Co-funded by the
Erasmus+ Programme
of the European Union

SPECIAL MOBILITY STRAND

PANIC AND MASS BEHAVIOR UNDER FIRE CASES
ARTEMIS HASA
NOVI SAD, 6.3.2019

Artemis Hasa[1] Epoka University
Slobodan Šupić [2] Novi Sad University

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

OUTLINE

- *Definition and interpretation of panic*
- *Panic on different perspectives*
- *Fire case studies*
- *Panic misconception*
- *From panic to mass psychology*
  - *Human factors*
  - *Decision making*
  - *Clinical issues*
  - *Social identity*
- *Research methods on mass psychology*
  - *Experiments*
  - *Interview studies*
- *Conclusion*
- *Future expectations*

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

Definition and interpretation of panic

- *Panic defined by Goldenson: "reaction involving terror, confusion and irrational behaviour precipitated by a threatening situation."*

- *Haesler states that: panic is inevitable after a period of time while the crowd has reached a certain density and immobility.*

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

What mass panic is ?

- *'instincts' will overwhelm socialized responses*
- *social norms will break down as personal survival becomes the overriding concern*
- *selfish and competitive panic behavior, such as pushing and trampling others to reach safety*

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

Scientific evidence in mass panic

- *What is described as **panic** in fire cases is **not scientifically approved** and does not fit to the main concept of panic*

- *is a **disparity in the perspective of people** who use the concept of panic to judge the appropriateness of someone's behavior*

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

Panic on different perspectives

Media perspective	*Cinema effect*	*Individuals perspective*	*Professionals & experts perspective*
Dramatizing and exaggerating the cases while reporting Journalists direct questions with a tendency to emphasize panic	Dramatic mass panic scenes Portraying hysterical behavior of people Nourish wrong public imagination on fire cases	Using word panic while interviewing where only fear is evident and rational behaviour	Fire engineers and firefighters have the tendency to attribute the fault of tragedies to panic

EPOKA UNIVERSITY

Co-funded by the Erasmus+ Programme of the European Union

Is it really panic ?

- *Panic is **very rare occurring** or the case is **misinterpreted** and reported as panic*
- *People explain some situations of **stress/anxious/fearfulness** as panic while is only a normal reaction of a human behavior in cases of fire.*
- *Commonly confused with the **flight behavior** under certain circumstances*

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

Case studies

- ***Beverly Hills Supper Club Fire**, USA, May 28, 1977, 300 dead _ the blame on panic by media*
- ***Stardust Nightclub Fire**, Ireland, February 13, 1981, 48 killed and over 200 injured, the fault _ panic*
- ***Gothenburg Discotheque Fire**, Sweden, October 29, 1998, 63 killed and more than 200 injured, overloaded with people _ panic*
- ***World Trade Center Attack**, USA, September 11, 2001*
- ***Lowenbrawkeller,** Germany, April 12, 1973, 11 died and 250 injured, stacked to one of the entrances _ panic*

Co-funded by the
Erasmus+ Programme
of the European Union

Source: www.geocaching.com

Case studies

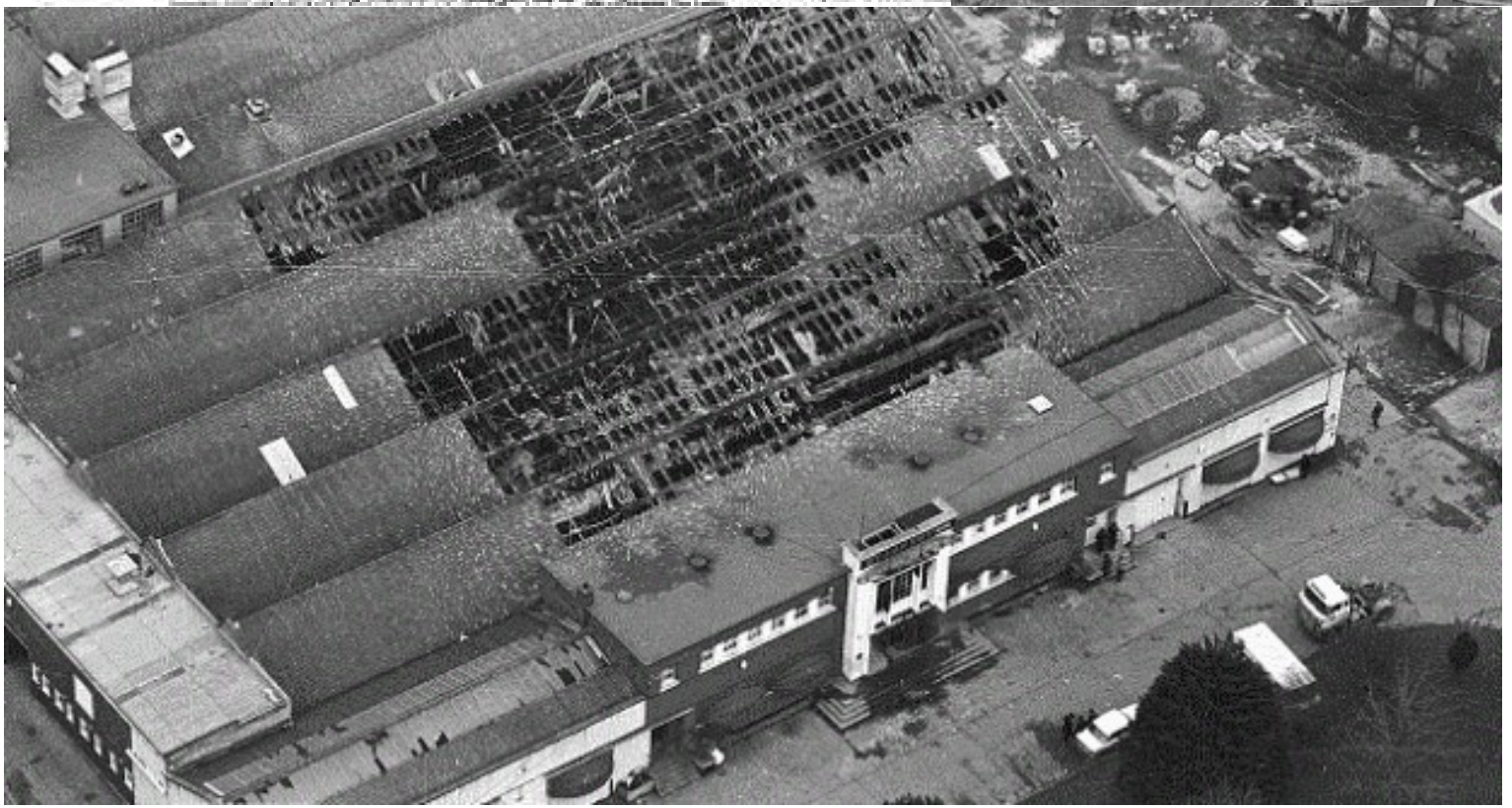
- ***Beverly Hills Supper Club Fire**, USA, May 28, 1977, 300 dead _ the blame on panic by media*
- ***Stardust Nightclub Fire**, Ireland, February 13, 1981, 48 killed and over 200 injured, the fault _ panic*
- ***Gothenburg Discotheque Fire**, Sweden, October 29, 1998, 63 killed and more than 200 injured, overloaded with people _ panic*
- ***World Trade Center Attack**, USA, September 11, 2001*
- ***Lowenbrawkeller,** Germany, April 12, 1973, 11 died and 250 injured, stacked to one of the entrances _ panic*

Co-funded by the
Erasmus+ Programme
of the European Union

THE IRISH TIMES

Gardai urge use of death penalty

At least 40 dead in fire in Dublin club



Sources:
www.irishtimes.com
www.independent.ie

Case studies

- ***Beverly Hills Supper Club Fire**, USA, May 28, 1977, 300 dead _ the blame on panic by media*
- ***Stardust Nightclub Fire**, Ireland, February 13, 1981, 48 killed and over 200 injured, the fault _ panic*
- ***Gothenburg Discotheque Fire**, Sweden, October 29, 1998, 63 killed and more than 200 injured, overloaded with people _ panic*
- ***World Trade Center Attack**, USA, September 11, 2001*
- ***Lowenbrawkeller,** Germany, April 12, 1973, 11 died and 250 injured, stacked to one of the entrances _ panic*

Co-funded by the
Erasmus+ Programme
of the European Union

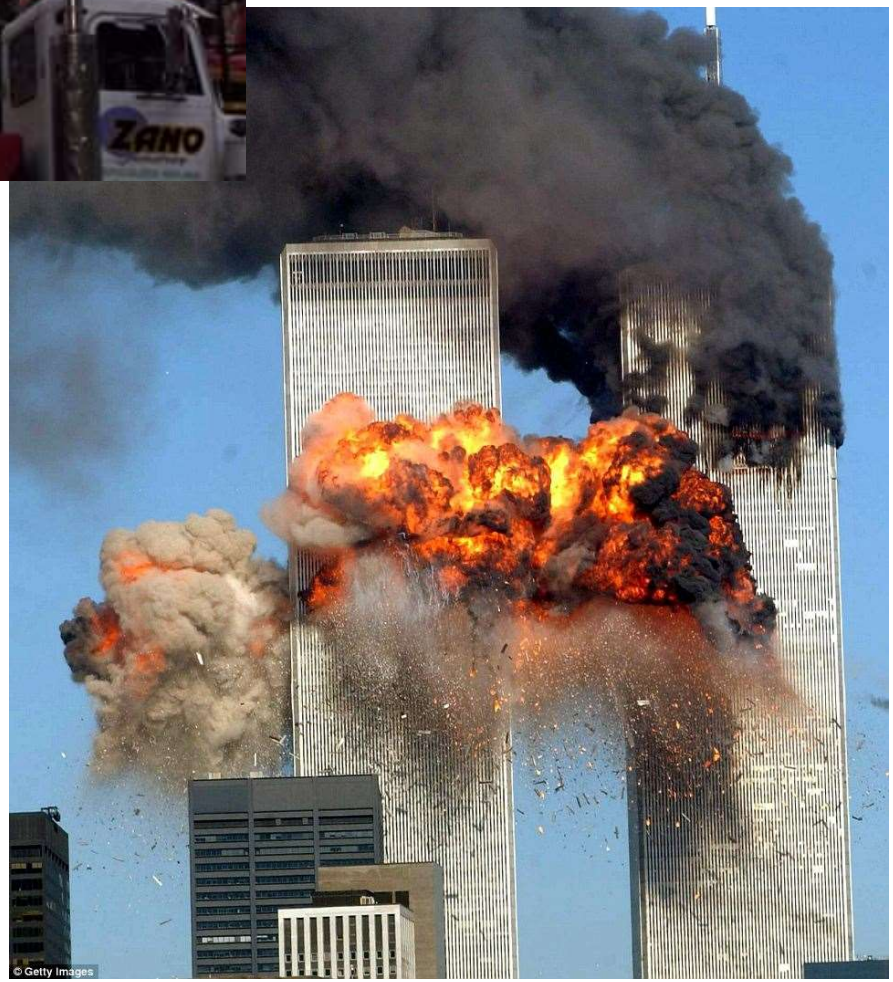
Source: http://news.bbc.co.uk
http://crimescenedb.com

Case studies

- ***Beverly Hills Supper Club Fire**, USA, May 28, 1977, 300 dead _ the blame on panic by media*
- ***Stardust Nightclub Fire**, Ireland, February 13, 1981, 48 killed and over 200 injured, the fault _ panic*
- ***Gothenburg Discotheque Fire**, Sweden, October 29, 1998, 63 killed and more than 200 injured, overloaded with people _ panic*
- ***World Trade Center Attack**, USA, September 11, 2001*
- ***Lowenbraw keller,** Germany, April 12, 1973, 11 died and 250 injured, stacked to one of the entrances _ panic*

Co-funded by the
Erasmus+ Programme
of the European Union

Sources:www.cunesower.com
www.securitydegreehub.com
www.thoughtco.com



Case studies

- ***Beverly Hills Supper Club Fire**, USA, May 28, 1977, 300 dead _ the blame on panic by media*
- ***Stardust Nightclub Fire**, Ireland, February 13, 1981, 48 killed and over 200 injured, the fault _ panic*
- ***Gothenburg Discotheque Fire**, Sweden, October 29, 1998, 63 killed and more than 200 injured, overloaded with people _ panic*
- ***World Trade Center Attack**, USA, September 11, 2001*
- ***Lowenbrawkeller,** Germany, April 12, 1973, 11 died and 250 injured, stacked to one of the entrances _ panic*

Co-funded by the
Erasmus+ Programme
of the European Union

Misconception of panic in scientific research ?

Until 70's literature and scientific research

↓

Blame on panic

↓

no further development can be achieved

- *Philips refuses the research in people behavior in fire considering it very abstract to be understood.*

- *Small group of researchers* ➡ *entific explanation*

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

The effects of misinterpretation of panic

- *Philips considers the panic a **greater cause of death** than the fire itself*
- ***Codes and regulations has changed** by considering the **panic as the main inducer** of the tragedies and disasters of fire*
- *Institutions have tried to deal mostly with panic and how to manage it rather **understanding the psychological behavior** of humans under fire cases*

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

The effects of misinterpretation of panic

- *While **blaming the panic** for fire case tragedies **less importance and attention is provided to fire management and building standards***

- ***Less information is provided to people** due to consideration of the behavior of the mass during fire as irrational and illogical*

- *The misconception of panic has **delayed further investigation and research in fire***

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

The effects of misinterpretation of panic

- *the tendency to cover people with **non human features** and exhibit further their emotional aspects **reduces the focus in the control of fire in its early stages, the layout of the building and thinking for particular options.***

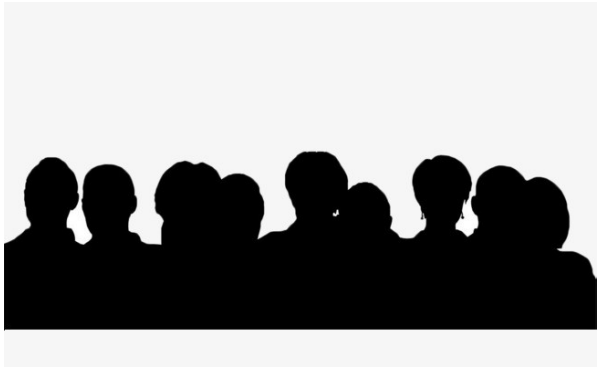
- *While limiting information to people because it induces panic may be a fatality because the awareness to potential dangers is delayed **(time is very precious)***

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

From panic to mass psychology _ evacuation factors

1. ***A mass of people***



2. ***Threat of death***

3. ***Escape possibilities***

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

Human factors

- *the effectiveness of emergency procedures*
- *the behavior of the evacuating crowd, which has often been blamed for panic, disorganized, over-emotional, irrational and ineffective egress*
- *decision-making and the interpretation of events*
- *leadership and social influence*

Co-funded by the
Erasmus+ Programme
of the European Union

Evacuation _ Decision making

- *Seriousness of threat and urgency of situation influence rapidity of response;*
  - ***people often assume that the equipment is simply being tested, it is a malfunction or just a drill***

- *Mechanism of warning affects the interpretation of the event.*
  - ***people often do not recognize the emergency or act quickly enough***

Co-funded by the
Erasmus+ Programme
of the European Union

Evacuation _ Clinical issues

- *Freezing*
  - ***potentially dangerous as it can prevent appropriately urgent flight action***

- *Becoming disassociated or psychologically distanced from the reality*
  - ***behave with more calmness than is needed***

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

Evacuation _ Social identity

Psychological crowd	Aggregated crowd
Greater concern towards others in the crowd (including strangers)	No concern at all
co-ordination, help and personal self-sacrifices (including strangers)	segregation
expectations of support	No support
fewer personally selfish or competitive behaviors.	individuality

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

Research methods for mass psychology

- ***Room Evacuation modelling***
- ***Visualization studies***
- ***Field interviews***

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

Room evacuation modelling

- *participants often did not take the scenario seriously enough*
- *the evacuation was over too quickly to give people an opportunity to display selfish versus helping behaviors*
- *by cramming them into a small room together, people saw themselves as a group in relation to experimenters*

FAILED

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

Visualization studies

- *when people saw themselves as group members, they helped more, cared for others more and expressed a greater desire to help*
- *where there is a strong sense of collective identity, there will be mutual concern and helping*
- *with a strong shared identity characters tended to help the fallen character even though this meant delaying their own exit*

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

Interviews on past cases

WITNESSES SHOWED THAT

- *in almost all cases, the crowd was more unified over the course of the emergency*
- *social roles continued to operate – for example teachers continued to act with authority in relation to the schoolchildren in their charge*
- *many people stayed with their small affiliation groups and gave more assistance to their affiliates than to others*

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

Interviews on past cases

WITNESSES SHOWED THAT

- *There was no mass panic*
- *individual feelings of fear of distress, people screaming or crying and did not spread to others*
- *no widespread uncontrolled, competitive, irrational and personally selfish behavior*
- *Causes of unity: Shared fate.*
- *Effects of unity: Mutual concern and helping*

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union

Conclusions

1. *Studies into fire disasters consistently find that **altruistic behavior is the norm**.*

2. *Management should consider the **people as ally** to help in evacuation rather than irrational mass.*

3. ***Information is the key** to a successful building evacuation during an emergency. (proper info in the right way at the right time)*

4. *The **media plays a key role** on reduction of panic impression*

EPOKA UNIVERSITY

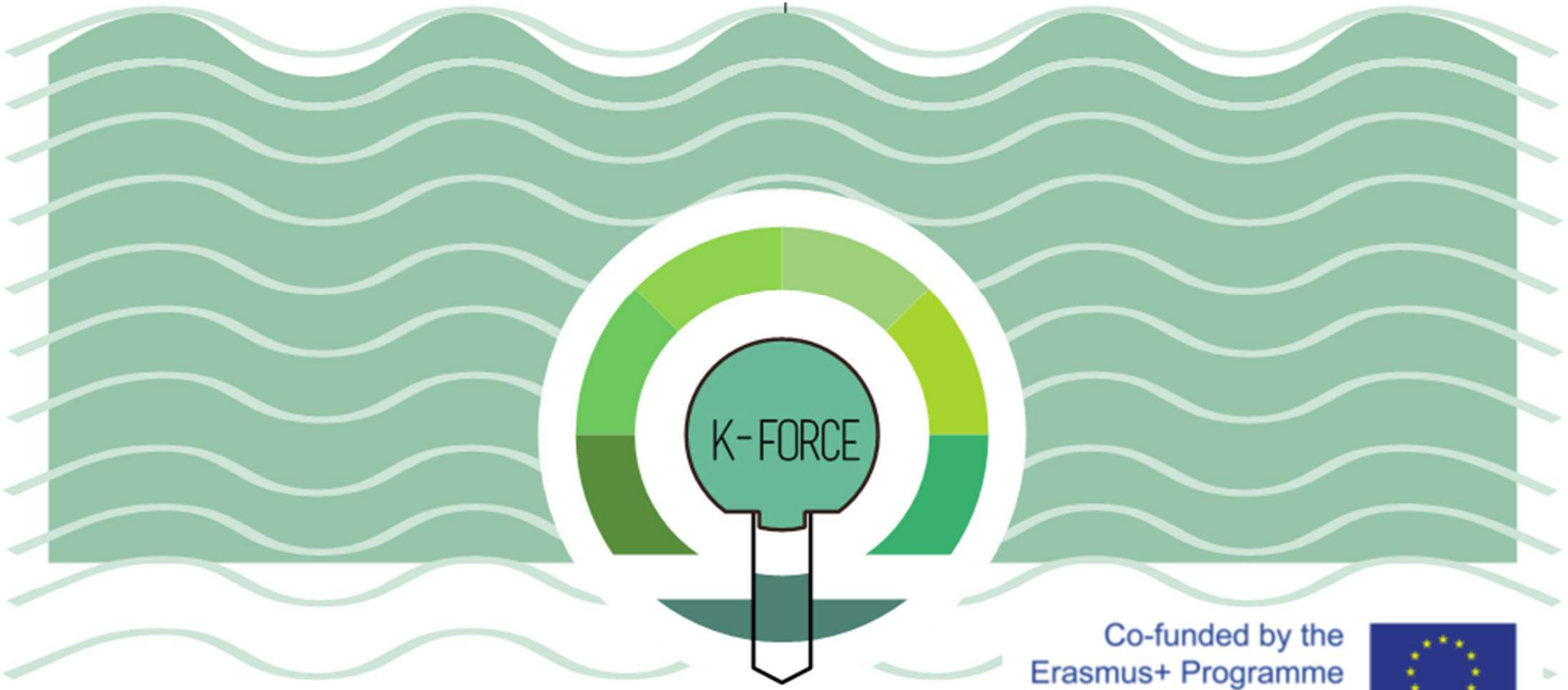
Co-funded by the
Erasmus+ Programme
of the European Union

Expectation for further improvements

- *There is a **need for identification of factors which lead to panic** and measuring its level and how to overcome it.*
- *Need for **demystification** of panic concept.*
- *Much effort should be made in **developing computer models** for evacuation simulations and design properly the space in accordance with evacuation standards.*

EPOKA UNIVERSITY

Co-funded by the
Erasmus+ Programme
of the European Union



Thank you
for your attention

ahasa@epoka.edu.al

Knowledge **FO**r **R**esilient so**C**i**E**ty

Is the media a factor affecting the perception of panic in fire cases?

Is misinterpretation of panic affecting fire and regulation codes?

Is social identity contributing on mass behavior for reducing the disaster consequences?

Does the virtual modelling software help on crowd prediction under fire case circumstances?

Does the crowd to be evacuated need to have information related with the fire situation or it has to be prevented from the information in order to help the evacuation process ?