外 国 語 要 約

学位論文題目 ： Development of Helmet/Mask Integrated Protective Disaster-related
　　　　　　　　　 Clothing for Female Adults

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The Japanese archipelago has, in recent years, suffered devastating natural disasters, including earthquakes, tsunamis, and typhoons. It is difficult to predict when and where these disasters will occur and, therefore, important for every citizen to be aware of disaster prevention and mitigation exercises like the preparation of emergency supplies. Helmets are currently available as protective gear but it is insufficient as people exposed to danger outside of the head during a disaster-related evacuation. This research aims to better current evacuation procedures by devising clothing that can protect the body with a focus of female adults. The protective clothing will contain a helmet and a mask. The author analyzed the results of interviews and questionnaires on clothing that were administered to people who had experienced a disaster, and the findings were incorporated into clothing design. Furthermore, a quantitative experiment using a mask-fit tester was conducted to verify the suction of dust in the mask. It was found that the mask was effective in reducing dust inhalation as much as the pleated mask for household use. A somatometry of the original items relating to head movements were carried out, and a mask with a three-dimensional pattern design that will not slip off even with large head movements was completed. The dimensions required for the pattern design of a hood that can be worn over the helmet were also clarified. A final sample was completed and an evaluation experiment to verify its usefulness showed that the protective clothing can be worn in a short time, is comfortable, easy to take off, and store. It features reduced dust inhalation, an integrated design that can be worn with a helmet and mask. The proposed protective clothing can make significant impact on the safety and security of people evacuating due to an emergency.