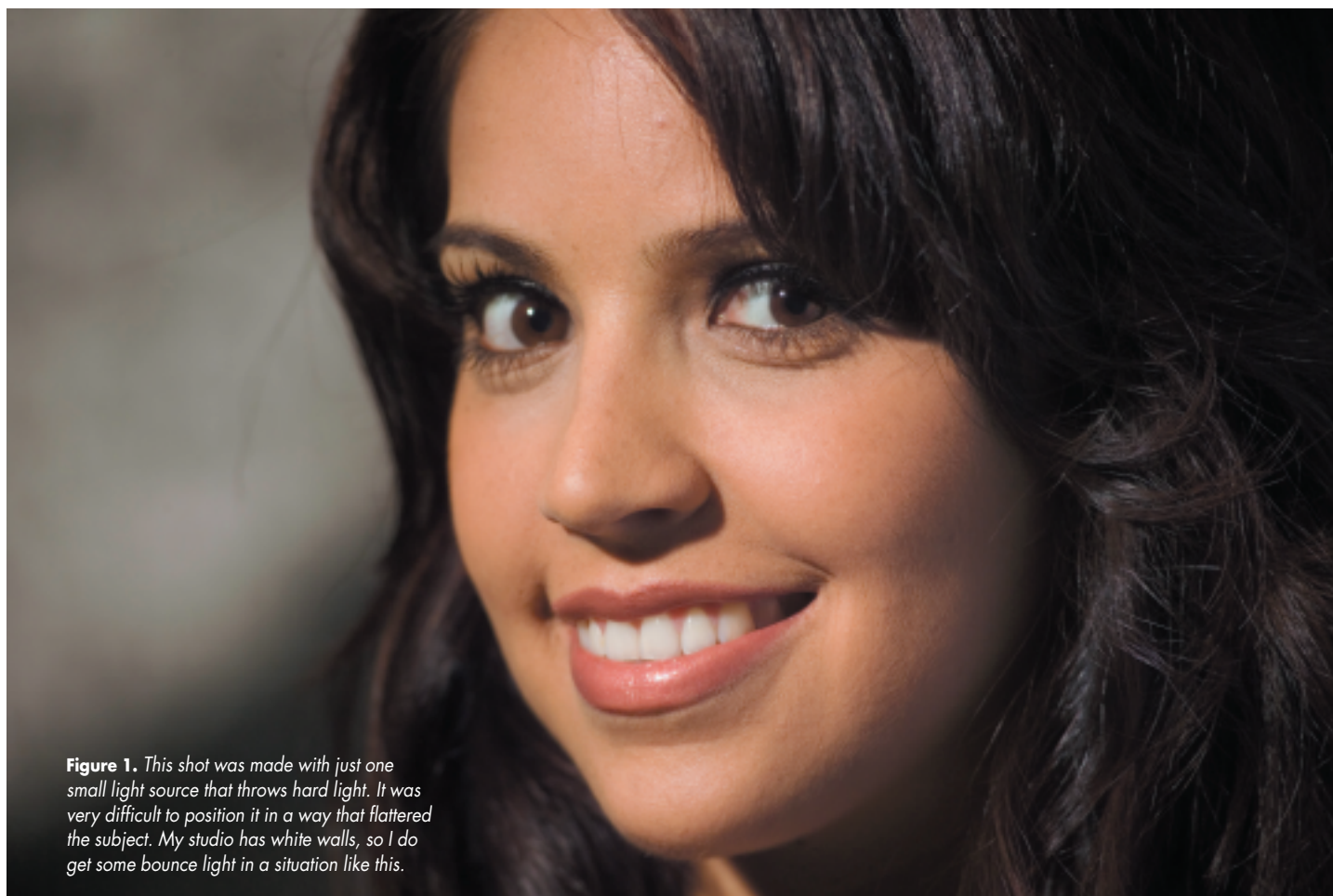


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# Hard Decisions *and* Soft Light

by John Siskin

*Soft and hard light both have their uses, but a strong photo often mixes the two*



**Figure 1.** This shot was made with just one small light source that throws hard light. It was very difficult to position it in a way that flattered the subject. My studio has white walls, so I do get some bounce light in a situation like this.

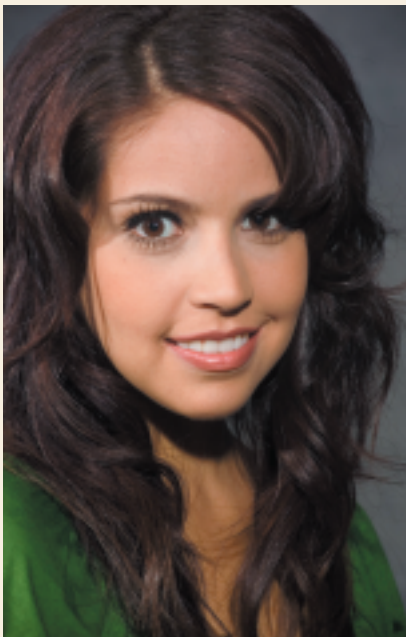
**F**or photographers, one of the most important characteristics of light is whether it's hard or soft. The ability to control this aspect of light can affect every shot you make, whether you work with daylight or strobes.

Perhaps the most basic difference between hard and soft light is the size of the light source compared to the size of the subject of the photograph. For

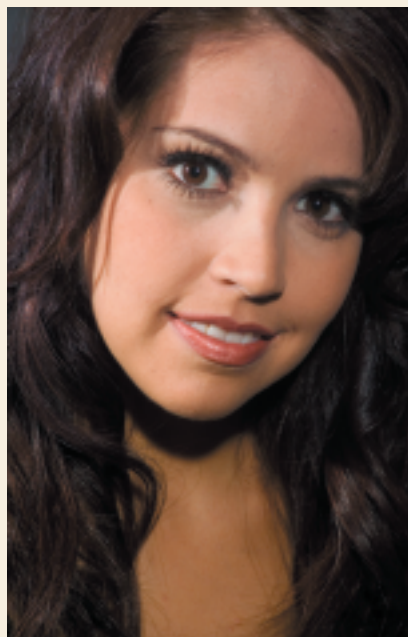
instance, if you use a single strobe light on a face, the light will be hard, but if you put that single light through a large light panel, the light will be soft.

Hard light is characterized by harsh highlights and an emphasis on texture. A small light has these effects because the light doesn't fill in around an edge

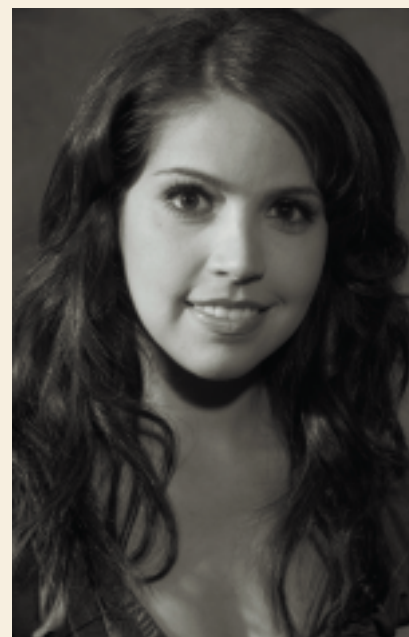
\*In making the images for this article, I had the help of a fine makeup artist, Kriz at [krizmakeup@yahoo.com](mailto:krizmakeup@yahoo.com), and a wonderful model, Deniece Alvarado, [www.deniecealvarado.com](http://www.deniecealvarado.com).



**Figure 2.** This shot has a 2:1 ratio, making the right side of the face brighter than the left side of the face. (All images are of Deniece Alvarado, a singer and actress in Los Angeles.)



**Figure 3.** This shot uses the more contrasty lighting ratio of 3:1. The right side of the face is getting three times more light on than the left. Notice how quickly the transition from light to shadow takes place; this is characteristic of hard light.



**Figure 4.** A 5:1 ratio, which is very contrasty. Higher contrast levels look good in black-and-white.

of the subject. You can see some of these principles using a lamp in a living room at night. Turn on a lamp with a large lampshade, and turn off the other lights. Now look at the shadows. Objects near the lamp have soft shadows that transition smoothly into lit areas. Objects further from the lamp have shadows that change quickly from dark to light. Remove the lampshade and anything that is not very close to the lamp goes from light to shadow very quickly. This is very hard light. Figure 1 was made using using one light and a reflector. The light shows detail and hard shadows on the face. Not only is this light less than flattering for most people, the light is very difficult to position. If you move the light very slightly the shadows also will move, which can cause trouble.

Most portraits used to be done with hard light, and some of the terms we use for lighting come from this time. Photographers used hard light because film was slow at that time, and they used large-format cameras, so they

needed a lot of light. If you had to shoot a portrait using an 8x10 camera at  $f/22$  with ISO 80 film, you either needed a lot of light, or the subject needed to be still for an awfully long time.

Certainly many fine portraits have been made this way; the old Hollywood studio portraits were made with hot light. But the old studio portraits also were taken of people with very fine features and good makeup.\* It is certainly possible to make portraits using hard light of people not wearing makeup, but the best you can hope for is that they look very rugged. I would avoid this look for most people.

### Ratio lighting

Ratio lighting was developed specifically to work with hard light and works very effectively. The idea is to use two lights: the first one is positioned more or less directly in front of the subject, at 12 o'clock. This is called the fill light. The second light is positioned between 1:30 and 3 o'clock from the fill light and is called the main light. I have

always felt the naming of the lights is reversed, but I suppose it's too late to change it. The fill light illuminates both sides of the face; the main light illuminates just one side. The ratio is a way of talking about the difference in light falling on the two sides of the face.

One side of the face is lit only by the fill light; that side is defined as having one unit of light. If the main light has the same amount of light as the fill light, then the side of the face lit by both lights has twice as much light as the side of the face lit only by the fill light. This system has always been described with numbers, so there's a 2:1 ratio between the light falling on the two sides of the face. Figure 2 shows a 2:1 ratio. Note the defined shadow under the chin and the shadow from the hair on the face; they are characteristic of hard light. If you increase the amount of light from the main light by one stop, the light will be three units on the side of the face with the main light and one unit on the other side, a 3:1 ratio. This ratio is illustrated in Fig-



**Figure 5.** This shows the set-up for the hard light shots in my studio. Notice that I didn't use umbrellas or other tools to broaden the light source.

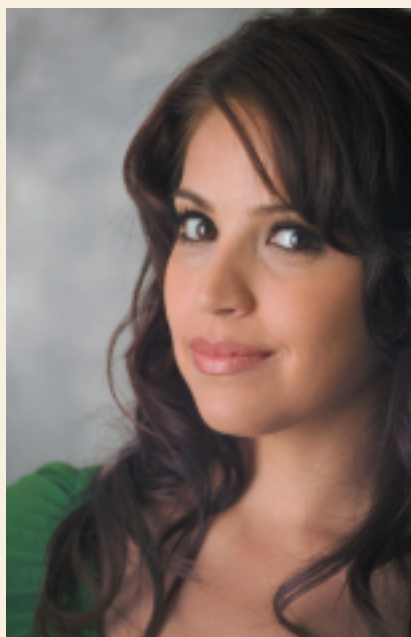
ure 3, where you can easily see the difference in brightness between the two sides of the face.

You can use stronger ratios, but they are usually considered better for black-and-white images (color often looks strange with very high contrast). In Fig-

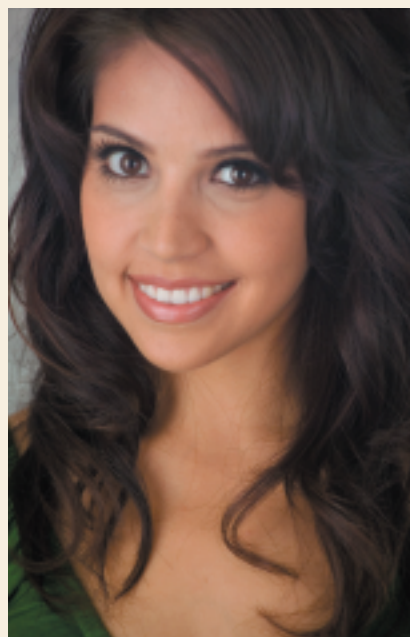
ure 4, the fill light is two stops (four times) more powerful than the main light. So the side of the face lit by the fill light gets only one unit of light and the main light side gets four units from the main light and one unit from the fill light, add it up and you have a 5:1 ratio.

I am showing the image in black-and-white because it looks better that way. You can see the setup for all these images in Figure 5. One nice thing about this kind of lighting: the setup is very simple.

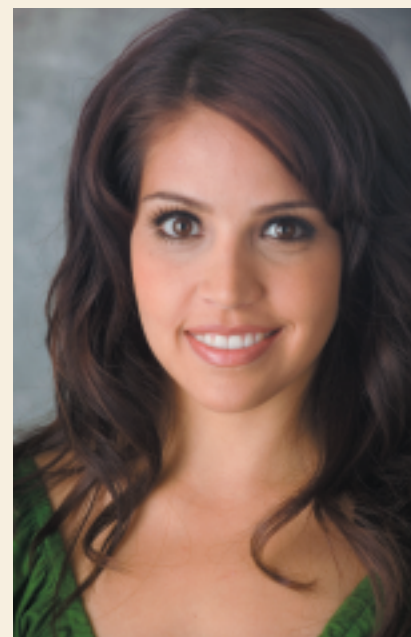
A small light source remains hard, with harsh highlights and strong texture, even if you put a diffuser over the light. Go back into your living room with a clear light bulb and replace the frosted one in the lamp you were using earlier. You'll notice the soft white coating inside the light bulb doesn't make much difference, especially at a distance of several feet. You'll also notice that the coating does reduce the amount of light your lamp puts out. Similarly, a piece of diffusion plastic over a photographic light doesn't change the light very much. What it does do—and this can help—is bounce the light over a larger area, so the bounce light may fill in your shadows. There are several successful covers for on-camera strobes that spread the light in almost every direction. These work very well inside, because the light often



**Figure 6.** Like Figure 1, this image was taken with a single light source. The difference is that the light source is larger because I bounced the light off an umbrella and through a light panel. That gave me a single light source of 4x6 feet.



**Figure 7.** The lights on this shot were set for a 2:1 ratio, but the light seems almost perfectly even. You don't see the same effects with ratios when using large light sources.



**Figure 8.** The soft lights here were set for a 5:1 ratio, the same ratio I used with black-and-white in Figure 4. There is very little contrast here. Soft light is more flattering and easier to use.



bounces off the walls and ceiling and then back into the shot from many angles.

### Larger light sources

Photographers create larger light sources with several tools—effectively these act like lampshades. Despite the hype, the primary difference between the various tools is the size of the light source, not the way the light is spread. So, for instance, a small soft box, 12x18 inches, always makes much harder light than a 60-inch umbrella.

The secondary characteristic of a light source is the kind of reflection it creates. A 60-inch umbrella creates a small umbrella-shaped spot of light in a reflective subject, while a soft box makes a rectangle of light. This makes soft boxes potentially much better for product shots.

I work with large light sources most of the time because they are often more flattering and easier to position. The primary tool I use is a light panel that I put in front of a soft umbrella. This creates a light source that is about 4x6 feet, depending on the size of the light panel.

I started using light panels some years ago because I wanted much larger light sources in order to create softer light, yet I wanted to avoid the reflections of umbrellas. Although I used soft boxes then (and sometimes still do), very large softboxes are expensive, and the light from my soft boxes has shifted to a more yellow color over time.

I think this color shift might be caused by flame retardants in the fabrics.

When I started using the light panels, I noticed that the light coming from them wasn't as even as that from soft boxes, and there was a bright spot in the center. I found that these problems disappeared when I bounced the light off an umbrella and then put it through the light panel. The panel-umbrella combination is really wonderful: 4x6 feet of smooth, creamy light. The only significant problem with this tool, as

with all systems for creating soft light, is that the softer the light, the more power you need at the light source to give you enough light to shoot.

If you work with an average digital SLR or most 35mm film cameras, you can work with most continuous lights—particularly quartz lights—and get a very functional exposure. By that I mean  $f/5.6$  or better, at a shutter speed of  $1/60$  second or faster, at ISO 100. I think of this as functional because I have enough depth of field to prevent most focus problems and a fast enough shutter speed to keep my subject still (although it's a good idea to use a tripod). Using umbrella soft boxes or light panels with continuous lights requires using a significantly higher ISO to get to a functional exposure. A higher ISO means grain with a film camera and may mean noise with a digital camera. Consequently, it makes a lot of sense to use strobes when you want soft light. Strobes have a duration of about  $1/1000$  second, so you don't need to keep your subject still or use a tripod. Strobes of about 500 watt-seconds or more work with the umbrella/light-panel arrangement, and provide enough depth of field for a portrait.

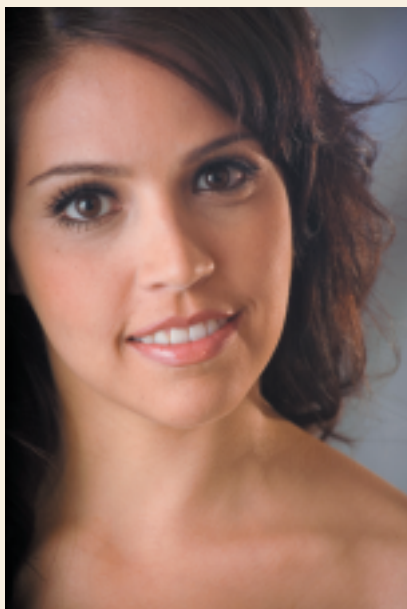
I often can shoot a good portrait

with just one umbrella/light panel. In Figure 6, the lighting was set up this way and placed where the main light would be in a ratio setup. You can see that there are no harsh shadows. The light around the nose is filled in, as compared to the hard shadow line created when a hard light was used. The hair doesn't create a defined shadow on the face, which it would with small light sources. The large light source lights the subject from all the angles possible with the size of the light source. So the bigger your light source is, and the closer it is to the subject, the softer the shadows. The highlights also will be less bright compared to the rest of the image; you'll notice this with the lips in Figure 6 and the previous images. Another important difference is that the catch lights (the bright reflections) in the eyes are larger and less intense. I like this effect. Finally, one of the most important differences is that the surface texture of the skin is much less apparent. This can help to hide wrinkles. Since wrinkles and texture show up mostly because of the shadows they throw, if a light creates less shadow, you have less texture and wrinkles.

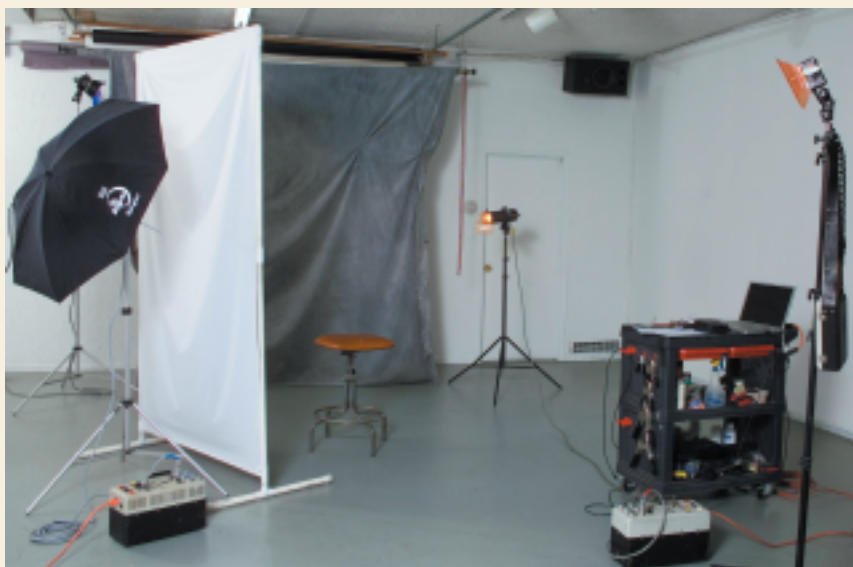
Since I teach lighting online at BetterPhoto.com, I am aware that many



**Figure 9.** You can see the set-up for the soft-light shots here. The umbrella/light panel set-up is very effective at making soft light.



**Figure 10.** This is a mixed-light shot. The right side of the face is lit with soft light, while hard light defines the left side of the face.



**Figure 11.** The set-up for the mixed-light shot. There are four lights in the shot, one soft and three hard. Notice that the hard lights have color filters to create a warmer look for the shot.

people continue to use the language of ratio lighting with large light sources. This doesn't make much sense to me because the images don't exhibit the characteristics of a ratio-light shot. The image in Figure 5 was made with just one light, but looks like it might be a 2:1 ratio shot. In Figure 7, I have the lights set at a 2:1 ratio, but the image looks evenly lit. In Figure 8, the lights are set for a 5:1 ratio, but it sure doesn't look like it. The light looks somewhat like a 2:1 ratio shot, but the transitions are smoother and softer. When I talk to people about lighting, I try to discourage thinking in terms of ratios with large light sources since the results are so different. Of course, when you use more modestly sized light sources or you put your lights at a great distance from the subject, they exhibit more of the characteristics of hard light. Figure 9 shows the setup for the two-light images with the umbrella/light-panel combination. This is a very easy setup to work with in the studio.

### Mixing hard and soft

I think that the most expressive lighting for portraits and other subjects is a mixture of hard and soft light. For

Figure 10, I used four lights; three are hard lights and one is soft. The soft light comes from an umbrella/light panel set up just to the left of the camera. This provides the basic illumination for the shot. I see it as laying down the base of my photograph. I set up a strobe with a snoot behind the subject. This lights the left side of the subject's face and creates highlights in her hair. I am particularly pleased with the way it defines her cheek and chin. This light had a warming filter on it to add color to the light. In fact, all of the hard lights had filters to put more color into the shot. I put a much smaller strobe (also covered with a warming filter) behind and to the right of the camera to put additional sparkle into the subject's lips and eyes.

Frankly, I don't think that light did much for me. Although I can find reflections from this light in my shot, they have much less effect than the other strobes did. You can see the small strobe in the setup shot in Figure 11, as well as the light I put on the background. Since this light had a blue filter, it added color to a normally grey background. I think that colored gels give you a wonderful ability to manipulate a grey background.

Be very aware of how you mix hard and soft light. You can get characteristics of both by using one moderately sized light source, such as a 30-inch umbrella, but it is much more interesting to use to soft and hard lights together. This enables you to define the shape of your subject, and to control how the image is viewed. You can lead the viewer's eye from the hard highlights into the soft shadows.

It's important to get the balance between the power of the hard and soft light sources right, which requires practice. The key is to examine your test shots to see if the balance is right. It helps to do this using a bigger monitor than the LCD on a digital SLR, such as a laptop or computer monitor. You also can do it with a Polaroid proof. These tools can help you learn to use hard and soft light to create better images. Use them wisely. ■

*John Siskin is a commercial and fine-art photographer specializing in product images and portraiture, as well as macro and architectural photography. He has taught photography for more than 20 years. He currently teaches black-and-white photography at Los Angeles Mission College. His studio is in Reseda, CA, and his Web site is [www.siskinphoto.com](http://www.siskinphoto.com).*