, the present thesis showed that coping and genetic factors may influence the devastating effect of bullying behaviors. We conclude that the effect of bullying is stronger than previously reported.