A message from Spy Optic:

“SPY is happy to sponsor this study as we endeavor to learn more and share information about the field of Blue Light Management and more importantly, the Happy side of Blue Light.”
METHODOLOGY

- This survey was fielded in June 2016.
- Only Eye Care Professionals were invited to take this survey.
- An incentive of a chance to win a $200 Amazon.com gift card was offered to entice participants.
- 370 respondents completed the survey. (95%) of the survey takers identifying themselves as ECP’s.
- This survey was underwritten by an unrestricted grant from Spy Optic.
Executive Summary

Awareness of the effects of Blue Light

- While 94% of respondents said that they were familiar with the overall effects of Blue Light on eye health, when asked whether the effects were harmful or beneficial, 59% of respondents reported that the effects can be both harmful and beneficial.

- When we asked about the specific effects and their familiarity with those, it becomes clear that there is relatively low level of familiarity with the specific effects of Blue Light.

- When asked “How familiar are you with the research surrounding possible harmful effects...” only 20% said that they were very familiar and 70% said they were a “little” familiar. When we asked the same question about the beneficial effects, 8% said very familiar and 44% said they were a “little” familiar.
Executive Summary

- We queried about what those harmful effects could be with 79% reporting sleep pattern disruption, 75% said age related macula degeneration, 68% said retinal damage and 59% said reduced vision clarity. When asked about what the beneficial effects could be 41% said that it has a positive effect on serotonin levels, 34% said it increases alertness and reduces fatigue, 33% said it adds color and contrast enhancement and 31% said it has a positive effect on circadian rhythm.

- When we asked how the respondent had learned about possible harmful effects, 68% said they had learned from optical publications (both print and online), 57% from CE courses and 57% from information provided by suppliers. In probing where they had learned about the positive effects of Blue Light, respondents again sited optical publications, CE and information provide by vendors as their top three sources.
**Executive Summary**

- We also asked if the respondents believed that Blue Light has a harmful effect on eye health; 4% said that they do not believe it does, 51% believe it may and 45% said that they definitely believe it does. And when asked about Blue Light from mobile devices such as smartphones and tablets effecting sleep patterns, 42% said it may, 54% said it definitely does and 4% do not believe it does. Overall 87% of our respondents believe that some Blue Light is beneficial while other Blue Light is harmful.

- In terms of protection from Blue Light; 49% believe that clear lenses can protect against Blue Light and 79% believe that sunglasses offer protection as well.

- And finally when we asked respondents interest level in learning more about Blue Light, 12% were not interested, 54% were somewhat interested and 34% are very interested.
Executive Summary

Blue Light and Patients

- 48% of our respondents said that their patients inquire about Blue Light while 77% of respondents said that they discussed Blue light with their patients. 78% say that they prescribe special lens or lens treatments to protect against Blue Light.

- When talking to patients, respondents pointed out (79% of the time) that because of the widespread usage of mobile devices such as smart phones and tablets by children and young people Blue Light protection would be of particular importance to them. With that said, only 18% of respondents report that they suggest software for Blue Light protection on computers and mobile devices.
Executive Summary

- Over 60% of respondents that prescribed special lens or lens treatments report that the cost to the practice is $26 or more and that the increased patient cost was $51 or more. The protection options offered were Blue Light reducing anti-reflective coatings (87%), followed by Transitions lenses at 50% of the time. When asked what the respondent offered the most, AR coatings were the most popular, offered by 60% of the respondents.

- Respondents report that 56% of the time, their patients report a positive difference in vision when using some form of Blue Light protection.
DEMOGRAPHICS
Age

- 34% Over 55
- 28% 45 to 54
- 24% 35 to 44
- 13% 25 to 34
- 0% Under 24
**Profession**

- 58% Optometrist
- 35% Ophthalmologist
- 5% Optician/Dispenser
- 2% Other

Conducted by Eye Optical Research

Made possible by a grant from Spy Happy Lens
Are you familiar with the effects of Blue Light on eye health?

- Yes: 94%
- No: 1%
- Unsure: 5%
What are the possible effects of Blue Light on overall health?

- 5% I do not know enough to have formed an opinion
- 36% Blue light can be beneficial to overall health
- 59% Blue light can be harmful to overall health
- 14% Blue light can be both harmful and beneficial to overall health
How familiar are you with the research surrounding possible harmful effects of Blue Light?

- Very familiar: 20%
- A little familiar: 70%
- Not very familiar: 8%
- Not at all familiar: 3%
Select all that apply.

What can be the possible harmful effects of Blue Light on the eye?

- Sleep pattern disruption: 79%
- Age Related Macula Degeneration: 75%
- Retinal damage: 68%
- Reduced vision clarity: 59%
- Scatter and haze: 46%
- Central field blindness: 31%
- Peripheral field blindness: 13%
- Memory loss: 12%
- I don't know: 4%
- None of the above: 0%

Conducted by: [Image]
Made possible by a grant from: [Image]
How have you learned what you already know about possible harmful effects of Blue Light?

- Articles in optical publications I subscribe to in print or online: 68%
- Continuing Education: 57%
- Information provided by vendors/suppliers: 57%
- I have searched on the internet to read and learn about it: 25%
- From Colleagues: 24%
- Press releases and local news media: 20%
- From Optician/Optometry/Ophthalmology school: 14%
- Other: 2%
How familiar are you with the research surrounding possible beneficial effects of Blue Light?

- Very familiar: 8%
- A little familiar: 44%
- Not very familiar: 28%
- Not at all familiar: 19%
Select all that apply.

What can be the possible beneficial effects of Blue Light on the eye?

- Has a positive effect on serotonin levels: 41%
- Increases mental alertness and reduces fatigue: 34%
- It adds color and contrast enhancement: 33%
- It has a positive effect on your circadian rhythm: 31%
- I don't know: 24%
- None of the above: 8%
How have you learned what you already know about possible beneficial effects of Blue Light?

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articles in optical publications I subscribe to in print or online</td>
<td>46%</td>
</tr>
<tr>
<td>Continuing Education</td>
<td>37%</td>
</tr>
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<td>Information provided by vendors/suppliers</td>
<td>31%</td>
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<tr>
<td>I have searched on the internet to read and learn about it</td>
<td>19%</td>
</tr>
<tr>
<td>From Colleagues</td>
<td>16%</td>
</tr>
<tr>
<td>From Optician/Optometry/Ophthalmology school</td>
<td>10%</td>
</tr>
<tr>
<td>Press releases and local news media</td>
<td>9%</td>
</tr>
<tr>
<td>Other</td>
<td>18%</td>
</tr>
</tbody>
</table>
How familiar are you with the research surrounding Blue Light and sleep pattern problems?

- Very familiar: 10%
- A little familiar: 62%
- Not very familiar: 20%
- Not at all familiar: 9%
How have you learned what you already know about Blue Light and sleep pattern problems?

- Articles in optical publications I subscribe to in print or online: 51%
- Continuing Education: 42%
- Information provided by vendors/suppliers: 38%
- I have searched on the internet to read and learn about it: 20%
- From Colleagues: 17%
- Press releases and local news media: 16%
- From Optician/Optometry/Ophthalmology school: 11%
- Other: 9%
Are you aware of the distinction between short wave and long wave Blue Light?

- Yes: 57%
- No: 44%
Do you believe blue light has a harmful effect on eye health?

- 4% I do not believe it does
- 51% I believe it may
- 45% I believe it definitely does
Do you believe blue light from tablets and smartphones affect sleep patterns?

- 4% I do not believe it does
- 42% I believe it may
- 54% I believe it definitely does
Which statement do you agree with most?

- 87% believe that some blue light is beneficial while other blue light is harmful.
- 11% agree that all blue light is the same and is harmful to eye health.
- 2% do not believe that any blue light is a problem.
Can clear lenses protect against Blue Light?

- Yes: 49%
- No: 51%
Can sunglasses protect against Blue Light?

- Yes: 79%
- No: 21%
Are you interested in learning more about Blue Light?

- Yes, very interested: 34%
- Yes, somewhat interested: 54%
- No, not really: 12%
PATIENT RECOMMENDATIONS
Do any of your patients inquire about Blue Light?

- Yes: 48%
- No: 52%
Do you discuss Blue Light and its possible harmful effects with any of your patients?

- Yes: 77%
- No: 23%
Do you prescribe any special lens or lens treatments to protect against Blue Light?

- No: 22%
- Yes: 78%
Only asked if prescribe any special lens or lens treatments to protect against Blue Light:

On average, how much more cost to you is there in adding Blue Light protection to a lens pair sale?

- 38% Over $37
- 23% $26-$37
- 29% $11-$25
- 12% Under $10

Conducted by Your Optical Research

Made possible by a grant from: Happy Lens
Only asked if prescribe any special lens or lens treatments to protect against Blue Light:

On average, how much more do you charge the patient for adding Blue Light protection to a lens pair sale?

- 17% charge Over $100
- 23% charge $76-$100
- 22% charge $51-$75
- 25% charge $26-$50
- 13% charge Under $25
What Blue Light protection options do you offer to patients?

- Blue light reducing anti-reflective coatings: 87%
- Transitions lenses: 50%
- BluTech Lenses: 38%
- Blue light reducing lens materials: 36%
- Yellow or other color tinted lenses: 23%
- None of these: 1%
Only asked if prescribe any special lens or lens treatments to protect against Blue Light: Select all that apply.

What Blue Light protection options do you offer the most?

- Blue light reducing anti-reflective coatings: 60%
- Transitions lenses: 18%
- BluTech Lenses: 14%
- Blue light reducing lens materials: 6%
- Yellow or other color tinted lenses: 2%

Conducted by Eye Optical Research

Made possible by a grant from: SPY+ Happy Lens
Select all that apply.

What approach(es) do you use in order to convince your patients they need Blue Light protection or could benefit from Blue Light therapeutic benefits?

- Important for children and young people since they will spend so much more of their life looking at devices such as computers, smartphones, and tablets: 79%
- It is very harmful for your eyes and can cause real damage: 50%
- It’s been shown to help you to sleep better: 34%
- The jury is still out, but it can’t hurt so why not?: 11%
- Other: 4%
Select all that apply.

What kind of feedback have you received from patients using some form of Blue Light protection?

- They notice a positive difference in vision: 56%
- They don’t notice any difference in vision: 21%
- They notice a negative difference in vision: 3%
- No feedback: 26%

Made possible by a grant from: [SPY+ Happy Lens]
Do you ever suggest any sort of software for Blue Light protection on computer or mobile devices?

- No: 82%
- Yes: 18%
Of those that do suggest:

**What do you suggest?**

<table>
<thead>
<tr>
<th>Suggestion</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>iPhone night mode/ iPhone option/ Light altering app</td>
<td>19%</td>
</tr>
<tr>
<td>Blue Light filter/ screen protector</td>
<td>16%</td>
</tr>
<tr>
<td>F-lux</td>
<td>7%</td>
</tr>
<tr>
<td>Twilight</td>
<td>6%</td>
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<tr>
<td>Blue Light filter on AR Coating</td>
<td>6%</td>
</tr>
<tr>
<td>Blue Tech</td>
<td>6%</td>
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<tr>
<td>AR Coating</td>
<td>4%</td>
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<tr>
<td>Prevencia</td>
<td>4%</td>
</tr>
<tr>
<td>Crizal</td>
<td>3%</td>
</tr>
<tr>
<td>Special Cover</td>
<td>3%</td>
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</table>
For more information on Blue Light visit:

www.spyoptic.com/happy