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Using Social Marketing to Increase Occupational Health and Safety

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Using Social Marketing to Increase Occupational Health and Safety:

Final Report to WorkSafe BC

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Key Points

- A content analysis demonstrated that over half of social marketing communication materials dealing with workplace safety appear to involve fear appeals.
- Further content analysis demonstrated that among workplace safety communication materials that include fear appeals, less than one-third include the four variables of the Extended Parallel Process Model (self efficacy, response efficacy, severity, and susceptibility), which are believed to be necessary for a fear appeal to be effective.
- A controlled online experiment with young adult males in British Columbia (aged 18-24) demonstrated that the inclusion of self-efficacy, susceptibility, and severity together in an appeal greatly increased its effectiveness. The response efficacy manipulation was not successful in the study, so no claims can be made regarding this variable.
- Focus group discussions with young adult males in British Columbia (aged 18-24) revealed that workplace safety social marketing communication materials may not accurately reflect the reality of their jobs. Sometimes the behaviors are seen as unrealistic to perform in the reality of everyday constraints.
- As a result, there appears to be an additional form of efficacy that should be considered—something we have tentatively labeled *environmental efficacy*. It seems that even if self efficacy and response efficacy are present, there are often environmental elements that preclude the individual from performing safety behaviours.
- Environmental constraints include factors such as their boss hurrying them, or co-workers viewing them as wimps, which preclude workers from performing the advocated safety behavior. The desire to work faster was the main reason cited for not performing safety behaviors.
- According to focus group participants, safety meetings were seen as an effective way to reinforce the importance of safety. Penalties for failure to comply and incentives for compliance were both seen as effective tools.
- Policy Implications: Ads that employ fear appeals should include the elements of self-efficacy, susceptibility, and severity. Where response efficacy is communicated, it should take into account *environmental efficacy*.

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Executive Summary

The research that was carried out as part of this project consisted of three separate studies. The following sections describe these three studies.

Study 1 – Content Analysis

Study 1 was a content analysis of social marketing communication materials promoting workplace safety, collected from government departments and organizations all over North America. The initial results of Study 1 demonstrated that over half of the materials collected involved fear appeals. Therefore, a second-stage coding within Study 1 involved examining the principles of the Extended Parallel Process Model (EPPM: Witte, 1998), which addresses the effective use of fear appeals. Our goal was to determine whether or not these communications materials that included fear appeals made use of EPPM principles. We analyzed the marketing pieces for the presence/absence of the four variables in the EPPM—self efficacy, response efficacy, severity, and susceptibility. We found that less than a third of the marketing pieces contained all four elements at any level, with far fewer containing optimum levels. With this information we proceeded to Study 2.

Study 2 – Controlled Online Experiment

In Study 2 we created a controlled experiment to assess the power of EPPM variables in fear appeals. This study was conducted on-line, with young men between the ages of 18-24 from British Columbia serving as the research participants. A wide variety of methods were used to recruit participants, including posters in workplaces, personal visits to the workplace, announcements from instructors at trade schools to students in trade schools, on-line ads on trade-related job sites, and referrals from other participants. The results of this study showed that the inclusion of self-efficacy, susceptibility, and severity together in an appeal greatly increased its effectiveness. This highlights the importance of including these elements when creating appeals, something which our content analysis suggests is rarely done. Unfortunately the manipulation for response efficacy was not successful, apparently approaching a ceiling effect whereby all advocated behaviours were viewed as effective means of increasing workplace safety. Therefore, we decided to examine why response efficacy may have failed, particularly given that the EPPM model indicates that response efficacy is an important variable.

Study 3 – Focus Groups

Study 3 investigated perceptions and reactions to these ads using four focus groups with young men from BC. These took place in Vancouver, Victoria, Nanaimo, and Kamloops. In total, 29 young men participated. Within the focus groups, participants discussed their responses to workplace safety appeals. They were shown specific appeals and were asked to comment on their impact. We also were specifically seeking feedback regarding response efficacy. One issue that arose is that the marketing pieces may not accurately reflect the reality of their jobs – sometimes the behaviors are seen as unrealistic to perform in the reality of everyday constraints. As a result, there appears to be an additional form of efficacy that should be considered—something we have

tentatively labeled *environmental efficacy*. It seems that even if self efficacy and response efficacy are present, there are often environmental elements that preclude the individual from performing safety behaviours. This could be lumped under efficacy, but is probably better understood as a unique variable. Participants generally seem to feel that advocated behaviors would help enhance safety, thus supporting response efficacy, but environmental constraints such as their boss hurrying them, or co-workers viewing them as wimps, preclude them from performing the advocated safety behavior. The desire to work faster was the main reason cited for not performing safety behaviors. Safety meetings were seen as an effective way to reinforce the importance of safety. Penalties for failure to comply and incentives for compliance were both seen as effective tools.

Dissemination of Results

To date, the research team has prepared the following papers:

1. Lavack, Anne M., Sherry Magnuson, Debra Z. Basil, Sameer Deshpande, James H. Mintz, and Michael Basil (2006), "Using Social Marketing to Improve Workplace Safety: A Qualitative Analysis," presented at the *Social Marketing Advances in Theory and Research (SMART)* conference, Banff, AB, October 19-21, 2006.
2. Lavack, Anne M., Sherry Magnuson, Debra Z. Basil, Sameer Deshpande, James H. Mintz, and Michael D. Basil (2008, forthcoming), "Enhancing Occupational Health and Safety in Young Workers: The Role of Social Marketing," *International Journal of Nonprofit and Voluntary Sector Marketing*, special issue on Social Marketing.
3. Basil, Debra Z., Michael D. Basil, Sameer Deshpande, Anne M. Lavack, James H. Mintz, & Sherry Magnuson (2007), "Using the Parallel Process Model to Assess Social Marketing Communications to Young Male Workers," presentation at the *National Social Marketing Conference*, London, England, September 24-25, 2007. (Abstract refereed)

Other manuscripts are in the process of being prepared, including the following:

4. Lavack, Anne M., Sherry L. Magnuson, Debra Z. Basil, Michael D. Basil, Sameer Deshpande, and James H. Mintz (2007), "A Content Analysis of Workplace Safety Communication Materials," being prepared for submission to *Journal of Public Policy and Marketing*.
5. Basil, Debra Z., Basil, Michael D, Deshpande, Sameer, Lavack, Anne M. "Extending the Extended Parallel Process Model to Improve the Effectiveness of Fear Appeals," being prepared for submission to the *Journal of Consumer Research*. The team is conducting additional research in the US and Australia with separate funding. These results will be combined with the current results to create an impactful manuscript.

Using Social Marketing to Increase Occupational Health and Safety: Final Report to WorkSafe BC

Research Problem / Context

In British Columbia, there are just over half a million youth aged 15-24 years, and 55% of these are employed in the labour force.¹ While paid work is generally a positive life experience for youth, about 11,000 young workers aged 15-24 are injured on the job annually. Male workers aged 18-24 have the highest rate of injury, compared to all other age and gender groups.²

In the past, WorkSafeBC has tried to influence safety adherence through two main strategies: persuasion and coercion. According to WorkSafeBC documents, “The **persuasion strategy** includes convincing both business and workers that an increased focus on safety is in their own best interest. The **coercion strategy** entails changing behaviour through regulations, higher assessments, fines, and closures.”³

Many participants in a WorkSafeBC 2004 community stakeholder workshop believed that a social marketing campaign supporting the importance of workplace health and safety initiatives would be beneficial as a means of targeting young workers.⁴ Such a campaign would ideally involve mass-communication messages in a variety of media, including TV, radio, movie theatres, posters, websites, and/or print ads, focusing on media vehicles that effectively reach young workers.

The research project we carried out was intended to aid in developing components of a future social marketing strategy aimed at improving the safety of young workers aged 18-24, by examining what types of communication

materials have been used in other jurisdictions, and also examining how young workers respond to a sample of these communication materials. The findings from this research are expected to provide valuable input toward developing future OHS social marketing campaigns, and as such, will be useful to WorkSafeBC, industry groups, and major employers.

The research was inspired by a desire to:

1. Identify methods for increasing awareness of occupational health and safety (OHS) among young male workers aged 18-24.
2. Identify methods for changing beliefs, attitudes, and behaviours of young male workers aged 18-24 in such a way that work-related injury, illness, or death will be reduced.

The overall objectives of the study are:

1. To conduct a content analysis of the communication components of social marketing campaigns aimed at young workers (especially males aged 18-24), which have been used for purposes of improving OHS in jurisdictions throughout North America.
2. To determine the attitudes of the target group (employed B.C. males aged 18-24) toward a sample of these OHS social marketing communication materials.
3. To develop recommendations for developing future OHS social marketing campaigns aimed at the male 18-24 age group.

Literature Review

Young Workers

Over 80% of males aged 18-24 are employed in the paid work force.⁵ Studies have shown that male workers aged 18-24 have the highest rate of injury, compared to all other age and gender groups.⁶ There are a variety of reasons for this higher rate of injury.

Young workers commonly suffer from inexperience in the workforce, which leads to a number of problems. They may lack familiarity with basic safety procedures that older workers take for granted. They may also lack the experience to recognize when a workplace situation is dangerous. Furthermore, many young workers are unwilling to ask questions, as they don't wish to appear uninformed or incompetent.⁷ As well, many young workers are also not entirely aware of their rights as workers, and do not seem aware that a safe work environment is a basic entitlement.⁸

Young workers may also be more likely to take risks, as they underestimate the risk of certain behaviours. As well, young workers sometimes possess a sense of invincibility and believe that workplace accidents happen to others, not themselves.⁹

Social factors that may be important in ensuring safe work practices include safety climate and leadership, as well as the subjective norms and early socialization of a worker in the workplace.¹⁰ Factors that influence safety on the job include safety training and safety incentives in the workplace.¹¹ When workers receive comprehensive safety training, they are generally more likely to engage in safe job practices. While incentives for working safely are important, it

is important to ensure that financial incentives for job performance do not inadvertently encourage short-cuts which may reduce job safety. Job design and engineering systems can be important factors in safety behaviour, since these can influence the pace of work and the design of the work. Organizational factors such as role overload and perceptions of performance over safety can reduce job safety.¹²

Some research suggests that individuals may engage in unsafe work practices because of a desire to maintain their own self image, such as having a macho or tough person syndrome (e.g., safety equipment is for wimps), or maintaining one's image as being a competent worker (e.g., carrying very heavy loads).¹³ In some cases, workers choose not to use safety equipment in order to avoid being teased or made fun of by coworkers.¹⁴

Given that young male workers are involved in a disproportionate number of workplace accidents, it seems likely that a significant proportion of this accident propensity can be attributed to their relatively small level of experience, as well as psychosocial variables relating to their stage of life. These factors influence safety behaviour, and a social marketing campaign aimed at improving safety knowledge and changing safety attitudes and perceptions may have a significant impact on reducing accidents within this age group.

Social Marketing & OHS

Social marketing can be defined as:

“the design, implementation, and control of programs seeking to increase the acceptability of a social idea or practice in a target group(s).”¹⁵

Social marketing theory suggests that an exchange¹⁶ takes place between the target audience (i.e., the worker) and the marketer (i.e., WorkSafeBC, an industry group, or a major employer). Within this exchange, the worker must be persuaded to give up something in order to gain something. Under the social marketing model, what is given up are the unsafe behaviours or habits that the worker has previously engaged in; what is gained by the worker is an enhanced level of safety and a greater likelihood that he/she will not be injured. Other aspects that characterize a social marketing campaign are the use of marketing research to guide campaign development; as well, the social marketing approach may include the use of incentives, ways to facilitate the behaviour, or tools/products that make it easier for the person to engage in the behaviour.¹⁷

Several jurisdictions in Canada have begun to develop some of the components of social marketing campaigns aimed at increasing safe workplace behaviour (although not necessarily a full-fledged social marketing campaign containing all of the 4Ps of social marketing). For example, the Workers' Compensation Board of Nova Scotia has begun to use social marketing as a means of changing the safety attitudes and behaviours of workers and employers.¹⁸ Focus groups guided the process of creative development, ultimately resulting in the campaign slogan, “Work safe. For life.” The campaign, aimed primarily at workers aged 25-54, included proactive media relations and a website, as well as schedule of TV, radio, print, and poster advertising.

Advertising featured messages incorporating moderate fear appeals, which superimposed photos of happy people before a job-related accident over the same people using crutches, a wheelchair, or in the morgue after the accident. A separate campaign, aimed at workers under the age of 25, used graphic messages showing detached body parts to demonstrate the need for safety on the job. In addition, the web site became a key source for safety information and tips. As well, the organization's annual report was transformed from a financial report to a brand-driven message.

The Ontario Workplace Safety & Insurance Board developed a recent campaign (in 2005) encouraging parents to make sure their children know they have the right to refuse unsafe work, to know about workplace hazards, and can participate in keeping the workplace healthy and safe.¹⁹

To date, WorkSafeBC has used specific advertising messages to encourage workplace safety (e.g., encouraging the clean-up of spills). WorkSafeBC has also designed several components of a safety campaign for young workers, including a website²⁰, videos (e.g., *Lost Youth*²¹), the Community WorkSafe program²² (including a Facilitator's Guide²³ and tests), and several other communication materials.

While little is known about the effectiveness of these particular efforts, the literature is full of examples of the impact and effectiveness of social marketing campaigns in general. The most successful campaigns use a comprehensive multi-faceted approach to ensure that a variety of marketing levers are used to elicit behaviour change.

A review of the literature shows that relatively little has been written about the development of OHS communication materials or education and training materials. Only two studies were identified that examined OHS communication materials. One of these studies examined the impact of educational and training materials targeted as Hispanic workers in the U.S. construction industry.²⁴ A second study in the literature examined a state-wide program for educating teen workers about health and safety awareness.²⁵ Both these studies examined the development of a particular campaign, but failed to provide an overview of the various types of OHS campaigns that exist to target a specific group. As well, neither of these studies examined OHS campaigns in the context of a comprehensive social marketing approach.

A comprehensive social marketing campaign generally attempts to manipulate several of marketing's 4 Ps (product, place, price, promotion). In the context of an occupational health and safety campaign, promotion is generally the easiest of the 4Ps to manipulate, because there is a full range of communication materials that can be developed to persuade or remind workers to adopt safer work practices. Many organizations think they are practicing social marketing, when in fact, they are only using social communications.

Therefore, it is important to think about ways that the other 3 Ps (product, place, and price) can also be managed in the context of an OHS campaign. For example, the 'price' of adhering to a particular safety practice might be a slight reduction in the speed with which a job can be done; the social marketing task would be to demonstrate the value of safety, so that the 'price' paid seems worth the safety that is being gained. Employers can also implement policies whereby

safety is given higher preference to production output, and thus reduce the 'price' of reduced work speed.

'Place' is another element of the social marketing mix that can be manipulated. Place is the location where the product or benefit is made available, and where behaviour can be enacted. For most workers, the workplace is the 'place' where they are most likely to enact safety behaviour; however, the 'benefits' of safe behaviour extend into their private lives by enhancing their quality of life outside of work.

The 'product' element of the social marketing mix can be manipulated as well. Safety 'products' include the benefits of safe behaviour. The major benefit of safe behaviour is greater quality of life, both inside and outside of work. Workplace injuries can significantly impair quality of life, so it seems clear that the major benefit of safe workplace behaviour is an improved quality of life. Therefore, the basic 'product' of safety can be positioned as being inextricably linked with enjoyment of life (given that unsafe workplace behaviour can have drastic consequences on future health and wellness, and hence on enjoyment of life).

This research will examine all those social marketing campaigns for OHS (whether or not the designers of the campaigns have termed these to be social marketing) that have explored the influence of one or all of the 4Ps in changing attitudes and behaviour in campaigns.

Because a major part of many social marketing campaigns is the communications component, this research will have a primary focus on 'Promotion.' OHS communication materials aimed at young adults (particularly

males aged 18-24) will be gathered from OHS organizations throughout North America and will be systematically analyzed. Communication materials are often used to discuss or portray the 'product' and 'price' elements, so this study of communication materials will provide valuable insights into some of the other social marketing Ps that may be elements of a campaign.

Methodology

Study 1: Content Analysis

Study 1 involved conducting a content analysis of over 250 English-language safety communications materials that were aimed primarily at young workers. These were gathered from a variety of OHS sources and jurisdictions throughout North America, and included:

- Web sites
- Print ads (newspaper and magazine)
- TV ads
- Radio ads
- Outdoor posters/billboards
- Workplace posters
- Leaflets/brochures/hand-outs/instructional materials

These OHS communication materials provided examples of social marketing advertising and communications materials. The materials were useful in portraying or identifying some of the other elements of a comprehensive social marketing campaign, such as 'product,' 'price,' and 'place.'

The project research assistant contacted workers' compensation boards and occupational health and safety organizations throughout North America.

Organizations that can potentially contribute OHS communication materials were

found through the use of industry directories, websites, and relevant lists or sources. A total of 80 government and non-government organizations were contacted in the US and 46 responded, while 120 organizations were contacted in Canada and 63 responded. Therefore, in total, 200 organizations in North America were contacted and 109 responded. Over 250 pieces of communication material were received. Requests were made for the sharing of OHS communication materials aimed at young workers that had been used within the last five (5) years. Requests were made by e-mail and fax, with follow-up phone calls to improve the participation rate. Out-of-pocket costs for communication material reproduction and shipping were reimbursed to contributor organizations, where necessary. As well, an offer was made to share research results with organizations that contributed communication materials, in order to provide an incentive for their participation. (This sharing of research results also led to more widespread dissemination of the research, and should ultimately lead to greater uptake of the research recommendations.)

In addition to requesting copies of communication materials, the research assistant also requested copies of any research reports which discussed the effectiveness of the communication materials. Also requested were copies of any communication plans or social marketing plans that may have been used in conjunction with the communication materials (e.g., detailing any manipulation of the 4Ps besides Promotion, including the use of incentives to encourage safe behaviour). This information was useful in assessing the degree to which social marketing was currently being used in OHS, and the extent to which such efforts are successful.

The content analysis coding instrument was designed to include a variety of categories, including:

- Type of communication material
- Main message and sub-messages
 - Behaviour promoted
 - Discussion on product, price, and place
- How message is aimed at young workers
- Tone and style of message (e.g., informational; rational; fear appeal; guilt appeal, etc.)
- Use of pictures or graphics
- Other relevant categories.

The objective of the analysis was to determine common characteristics shared by these messages, as well as unique characteristics that might differentiate particularly effective or particularly ineffective messages.

A total of four graduate assistants acted as coders. Coders were trained prior to the study, to ensure consistency and reliability in the coding exercise. After the training, each coder examined every piece of communications material that had been gathered, and coded it using the content analysis coding instrument that was developed. The use of multiple coders ensures reliability of the content analysis data.

The data from this study was analyzed using SPSS software. Descriptive data described the characteristics of the communication materials. As well, cross-tabulations and chi-square analyses compared and contrasted characteristics of specific sets of materials (e.g., Canada vs. U.S.; television vs. print ads). The results of this study provide an overview of the characteristics of OHS ads aimed at younger workers, and are expected to be very useful in better

understanding the communications component of OHS social marketing campaigns.

Study 2: Controlled Online Experiment

In Study 2 we created a controlled experiment to assess the power of EPPM variables in fear appeals. This study was conducted on-line, with 222 young men between the ages of 18-24 from British Columbia serving as the research participants. A wide variety of methods were used to recruit participants, including posters in workplaces, personal visits to the workplace, announcements from instructors at trade schools to students in trade schools, on-line ads on trade-related job sites, and referrals from other participants.

Study materials were obtained from the content analysis. Ads were categorized according to their level of self-efficacy, response-efficacy, severity and susceptibility. Dichotomous categories were used: ads were coded as either high or low on each of these variables. In a fully-crossed design with dichotomous levels there are 16 possible combinations of these four variables. Two ads were selected for each of the 16 study conditions, resulting in 32 selected ads. Participants were randomly assigned to a research condition. A mixed research design was used, so all subjects viewed ads representing both low and high levels of the variables response efficacy, susceptibility and severity. Half of the subjects viewed these ads in conjunction with high self-efficacy, the other half viewed them with low self efficacy. Participants viewed workplace safety posters according to their assigned study condition and responded to questions

regarding their responses to the ads. Participation took approximately 45 minutes, and participants were compensated \$45.

The results of the study demonstrate the importance of self-efficacy, susceptibility, and severity in workplace safety ads. Since the manipulation for response efficacy was not successful, no claims can be made regarding this variable.

Study 3: Focus Groups

Study 3 involved selecting representative communications materials from among those that were gathered in Study 1. The selected communication materials were shown and discussed within four focus groups. Each focus group was comprised of 10-12 members of the young male worker target group (males aged 18-24). The focus group discussions elicited reactions to different communication approaches, as represented by the communication materials. While the primary aim of the focus groups is to examine reactions to the communication materials, questions were also asked to aid in better understanding some of the attitudes and motivations of young workers regarding workplace safety.

A marketing research firm assisted with recruitment of focus group participants and facilitation of focus group discussions, under the supervision of Dr. Michael Basil. This expertise was essential, since it is important to recruit focus group participants from a variety of backgrounds. The marketing research

firm was also be able to provide the research team with the necessary focus group room and equipment for audio/ video recording of the focus group proceedings.

Research Findings

Study 1 – Content Analysis

A key finding of the content analysis was that over half of all social marketing communication materials dealing with workplace safety appear to involve fear appeals. However, among workplace safety communication materials that include fear appeals, less than one-third include the four variables of the Extended Parallel Process Model (self efficacy, response efficacy, severity, and susceptibility), which are believed to be necessary for a fear appeal to be effective.

Study 2 – Controlled Online Experiment

Results from the controlled online experiment with young adult males in British Columbia (aged 18-24) demonstrated that the inclusion of self-efficacy, susceptibility, and severity together in an appeal greatly increased its effectiveness. This highlights the importance of including these elements when creating appeals, something which our content analysis suggests is rarely done. Our results demonstrate that these variables work together interactively creating a “magic cell” whereby communications are far more effective when all three of these elements are in place.

Unfortunately, the manipulation was unsuccessful for response efficacy.

Therefore, we decided to examine why the response efficacy manipulation may have failed. This was the focus of Study 3.

Study 3 – Focus Groups

Focus group discussions with young adult males in British Columbia (aged 18-24) revealed that workplace safety social marketing communication materials may not accurately reflect the reality of their jobs. Sometimes the behaviors recommended in social marketing communication materials are seen as unrealistic to perform in the reality of everyday constraints. Additionally, participants noted that some of the behaviours depicted in the ads were not shown accurately, thus reducing the ad's credibility.

There appears to be an additional form of efficacy that should be considered—something we have tentatively labeled *environmental efficacy*. It seems that even if self efficacy and response efficacy are present, there are often environmental elements that preclude the individual from performing safety behaviours. This could be lumped under efficacy, but is probably better understood as a unique variable. Environmental constraints include factors such as their boss hurrying them, or co-workers viewing them as wimps, which preclude workers from performing the advocated safety behavior. The desire to work faster was the main reason cited for not performing safety behaviors.

According to focus group participants, safety meetings were seen as an effective way to reinforce the importance of safety. Penalties for failure to comply and incentives for compliance were both seen as effective tools.

In terms of policy implications, we believe that ads that employ fear appeals should include the elements of self-efficacy, susceptibility, and severity. Where response efficacy is communicated, it should take into account *environmental efficacy*, in order to ensure maximal effectiveness of the communications.

Implications for Future Research on Occupational Health Policy and Prevention:

Identification of policy and prevention implications arising from the research

As outlined above, a key policy implication arising from the research is that ads that employ fear appeals should include the elements of self-efficacy, susceptibility, and severity. Where response efficacy is communicated, it should take into account *environmental efficacy*, in order to ensure maximal effectiveness of the communications.

Identification of relevant user groups for the research results

Relevant user groups for the research results would include individuals within firms where safety issues are important, including those located in:

- Human Resource departments
- Communication departments
- Senior management.

Description of policy-related interactions undertaken by the Applicant

None to date.

Dissemination/Knowledge Transfer

To date, the research team has prepared the following papers:

1. Lavack, Anne M., Sherry Magnuson, Debra Z. Basil, Sameer Deshpande, James H. Mintz, and Michael Basil (2006), "Using Social Marketing to Improve Workplace Safety: A Qualitative Analysis," presented at the *Social Marketing Advances in Theory and Research (SMART)* conference, Banff, AB, October 19-21, 2006.
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